



FLOWCORE HYDROPUMPS PRIVATE LIMITED

(We are Dewatering Guru's)



What is Dewatering?

DEFINITION

The process of removing **UNWANTED** water from a site, city, or surrounding is called Dewatering.

The **UNWANTED** water can be one -

- (a) causes hindrance in any type of production, or transportation
- (b) a residual of production, construction, or manufacturing process like slurry in a power plant.

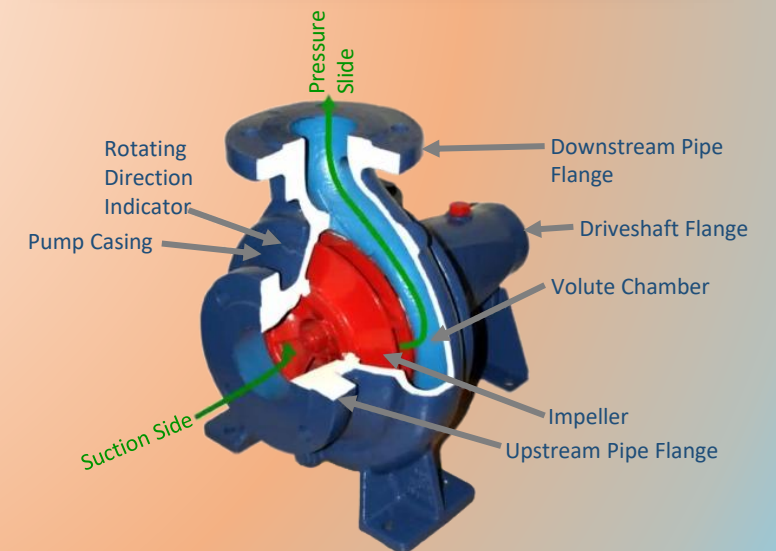
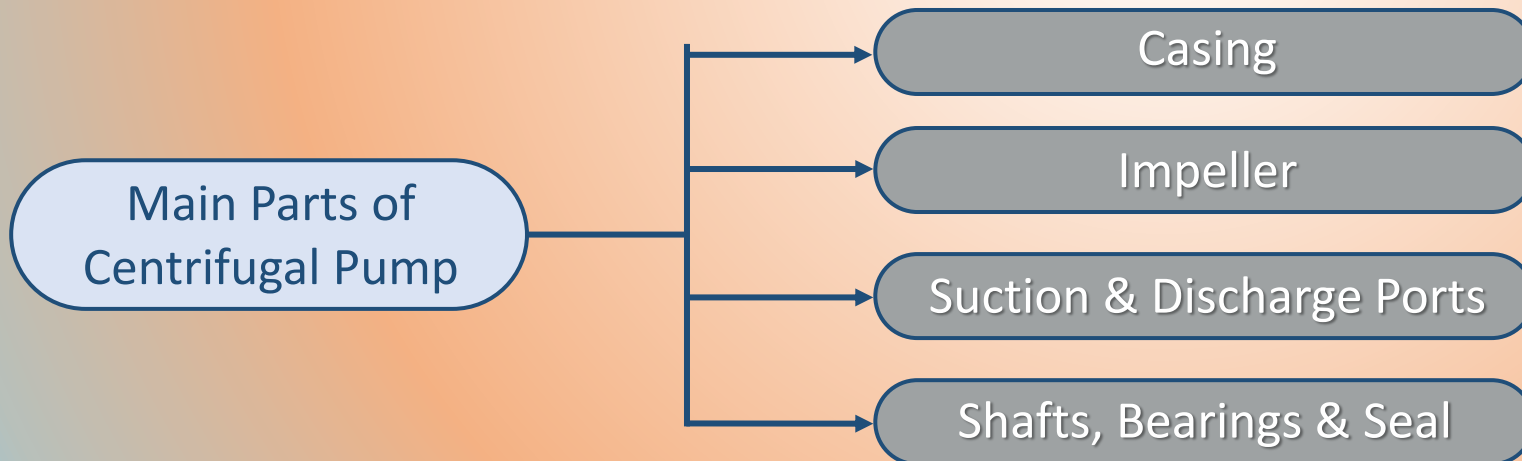
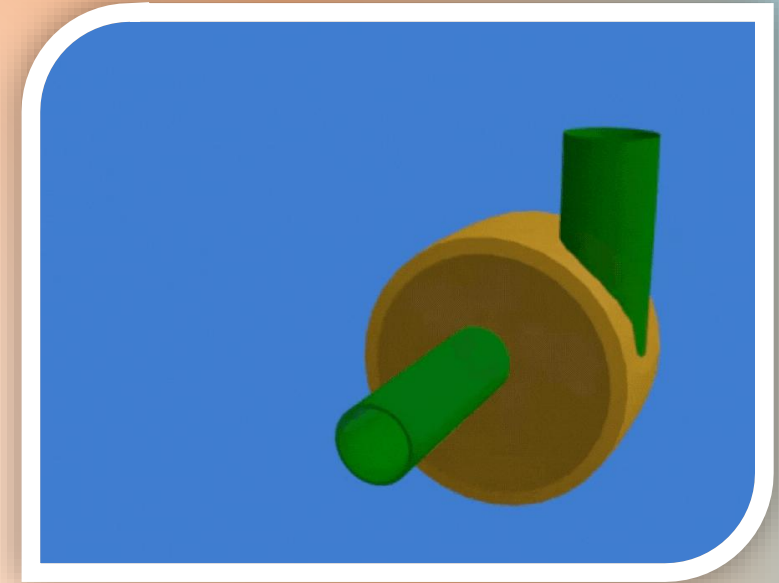


