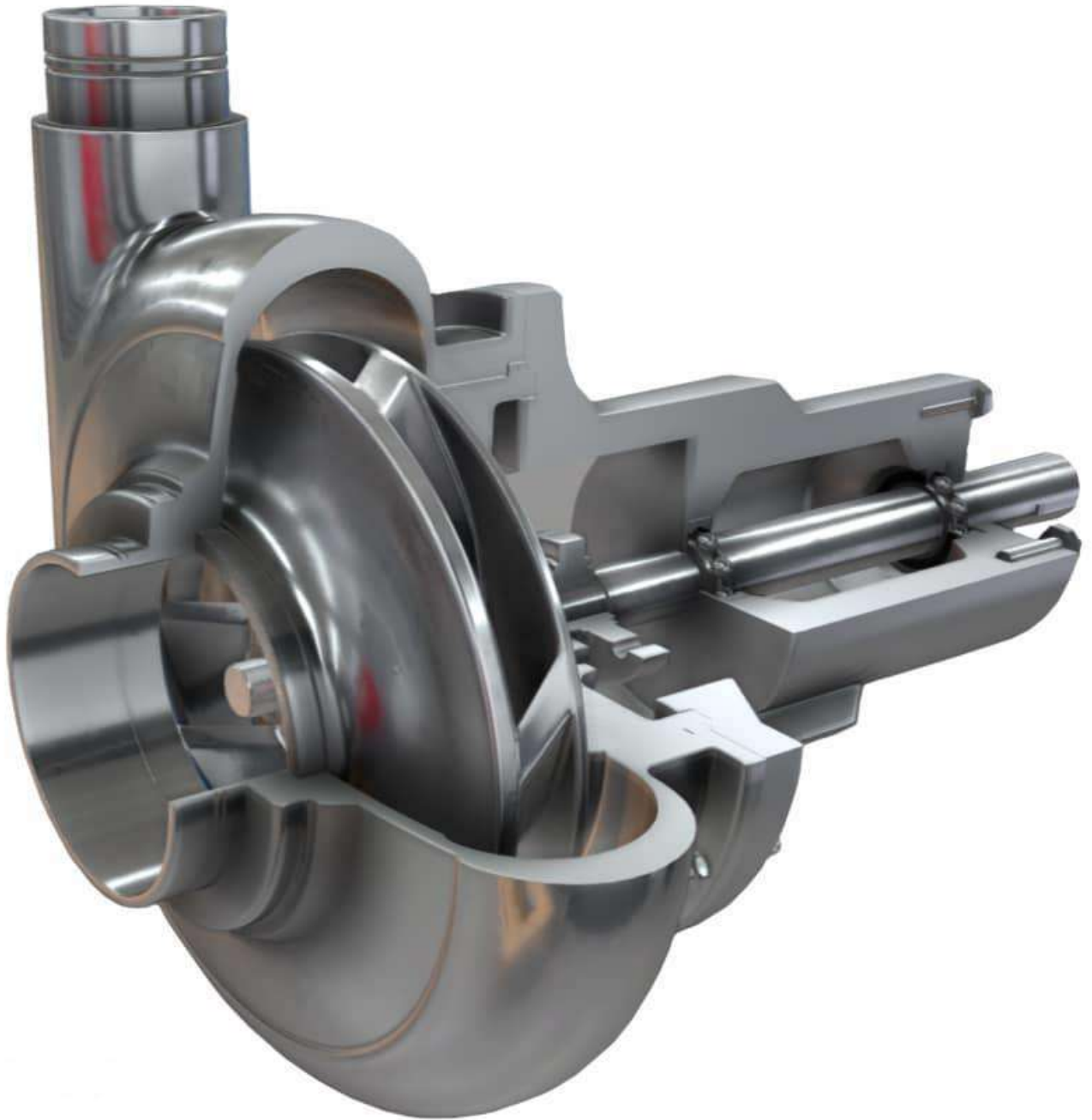


Spaky

ENGINEERING PVT. LTD.



Growing With Innovation

CENTRIFUGAL PUMP CATALOGUE
Design, Development & Engineering

Our History

Spaky

ENGINEERING PVT. LTD.

