

Domestic Customers

- BHEL
- NTPC
- BPCL
- IOCL
- CPCL
- BARC
- Heavy water plants
- Nuclear Fuel complex
- Nuclear power corporation
- IFFCO
- ONGC
- Reliance Industries Ltd.
- ESSAR Power/ Refinery
- Engineers India Ltd.
- Indian Petrochemicals Ltd.
- Gujarat Narmada Valley Fertilizer
- Oil India Ltd., Assam
- Lancolnfratech Ltd., Gurgaon
- Thermax Ltd., Pune
- Thermal Systems Pvt. Ltd., Hyderabad

Overseas Customers

- Yusuf Bin Ahmed Kanoo & Co.,
OMAN for Daleel Petroleum Co. LLC.
- Positive Metering Systems Int. Ltd., U.K.
- Haskel Energy Systems Ltd., U. K.
- Aquachemie GT LLC, Dubai
- PT. South Pacific Viscose, Indonesia
- Sahacogen Green Co, Ltd., Thailand
- RCLL Trading Corporation, Philippines

HIGH-END SOLUTION FOR

- > OIL & GAS
- > PETROCHEMICAL
- > ENERGY & POWER





Business Overview

The MULTIFLO HD models comprise hydraulically actuated diaphragm liquid heads incorporating Diaphragm Activated Replenishing System (DARS). These diaphragm heads are fitted on proven stroke length control mechanism of our multiflo series plunger type metering pumps, which have been in use for several years.

A Stroke length controllable plunger pressurizes and pulses the oil in the hydraulic head. These pulses are transferred to the diaphragm which creates pumping action.

The diaphragm a. acts as a perfect seal between the hydraulic oil and the liquid being pumped creating a hermetically sea. system making the pump safe for toxic/hazardous fluids, economical for costly fluids and ideal for slurry.

It all started with an idea... Experience since 1971...

- V. K. Pump Industries Pvt. Ltd. (VKPI) was established in 1971 for manufacturing of Metering & Dosing pumps in India for various applications.
- VKPI was encouraged by customers like BHEL, ONGC, NTPC, HPCL, BPCL, THERMAX etc., to manufacture and offer complete skid mounted Chemical Injection Packages.
- During the course of time, VKPI developed Positive Return Mechanism to keep abreast with modern technology.
- Hydraulically Actuated Diaphragm Type Metering Pumps were added to the product line for customers requiring pumps that do not allow leakages. It was later developed further, to be comparable to contemporary European Designs.
- Remote Headed Metering Pumps with Metal diaphragms for handling radioactive hazardous fluids and High Pressure Metal diaphragm Pumps for liquid CO₂ pumping were added to the manufacturing range.

- Pumps for handling slurries are the latest addition to VKPI's product basket.
- In 2009, to strengthen the organization, VKPI joined hands with TEXOL ENGINEERING PVT. LTD., Pune who are pioneers in the field of Design, Manufacture & Supply of Skid mounted, automated R&D Pilot Plants for Chemical Process Industries.
- TEXOL is managed by professionals and has similar customer base. This strategic alliance has strengthened VKPI's marketing base with lot of synergies.
- VKPI is one of the leading manufacturers of Metering Pumps and Dosing Skids in India for more than 43 years now.
- VKPI's strength is Engineering Customized Pumping Solutions for any kind of pumping problems.

Manufacturing

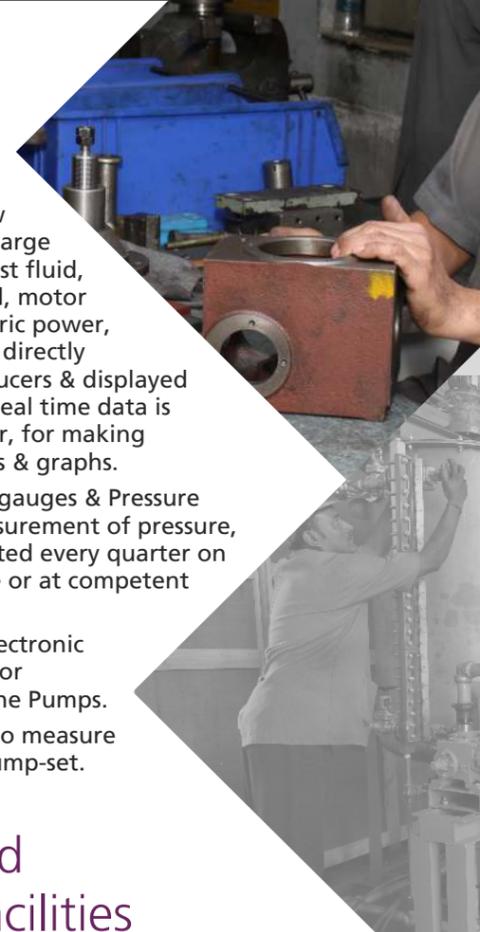
- State of the art factory at W-123 & 124 A, MIDC, Ambad, Nasik – 422 010, Maharashtra, India, spread over total area of 14400 Sq.Ft. with built-up area 9,230 Sq.Ft.
- Strategically located 180 kms from Mumbai and 250 kms from Pune, for Manufacturing, Assembly & Testing of Metering Pumps, Multiplex process Diaphragm pumps, Accessories, Spare parts and Chemical Injection Skids as well.

