

VALUE ENGINEERING PVT LTD

HYDRAULICS PROFILE



VALUE ENGINEERING COMPREHENSIVE HYDRAULICS SERVICES

Value Engineering, a fast growing engineering company, offers Comprehensive Hydraulics Repair and Maintenance Services at our workshop which is fully furnished with state of the art equipment to cater for all your hydraulic requirements - Cylinders, Valves, Pumps and Motors regardless of the size. Having a team of certified technicians and highly experienced machinists, we are proud of our comprehensive and professional services and the supply of new cylinders, valves, pumps, motors, filters, hoses and repair kits to meet your requirements.



The workshop facility is state of the art, and designed to professionally refurbish any hydraulic unit. Each unit arriving is stripped, assessed and washed prior to refurbishment. Only Genuine parts are used in the repairs to aid in the quality of the finished product. After the rebuild has been completed the unit is tested on the hydraulic testbed, to manufacturer's specifications to simulate actual working conditions of the hydraulic unit. We can repair and supply many types of hydraulic pumps and motors, including the following types:

Bosch	Hyundai	Commercial	Volvo
Danfoss	Uchida	Hydromatic	Linde
Kawasaki	Hydrastatic Transmissions	Parker	Rexroth
Poclain	Sauer Danfoss	Vickers	Liebherr
Voith	Staffa	Bell	VickersVane
Komatsu	Hitachi	CATERPILLER	JCB



Engaging Value Engineering in the repairs and maintenance to hydraulic plant and equipment means minimal downtime hence increase production. The experience and equipment we have in the hydraulic industry means less production time hence cost effective solutions. Quality is guaranteed as a result of the expertise in our team and the machinery compliment.

Instead of importing cylinders from abroad, Value Engineering is most capable to manufacture new cylinders from scratch. We boast our capabilities on the new machinery as well as our efficient material and seals suppliers. Where original spare parts are not readily available Value Engineering employs rapidly manufacture cylinder components in-house in our manufacturing workshop.

Our engineering department utilises CAD design to ensure all manufacturing details conform to specifications and we have an extensive library of component designs for a wide range of equipment types. In addition, our close working relationship with seal manufacturers gives us access to a complete range of high quality standard seals. Our knowledge of OEM specs and cylinder tolerances gives us the ability to accurately assess those parts that may be reused or reconditioned, and those that must be re-manufactured. Value Engineering has the equipment and expertise on site to perform all machining operations to properly manufacture cylinder components.



OUR HYDRAULIC MACHINERY IN DETAIL- ADVANTAGES

1. Heavy duty Computerised Hydraulic Cylinder Stripping and Repair Bench

We recently acquired a Heavy duty Computerised Hydraulic Cylinder Stripping and Repair Bench, Hydraulic Cylinder Barrel Washing Machine and a Pump, Motor and Valve Testing Bench to complement our operations. We have a Heavy Duty Honing Machine coming in and to be commissioned in September 2018. Our facilities feature heavy overhead cranes and special purpose disassembly equipment including hydraulic nut tensioning devices to handle very long, large bore cylinders. Our special purpose cylinder disassembly benches can accommodate cylinders of up to 12 metres and 600mm bore and can develop up to 130,000Nm nut tensioning torque and 7 tonne pull apart force.

1. Windows TM Embedded touch screen HMI to control bench functions & system limits (such as piston nut torque pre-sets). Complete with operator safety prompts.
2. Integrated cylinder pressure test function with digital export of cylinder test results. Cylinder Ports A & B & Mid stroke test results. (Up-Gradable Optional Linear, Encoder caters for stroke length measurement and automated multi-point cylinder test protocols).
3. True "Single operator" functionality. Best-of-class operator safety.
4. Solid, full-length bench design provides more usable working space and the flexibility to accommodate additional repair functions.
5. Bench design is suitable for large, heavy cylinders. Strong design means machine longevity and improved operator safety.
6. Tool slide plates, together with our proprietary height-adjustable chain vice tools, ensures that any cylinder or rod configuration can be safely secured on the bench & adjusted to a common tool centre height. This gives the user maximum flexibility in accurate disassembling & reassembling any cylinder configuration. Ensuring less or no damage to any part of the cylinder bore, gland, piston & chromed shaft due to their close tolerances, during both operations.
7. The Nut Cracker utilises a simple and effective ratchet mechanism for maximum power with hex socket type adapter for piston nuts up to 345mm across flats.
8. Re-assembly is achieved through reverse rotation using the same tooling. Precise control of system pressure allows nuts to be re-torqued to OEM specifications using torque pre-sets entered into the HMI.



2. Hydraulic Cylinder Barrel Washing Machine

Dirt and honing debris are every hydraulic systems' worst enemies. Our Cylinder Washer guarantees that cylinders will be contaminant free when they are reassembled and reinstalled into the field. It uses rotating pressure spray nozzles and rotating brushes to make repaired cylinders factory clean. A powerful 12 GPM diaphragm pump flushes out all the debris quickly. Two sets of brushes handle cylinders with from 4 to 13 1/2" bores. Cleaning solution, dirt and debris don't go down the drain. The effluent exits the cylinder under a splash guard to keep the work area clean and dry. It then passes through 25 micron filter bags that cleans the solution, returning it to the Washer tank for reuse. A second filter stack will filter the solution down to 3 microns. Debris is trapped by the filter bags and disposed of with the shop's dry waste. It's a system designed for maximum productivity. The unit operates 100% off of compressed shop air. All your cylinders will be contaminant free on reassembly hence a perfect hydraulic system is guaranteed.