❖ Established in 1994 by Late Shri J. G. Patel (Ex- Mather & Platt Employee), SPAKY ENGINEERING PVT. LTD. (SEPL) has recorded vast growth over the years. In it's journey towards becoming a brand, SEPL has always kept Quality and Customer Satisfaction as it's prime focus.

We are into Engineering & Development of all types of Centrifugal Pump for more than 2 decades !!

❖ We have a commendable workforce of Senior Engineers for Designing, Drawing, Development & Manufacturing, each having experience of more than 40 Years in the field of Centrifugal Pumps. We have garnered expertise in Foundry, Testing, Quality Inspection & Service over a period of time.

❖ We deal in Design, Engineering, Development & Manufacturing of all types of Centrifugal Pump & it's equipment's.

❖ As an Organization, we have always challenged ourselves in terms of Innovation, Quality & Timely delivery.

❖ Renowned for its technical solutions and high quality products, SEPL supplies a wide range of industrial pump parts for meeting all industrial requirements, even the most specific ones with difficult environment.

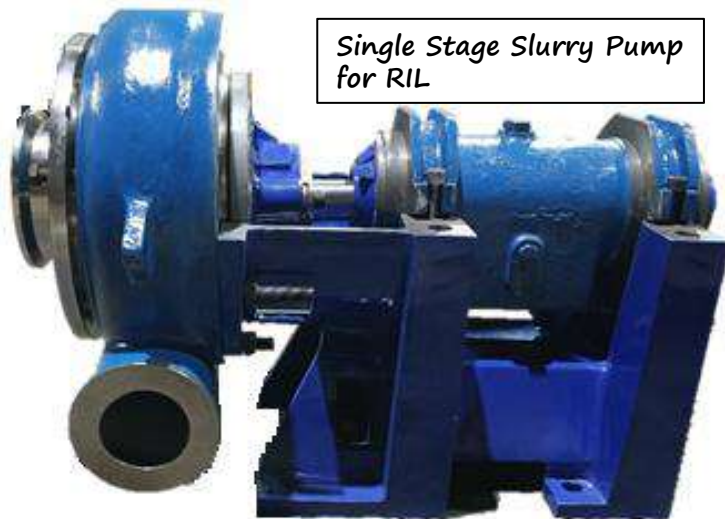
❖ With more than 2 decades of expertise we have mastered ourselves in Reverse Engineering and Design-Development of Centrifugal Pumps.



- ❖ For more than 2 decades, SEPL has served all types of industrial solutions that add value and reduce costs throughout the life cycle of a pumping system.
- ❖ We have always developed Customer Oriented Solutions. These products are preciously designed to the maximum extent to meet goal of Energy Efficiency, Power Consumption, Higher Flow Rates, Vibration Analysis etc.



Marine Pump
for RIL, MTF



Single Stage Slurry Pump
for RIL

- ❖ We are into manufacturing of Complete Pump & its spares like:

COMPLETE PUMPS (Horizontal, Vertical, End Suction)		
CASINGS OF ALL TYPES	BOWLS	BEARING HOUSING & COVERS
IMPELLERS (Open, Double Suction, Single Suction, Staggered Vanes)		COMPLETE ROTOR (Single Stage, Multi Stage Etc.)
SHAFTS	WEAR RINGS	SLEEVES & LOCK NUTS



Al-Bz Imp. For NFL



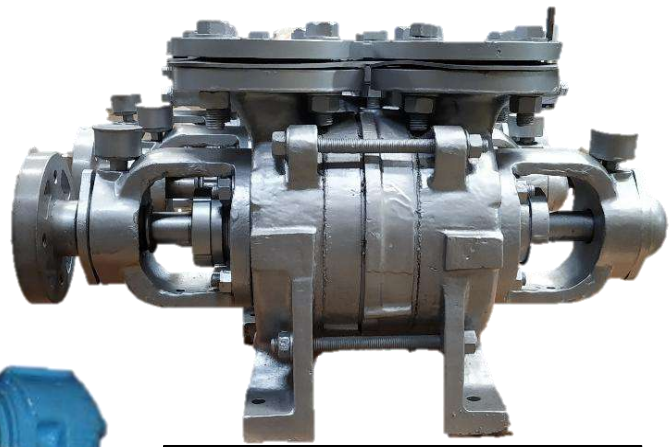
Byron Jackson Open Typ.
Impeller, NPCIL in CL
III-A