Machineries

- CNC Lathe Machine, Make: LMW, Model: LL20T L5, Year-2013
- HMT Vikram Lathe Retrofitted with CNC Controls
- Radial Drilling Machine with capacity up to 40 mm drilling in Steel, Make: Unitools Industries Rajkot
- Flat Lapping Machine, Make: Hifin products Pvt. Ltd
- Slotting Machine, Make: RAJ M/C Tools
- Power Saw Machine for raw-material cutting, Make: Eifco machine tools
- Bench Grinder, Make: RAJ M/C Tools
- Hand Operated Hydraulic Press
- TIG welding Machine, Make: ADOR FONTECH LTD. - 2 Nos
- Surface grinding machine Alex, Make: with auto feed
- Hydraulic power press for push type broaching, Make: Harise Engineering
- Centre Lathe Machine - 2 Nos, Make: Crown & New Bharat Equipments

Testing Facilities

- Four Testing Stations, each capable of testing two pumps simultaneously, fully equipped with pulsation dampeners, regulating valves and electrical control panels.
- Electrical panels to indicate voltage current and input electrical energy for every pump motor. Flow measurement of the pumps is done on suction side, based on volume measurement.
 - Level gauges on the calibrated suction tanks indicate reduction in volume, which is measured over a time interval to calculate flow rate of the Pump.
 - Electromagnetic flow meter, M/s KROHNE Marshal make & turbine type flow meters with high accuracy for capacity measurement range of 36 to 1400 L.P.M.
 - For pumps having larger Capacity from 6 m³/hr to



25 m³/hr, we have fully computerized test facility with data logging. All parameters like flow rate, suction & discharge pressure, temp of test fluid, temp of gear box oil, motor winding temp, electric power, current, voltage are directly measured by transducers & displayed on control panel & real time data is logged on our server, for making performance reports & graphs.

- Calibrated pressure gauges & Pressure transmitter for measurement of pressure, which are re-calibrated every quarter on calibrators, in-house or at competent third party test lab.
- Non-contact type electronic digital tachometer for measuring SPM of the Pumps.
- Sound Level Meter to measure noise level of the pump-set.

Painting and Finishing Facilities

- Paint booth with dry filters for painting the pumps.
- Flexible shaft sanders for finishing operations.
- 20 HP Air Compressor for painting and shop.
- High pressure jet cleaning pump to clean components

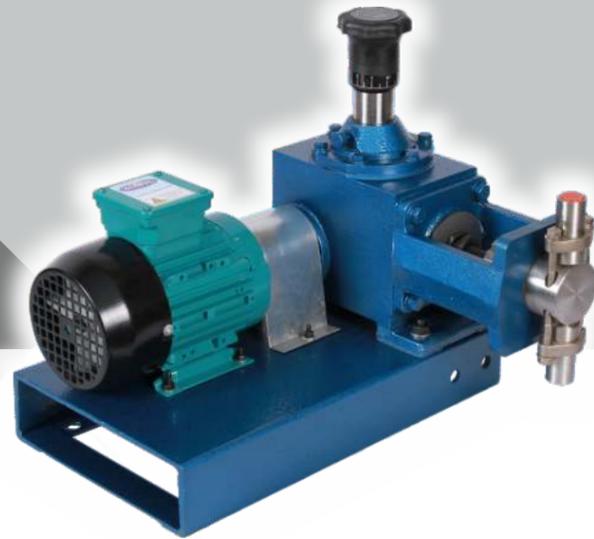
Stores

- An up-to-date storing facility with codification for all items in the stores and computerized inventory control system with a complete traceability.
- Inspection & Quality Control
- VKPI has all the quality control instruments for measurement of finish machined components like Micrometers, Vernier Caliper, Bore Dial Gauges, Thread Ring & Plug Gauges, Height Gauges etc.