CENTRIFUGAL PUMP

In a centrifugal pump, the fluid enters the casing, falls on the impeller eye, and rotates radially outward until it exits the impeller through the diffuser (volute) of the casing. As it passes through the impeller, the fluid gains both velocity and pressure.

The velocity of the fluid increases by the centrifugal force created due to the rotation of the impeller. Therefore, the fluid is radially moved out towards the impeller periphery.

An electrical motor or diesel engine can be used to run the pump.



CATEGORIZATION OF Flowcore PUMPS

Based on how the pump is placed, they can be categorized into two types :

Submersible Pump

A Pump that runs under submerged conditions inside any water source, like pond water, pit, well, etc. Their nomenclature at Flowcore Pumps is - **FcDW**, **FcNC**, **FcSW** and **FcSL**.

Auto-Prime Surface Pump

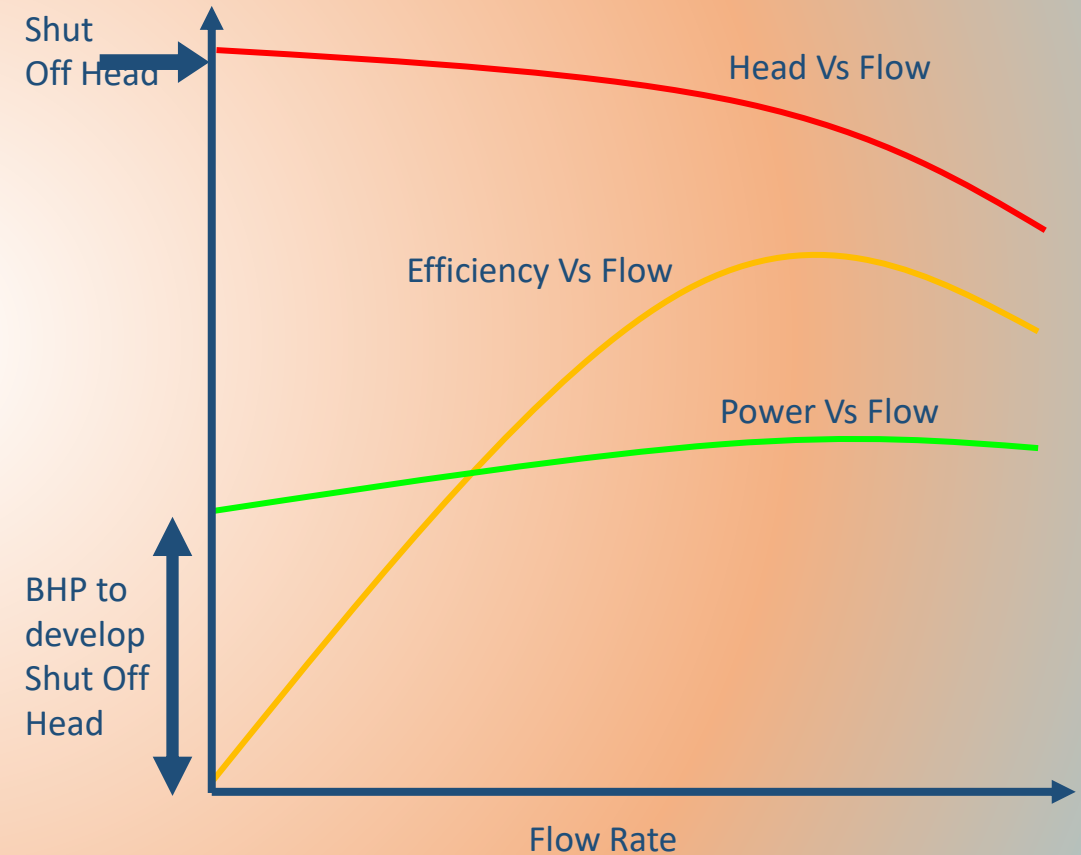
A Pump that runs on the surface adjacent to a water source, like Pond Water or a Well. Their nomenclature at Flowcore Pumps is - **FcAP**.