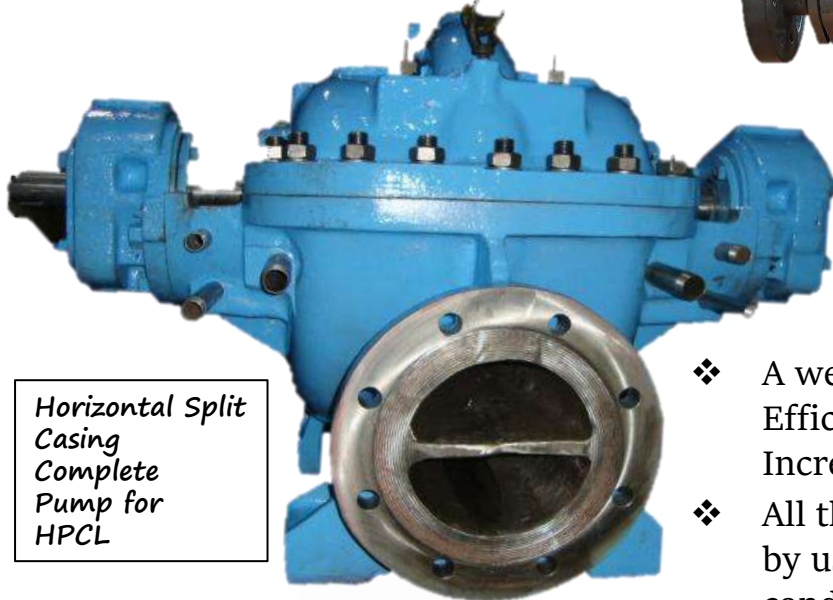
3 Stg. Pump Bowl
Assy., NPCIL

Complete pump's

- ❖ Pumps are developed keeping in mind the situation at customers end.
- ❖ Pumps are designed based on the Customer input, Design Specifications, Constraints at site



1 stg. Marine Pump for RIL, MTF



Horizontal Split Casing Complete Pump for HPCL

- ❖ A well designed pump can improve Efficiency, Reduce Maintenance Costs, Increase Overall System Reliability.
- ❖ All the pumps which are manufactured by us are tested for the optimum conditions as per Cust. requirements.