Material Handling Facilities

- EOT Crane - 2 Tons capacity in the Shop
- Chain Pulley Blocks - 2 Tons for loading / unloading outside the Shed
- Hydraulic Platform Trolley -1.5 Ton capacity
- Pump Trolleys for movement of Pumps in the test area -3 nos.
- Travelling EOT Crane - 05 Ton capacity = 01 No.

Plunger Type Metering Pump



The integral speed reduction unit consists of a worm and wheel. The worm wheel transmits the rotary motion to the main drive shaft, which converts this into the reciprocating motion of the crosshead, through the eccentric and connecting rod. The crank can be moved up or

down by means of the control knob. This changes the eccentricity of the crank and consequently the stroke length. It is indicated as a percentage of the full stroke on the micrometer/digital scale.

Material Of Construction

- Positive return variable stroke mechanism. Linear relationship between control setting and stroke length.
- Capacity is continuously adjustable from zero to maximum, both while pump is stopped or running.
- Metering accuracy of 1% of pump output at a single setting from 10% to 100% of capacity.
- Multiplexing facility allows coupling of several pumps, driven by one common motor.
- Flow of each pump can be independently set, or stopped, as required.
- Drive side mechanism totally enclosed and running in oil both.
- MOC of wetted parts are AISI-304/AISI-316 Stainless steel, Alloy 20, Hastelloy, 'B' or 'C' OR PP, UHMWPE/PTEF.
- Pump performance is as per API 675 / Hydraulic Institute Standards.

Optional Accessories / Features Available

- Coupling, base plate and foundation bolt
- Drive motors in TEFC/flame proof enclosures
- Pressure Relief Valves in Stainless Steel
- Suction Strainers in Stainless Steel
- Back Pressure valves in Stainless Steel
- Pulsation Dampeners
- Remote headed pumps

Diaphragm Metering Pumps



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A Stroke length controllable plunger pressurizes

and pulses the oil in the hydraulic head. These pulses are transferred to the diaphragm which creates pumping action.

The diaphragm also acts as a perfect seal between the hydraulic oil and the liquid being pumped creating a hermetically sealed system making the pump safe for toxic/hazardous fluids, economical for costly fluids and ideal for slurries.

Constant Hydraulic Volume

The diaphragm-activated replenishing valve replenishes oil only when the diaphragm is in the extreme retracted position and never overfills the hydraulic side.

Being a self-adjusting system, no manual field adjustments are required. This is a distinct advantage over the conventional pressure-operated refill mechanism.

No Diaphragm Support Plates

The (D-A-R-S) DARS eliminates contoured diaphragm support plates with small perforations, which are necessary in the conventional mechanism. The elimination of contour plates increases the pump capability to handle liquid with slurry and also high viscosity fluids since extra pressure drop and material build-up associated with contour plates are avoided. (or no more there)

Low NPSH Requirement

As liquid passages are smooth and unrestricted, the NPSH requirement is lower than conventional pumps.

Volumetric Air Bleeding

Pressure independent constant volume air bleeding system purges hydraulic fluid continuously and automatically, thereby ensuring metering accuracy unlike in the conventional designs which have pressure dependent air bleed system.

Longer Diaphragm Life

The DARS keeps the diaphragm under constant balanced pressure thereby increasing the Diaphragm life.

Fail Safe Operation

Pump can run under cavitating conditions without overstressing the diaphragm or overheating the oil. Built-in safety relief protects the drive from damage if discharge pressure exceeds the pump rated pressure.

Triplex Process Diaphragm Pump



Diaphragm Metering Pumps

Specifications

- Modular Configurations: Simple, Duplex, Triplex and Quadriplex
- Flows up to 7,000 lph on single head
- Meets and Exceeds: API 675
- Turn down ratio 10:1
- Sandwich diaphragm pressure leak detection
- Manual stroke length control standard (optional VEDI)
- Accuracy up to 4.0%
- Process Temperature from -20.0 to 120,
- Viscosity standard at 600 cps, higher options available
- Metric Fasteners
- No Welds on Wet End Parts
- Connections available in NPT/ISO and ANSI/ISO Flanges
- Oil level sight gauge ensures proper oil level
- Connections available in NPT/ISO and ANSI/ISO Flanges