3. Heavy Duty Honing Machine

Value Engineering Pvt Ltd has recently acquired a Heavy Duty Honing Machine for operation in September 2018. The machine is designed for bore diameters from 2.5 – 21 inches (64 – 533 mm), and part weights to 1,815 tonnes. Any respectable hydraulic shop should be providing a honing service as a critical part of a cylinder rebuild.

- A properly honed tube is the basis for a superb seal, smooth operation and extended seal life for any hydraulic cylinder. Leaks are the most widely cited repair indicators that will prompt a cylinder repair. When leaks are present, contaminants could enter the system and create scratches, low spots and other irregularities in the cylinder tube wall. These irregularities accelerate seal wear and eventually cause internal leaks. Internal leakage is a silent killer that decreases performance.
- Deglazing is another reason to hone a cylinder before installing new seals. Deglazing will in effect restore the original crosshatch finish that will improve lubrication, minimize wear and offer smoother operation. Honing can also be considered an inspection tool. After a light hone, surface imperfections may be revealed that could indicate a more severe condition.
- Advantages of honing:
 - Deglazes the Surface and Creates a Cross-Hatched Surface Finish
 - Improved Lubrication - Uniform Wear – Longer Seal Life
 - Corrects Minor Surface Irregularities
 - Removes Scratches – Dents - Worn Areas – Minor Galling
 - Helps Correct Geometrical Issues
 - Corrects Taper – Bell Mouth – Out of Round - Ballooning
 - May Reveal more Serious Surface or Geometrical Issues
- Every time a cylinder is resealed, light honing should be performed as part of a thorough repair. It is widely accepted that honing when resealing will save you time and money when you consider the costs of more frequent rebuilds, shortened seal life, and lost time. A suitable hone job will renew the bore finish and provide a true bore that is necessary to achieve maximum life, peak performance and reduced downtime.



4. State of the Art Pump, Motor and Valve Testing Bench

Value Engineering Pvt Ltd operations include a valve repair and testing bench to serve all of our customers' hydraulic valve repair and testing requirements.

- The Pump, Motor and Valve repair and testing bay assures customers that their hydraulic valve repair service will be exclusive. The valve area is staffed by skilled technicians with experience in overhauling all valves to return them to full performance. We maintain a clean atmosphere in our workshop for the safety of all your valves.
- Our Pump, Motor and Valve room features state-of-the-art hydraulic valve repair and test equipment. We are fully equipped to calibrate and test hydraulic valves to meet or exceed OEM specifications.
- The Value Engineering team is your comprehensive service source for a wide variety of hydraulic pump and motor repair work as well. Our certified technicians and experienced machinists provide fast, professional hydraulic pump repair work to customers who rely on fluid power to keep their operations running smoothly.



5. Hydraulic Crimping Machine

Value Engineering has in its workshop a Hydraulic Crimping Machine with a crimping range in up to 87 mm or 3,42 inches. Our maximum hose crimping size is 2". This machine is to complement the hydraulics division in the hoses and fittings side. Value Engineering can supply all your hose requirements complete within our workshop.



6. Stocks

All our manufacture and repair activities are complemented by our Supplies Division which supplies us with the required types of seals and chromed stock timeously. Our seal and chromed stocks permits us to deliver all products in the minimum possible time.



7. Field Services

We offer field services to ascertain any damage on the main equipment etc. This then complements our repairs as all the irregularities on the machine will be noted and rectified.

We also offer fitting and testing charges on site all at a fee. Test reports will be provided for all work done.



8. Quality Control, Record Keeping and Job Tracking

Job Tracking - We track every hydraulic repair job's progress and the complete history of service on your products, through our Computerised Job Card System. This computerized system tells us in real time where your product (job) is in our facility and what has been done in any previous work in our shops. We use this system for every job that we process.

Quality Control - Quality control is built into each and every Value Engineering process to ensure your hydraulic equipment reliability is at its maximum level.

We have designed and installed numerous steps throughout our operations for inspection and quality control. Our formal inspection begins with the hydraulic cylinder or component as received. Pictures are taken and stored within our System along with other relevant information.

Inspection is a multi-step process at Value Engineering. Key to your hydraulic equipment reliability is the write-up position. Our inspection determines what must be repaired and what can be reused while ensuring the repair meets the customer's needs.

After machining, all parts are inspected before assembly. The final inspection is made during hydraulic testing, which each unit undergoes after assembly.

Our system is set up to deliver hydraulic equipment reliability for all of our customers on all of their work.

Repair Reports - Value Engineering operates its own Value Computerised Job Card System to record all work that goes into and comes out of its shops, and issue repair reports to customers. The system uses a unique job number for each and every job, and that number is tied to the customer and the individual component, with all pertinent information associated with the repair recorded into the job number. The information also is stored for the model number of the cylinder. Repair reports are quickly produced with the system. It is set up to produce a variety of repair reports - from job status to repair histories. All are readily available so that customers can easily obtain relevant information and plan for upcoming maintenance.