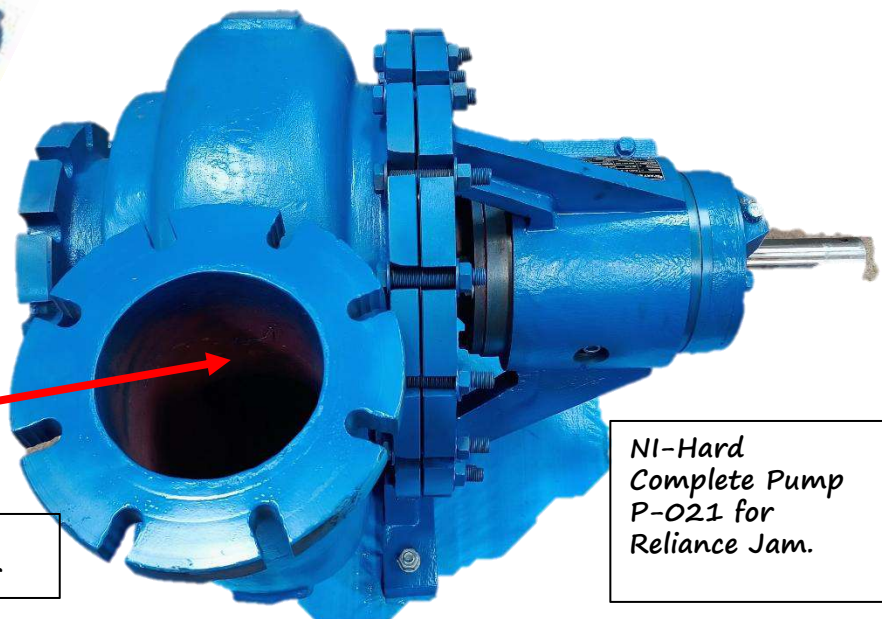
Recirculation Pump For RIL Sez



- ❖ All Pumps developed are of different Application:
 1. Sulphur /Phospur Acid Plant
 2. Hydrogen Plant
 3. Caustic Soda Application
 4. Sea Water Application (Marine Pumps)
 5. Slurry Pump etc.



3-Vane Impeller



NI-Hard Complete Pump P-021 for Reliance Jam.

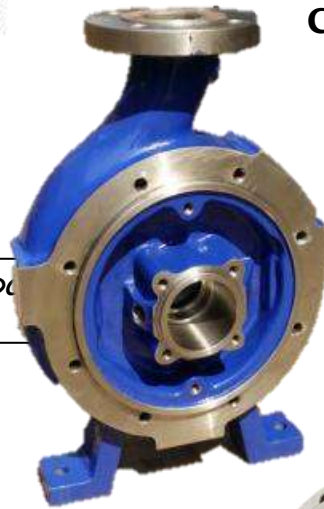
- ❖ We have developed casings for various types of applications ranging from Fertilizer Plants to Petrochemical Industries.
- ❖ We have had success in developing casings to meet the ongoing plant requirements. Our products fit the location exactly as they are without changing anything.



Sanicro 28 Eq. Casing for JIFCO
Phosphoric Acid Soln.

- ❖ All Casings are of different MOC's like CF8M, CF3M, CZ100, Hi-Chrome, NI-Hard, **Equiv. to 904L, SANICRO, CD4MCu, LTB2 etc.**

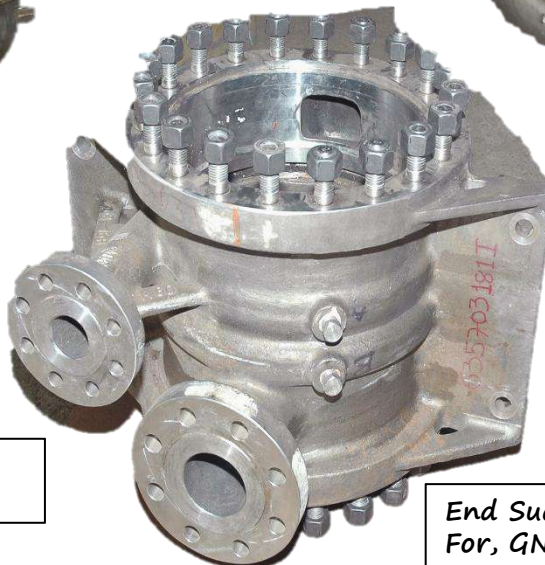
Casing & Cover in CZ100
Moc for NFL



Casing & Cover in
CD4MCu for CPCL,
Chennai



Bowl Assy Pressure Test,
For Nayara Energy



End Suction Casing
For, GNFC, Bharuch

- ❖ When we say Impellers, we have mastered ourselves in Developing & Reverse Engineering of Impellers. Developed them ranging from Ø100mm to Ø1100mm & from 0.7Kg. to more than 1 ton.
- ❖ We have Developed/Re-Designed Impellers based on customer / plant requirements like Power Saving, Flow Requirements, Vibration Analysis, Head Requirements etc. and here are few examples.



24UPH3 KBL Imp for RIL, Sez

Reliance Industries Limited -Jamnagar:

- Re-designed the Impellers, (of KBL make) for Cooling Tower Pump. Ø880mm
- We completely changed the hydraulics of impeller and as a result:
 - Power consumption reduced saving 22 lacs. Per year. (RIL report)
 - Higher Efficiency.
 - Higher Flow.