Pump Performance Curves

Important Pump Curves

- **Head & Flow** - This curve shows the performance relation between Head and Flow.
- **Power Vs Flow Curves** - This curve shows the pump's horsepower consumption at different head and flow rates.
- **Efficiency Vs Flow** - This curve shows the consumption of energy versus the flow rate of water.

On the basis of these curves, we can define what is the best efficiency working conditions for a pump model.



Centrifugal Pump Performance Curve

Energy Efficiency VS Cost of Pump

Local Pump with Higher HP

50 meter Head /
1,50,000 LPM

Pump Cost = ₹ 5,00,000

Consumption = 60 kWh

250 Hours Energy = $250 * 60 = 15000$ kWh

Cost of Energy = $15000 * ₹8 = ₹ 1,20,000/-$

Flowcore Pump with Lower HP

50 meter Head /
1,50,000 LPM

Pump Cost = ₹ 7,00,000

Consumption = 50 kWh (Diff. 10 kWh)

250 Hours Energy = $250 * 50 = 12500$ kWh

Cost of Energy = $12500 * ₹8 = ₹ 1,00,000/-$

Our pump's overall savings in a year exceed the cost benefits of a local pump.

“Buy Cheap, Buy Twice”

Energy Savings with Flowcore PUMPS

1st Month

₹20,000/-

2nd Month

₹40,000/-

3rd Month

₹60,000/-

4th Month

₹80,000/-

5th Month

₹1,00,000/-

6th Month

₹1,20,000/-

7th Month

₹1,40,000/-

8th Month

₹1,60,000/-

9th Month

₹1,80,000/-

10th Month

₹2,00,000/-

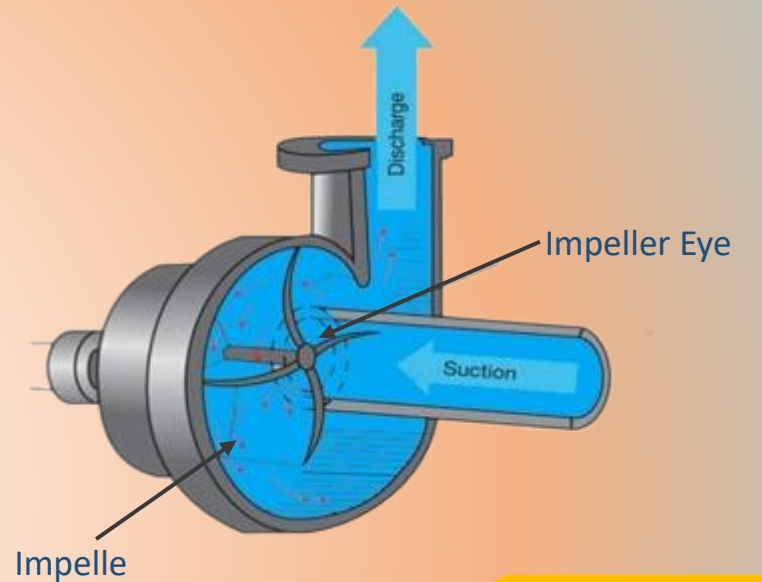
What is Priming?