Essar Oil Limited - Vadinar (Guj.):

- Re-designed impellers (of Nuovo Pignone, Italy) for Cooling Tower. Ø910mm
- By completely changing the Hydraulics (8 Vanes Staggered to 6 Vanes Double Suction) & MOC of the Impeller (From OEM MOC to CD4MCu) the results were astonishing:
 - Power consumption reduced drastically.
 - Efficiency & Flow increased by 10%.
 - Vibration & Noise levels reduced significantly.

Old OEM Impeller



Modified CD4MCu Imp for Essar Oil, Jamnagar

- ❖ Designing of Impeller is an art. We have to carefully look into many aspects / limitations like:
 1. Constraints in Casing like Max Diameter, Casing Wearing Sizes etc.
 2. Shaft Size & Diameter,
 3. MOC of Pump, Casing Wear Ring, Impeller,
 4. Motor KW Ratings etc.



Boiler Feed Pump
Impeller - GNFC



Imp. In CD4MCu
CPCL, Chennai



Eq. Lewmet15 Impeller
For IFFCO-Paradeep

Re-designed Impellers to Increase Flow, Head, Efficiency, Reduce Noise & Vibration and Save Power, directly reducing maint. Costs & increase in savings without changing anything else in Pump.



36/36 DV Lonovane - Cooling Tower
Impeller, CFCL-Kota



Staggered Vane Impeller for HURL,
Gorakhpur

Complete ROTOR assy.

- ❖ We re-design the rotor to Solve problems such as Low Pump efficiency, Shaft Breakage, Vibration / Noise issues, Flow / Head requirements etc.
- ❖ We supply Shafts with or without coating/plating like PTFE, Rubber, Chrome or Teflon for increase in Life in severe Environment conditions like Sulphuric/Phosphoric Acid Plant.



Complete Rotor for HURL, Gorakhpur

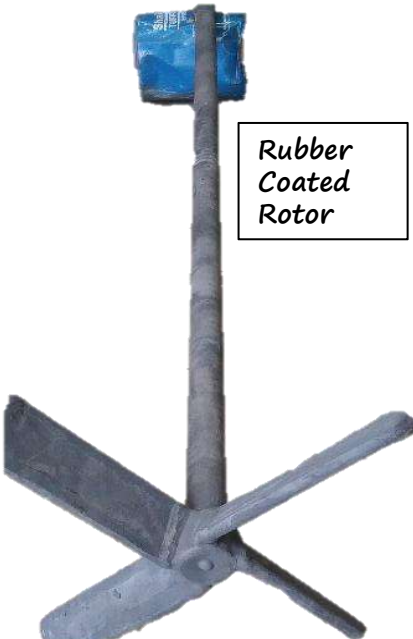


11 Stage Boiler Feed Pump Assy. for GNFC, Bharuch

We have designed the rotor to solve problems and Improve Life and Efficiency of the Pump. This in turn increases the output of the pump and decreasing the downtime & maintenance activity thereby solving multiple problems of clients.



36/36 DV Lonovane Colloing Tower – Complete Rotor, CFCL



Rubber Coated Rotor

- ❖ Manufacturing of Shafts require accuracy & precision. Material has to be checked for PMI, Chemical, Physical & Hardness. UT needs to be 100% OK in order to proceed for machining. Any leniency can lead to Bend, Run-out issues, Cracks etc. at the time of final machining.



UT Test of Shaft



PMI Test

- ❖ We supply Shafts with or without coating/plating like: PTFE Coating, Rubber Coating, Chrome Plating, Teflon Coating, Amdry Coating for increase in Life in severe Environment conditions like Sulphuric / Phosphoric Acid, Slurry Plant etc.



PTFE Lining Shaft IFFCO-Paradeep (Sulphur Solution Plant)



Single Piece
∅ 280x4m long
Shaft



Chrome Plated Shaft for NLC - T.N.



Sleeves with & Without
Plating

- ❖ We have developed ourselves as a leading manufacturer of Items in Critical MOC. Overtime we have gained experience in Metallurgy of different MOC.
- ❖ **CHEMICAL COMPOSITION:**

C	Mn	Si	P	S	Cr	Ni	Mo	Cu	N	Fe
Carbon	Manganese	Silicon	Phosphorus	Sulfur	Chromium	Nickel	Molybdenum	Copper	Nitrogen	Iron
0.04 max.	1.2 max.	1.0 max.	0.04 max.	0.04 max.	24.5 - 26.5	4.7 - 6.5	1.75 - 3.8	1.5 - 3.25	0.1 - 0.25	Balance

❖ **HEAT TREATMENT:**

- Solution annealing at 1090°C soaking 7 Hrs and water quench.
- Tempering – As required to achieve the Hardness.

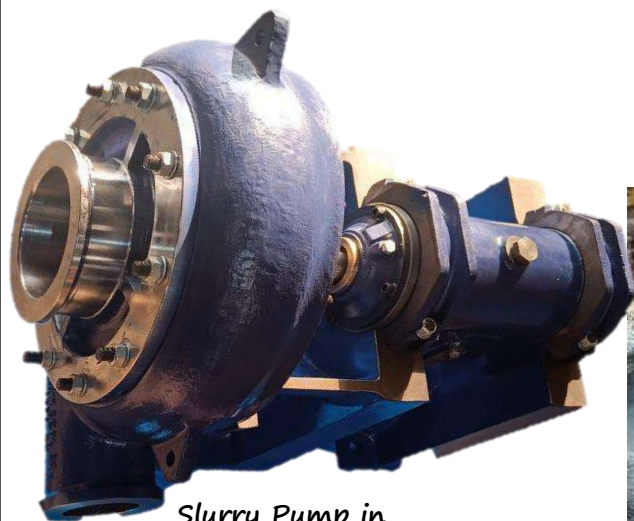
❖ **MECHANICAL PROPERTIES:**

- YS: Minimum 779 Mpa
- TS: Minimum 1131 Mpa
- Elongation: Minimum 16%
- Hardness to be maintained between 320-340BHN

❖ **TESTING:**

- Pressure Test at your end.
- Complete casing DP Test for any surface defects / cracks.
- Good Sound Quality casting which should be free from any defects.

Critical MOC's LIKE, Equivalent Grades of: Lewmet Series , Sanicro-28, 904L WCD4, Hi-Chrome, Ni-hard, CZ-100, ASTM Cl-III A, etc.



Slurry Pump in HI-Chrome, For Reliance



Propeller in Hastelloy G-30, for JIFCO

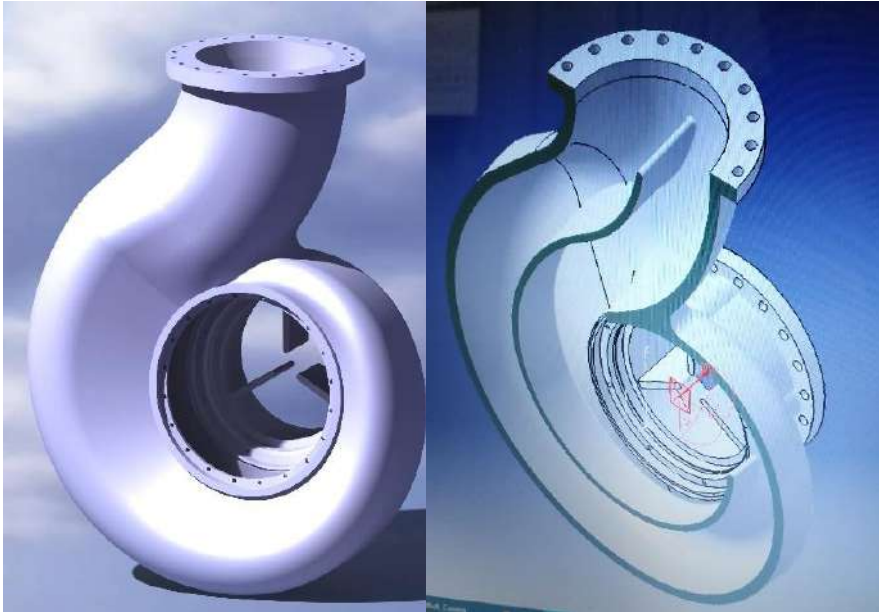


Complete Pump for Reliance in Ni-Hard D2



Teflon Coated Alloy20 Shaft, For JIFCO

- ❖ From preparing 3D model of the part, to studying the complete individual products for any design faults, also studying the clearances between the individual parts in assembled condition, we do it completely in-house. Only upon confirmation, we proceed ahead for casting.