Priming simply means preparing or getting something ready for operation.

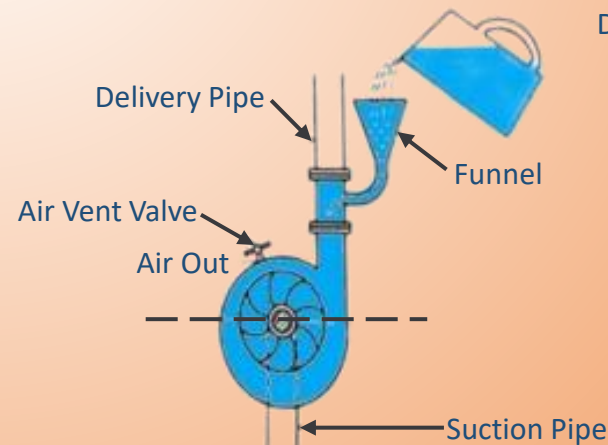
Pump Priming is the process of removing air from the pump and suction line.

In this process, the pump is filled with the liquid being pumped, forces all the air, gas, or vapor contained in the pump's passageways to escape.

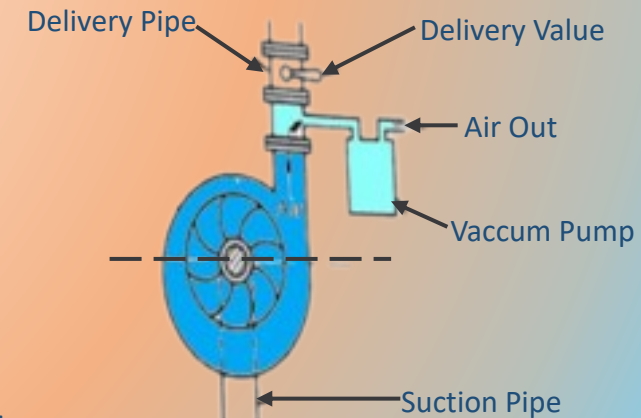
Priming may be done manually or automatically. All Flowcore Pumps have automatic priming.