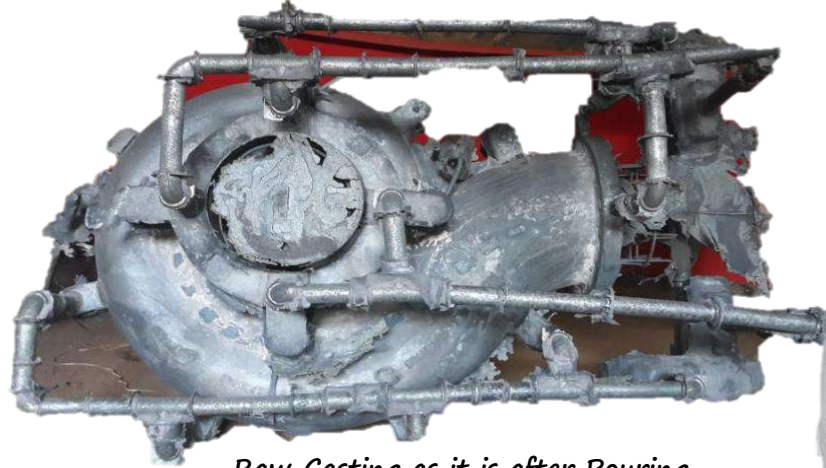


3d Model of Casing in whole & cut section



Checking of Clearances in 3D after assembly of parts inside casing

Final Product. Casing in Euv. WCD4 Grade



Raw Casting as it is after Pouring



Impeller in WCD4 for Phosphoric Acid Plant, JIFCO

Lifecycle of Product from Drawing – Design – Casting – Machining. Includes all the testing needed at respective stages.

Other SEPL Products

- ❖ Building a Centrifugal Pump involves many other products such as Bearing Housing, Inducer, Wear Rings, etc.
- ❖ We have developed & reversed engineered foreign OEM pump products to help customer reduce their costs considerably while keeping the quality & life cycle of the product same and as our main focus.
- ❖ **Our other products include:**
 - A. Diffuser
 - B. Valve Body / Blocks
 - C. Bowls
 - D. Casing / Impeller Wear Rings
 - E. Inducer
 - F. Burner
 - G. Finostosh Bush
 - H. Housing for different applications



Inducer For CFCL

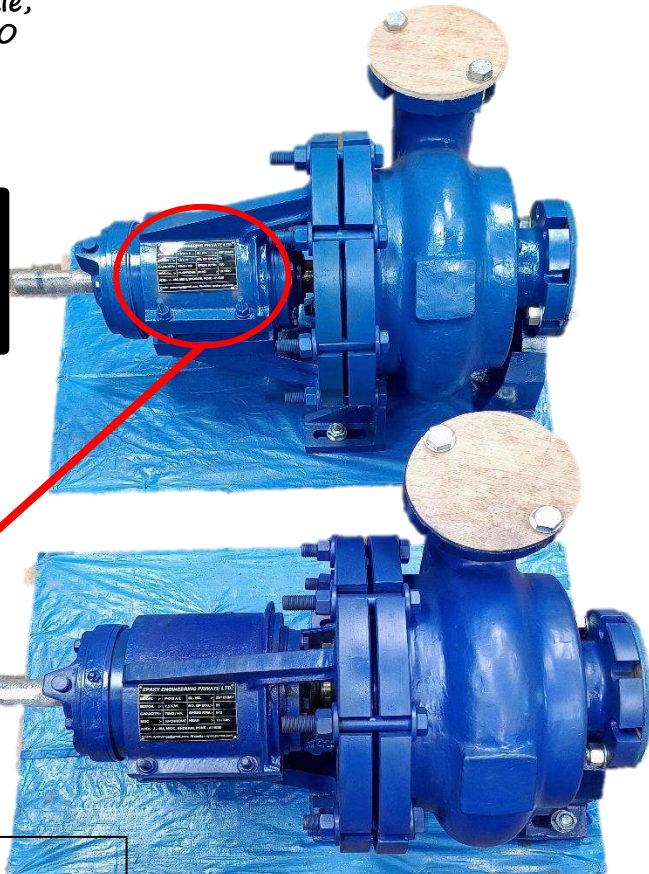


Modified Bearing Housing to reduce Bearing Temp CFCL



Scrubber Nozzle, IFFCO

A well designed pump can improve Efficiency, Reduce Maint. Costs, Increase overall system reliability etc.



SPAKY ENGINEERING PRIVATE LTD.			
MODEL :-	P-019 A E	SL. NO. :-	23/1059/01
MOTOR :-	7.5 K.W.	NO. OF STG.:-	01
CAPACITY:-	75M3 / HR	SPEED RPM:-	970
MOC :-	HI-CHROME	HEAD :-	10 / Mtr.
ADD:- J - 484, MIDC, BHOSARI, PUNE - 411026			
Email:- spakyengg@gmail.com; Website: spakypumps.com			

Complete Pump for Slurry - RIL Jam.



Bearing Housing For GNFC



Inducer - GNFC (Single Piece)



Burner For OMIFCO



Open Type Impeller in 904L for JIFCO Jordan

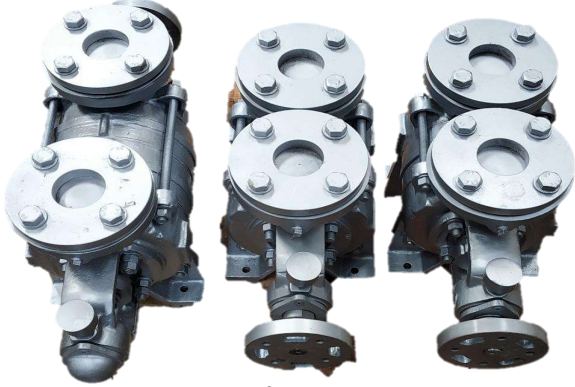


3Ton Valve Body For GNFC



Al-Bz Impeller For JIFCO-SAP.

SOME OF OUR PRODUCTS



Pumps Ready for Despatch

Pattern for Investment Casting



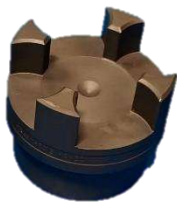
Balancing of 3Blade Fan Assy.



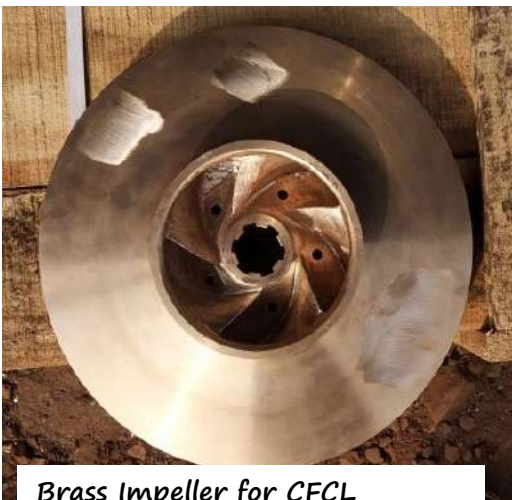
DP Test of Impellers



Coupling Set



Suction Bell Mouth,



Brass Impeller for CFCL



Test Ring for NLC

Our machinery

www.spakypumps.com



Spaky

ENGINEERING PVT. LTD.

Our location:

PUNE (MH.) – HEAD OFFICE & FACTORY ADDRESS

J BLOCK, PLOT NO. J - 484, MIDC,
BEHIND BHARAT WEIGH BRIDGE,
BHOSARI, PUNE - 411026, M.H.

Contact No.: +91 - 9673216865
+91 - 9764543979

Email: spakyengg@gmail.com

Website: www.spakypumps.com



JAS-ANZ



ISO 9001:2015
CERTIFIED

CENTRIFUGAL PUMP CATALOGUE
Design, Development & Engineering