Manual Priming



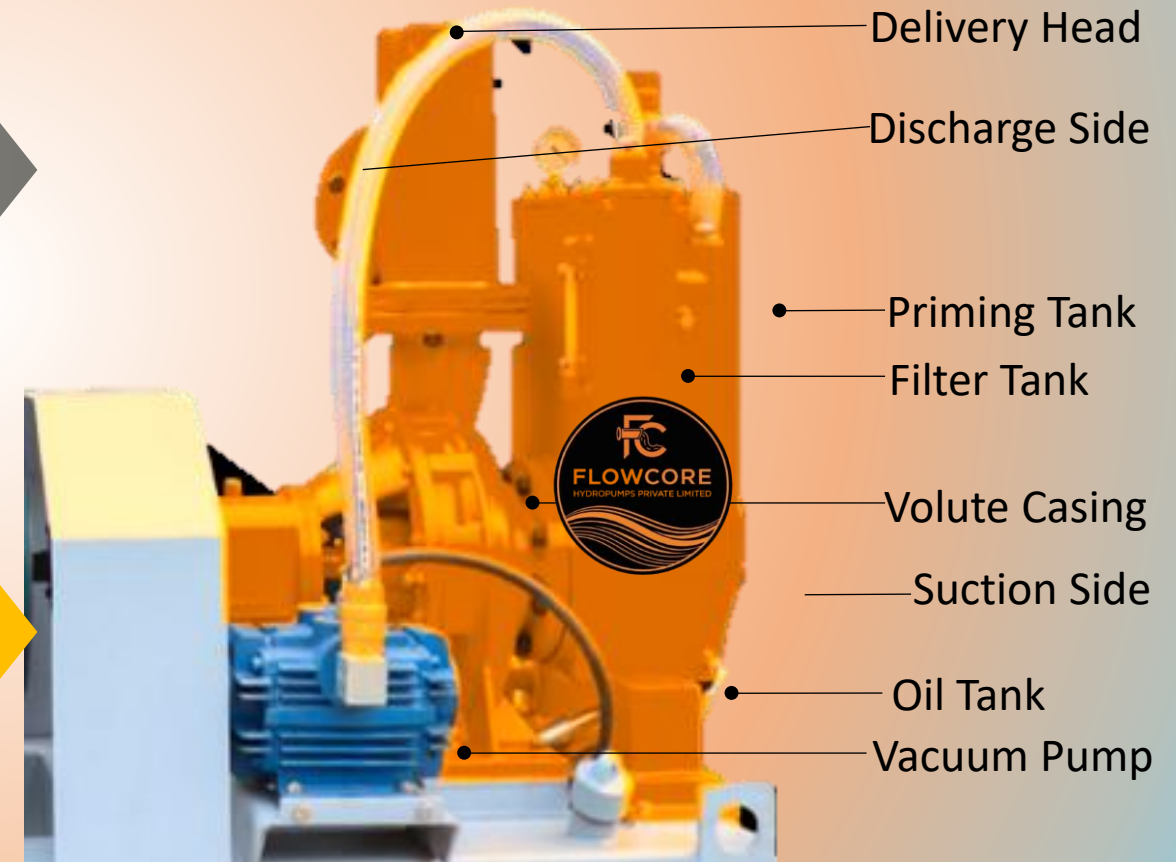
Vacuum Priming



What is Auto-Priming?

Auto Priming is a technique where a suction rotor with suction pipes is used to remove air from the centrifugal pump's casing and keep the pump filled with the fluid for continuous suction of the fluid.

Flowcore Pumps' Auto Priming mechanism is a proprietary designed system that continuously works using the same engine.



Flowcore PUMPS RANGE & MODELS

Flowcore Pump Models

Submersible Pumps

Dewatering
Pump CDW



Dewatering
Pump CDW
High Head



Sewage
Pump CSW



Slurry
Pump CSL



Non-Clog
Pump CNC



Auto-Prime Surface Pumps

Auto-Prime
Without Canopy
CAP EW / MW



Auto-Prime
With Canopy
CAP EC/ MC



Overview Flowcore Dewatering Pump - FcDW



Technical Specifications

Shut Off Head Range
15.5 M to 86.5M
Flow Rate Range
450 LPM to 8500 LPM
HP Range
1.5 HP to 50 HP

Application of FcDW Industry Wise

- Construction Site
- Tunnels
- Highways
- Basement Leakage
- Mines (without slurry)
- Sea water (Pumps made of SS316)

Recommended for Type of Water

- Dirty & Muddy Water.
- Water that has little suspended solid particles ranging 4-12 mm.
- Specific Gravity up to 1.1
- PH values from 5 to 8

Salient Features - FcDW

POWER CABLE

100% Water & Oil proof, PVC insulated, double sheathed, copper conductor flexible cable of 15m length

IMPROVED CABLE SEALING

1m long SS Steel grip & cable gland ensures protection against water leakage from the cable entry side

MOTOR PROTECTION

Class H insulated (max temp rise 180°C), BI-metallic thermal switches embedded in stator winding which protect the motor in the event of excessive-high temperature

BALL BEARING

All Ball Bearings are filled with high-temperature grease containing special anti-corrosive additive which ensures long life between service intervals

FOR SALINE WATER (OPTIONAL)

The pump can be equipped with Sacrificial Zinc Anodes for enhancing life in Saline water

LIGHT AND MODULAR

Lightweight modular design with an Al Alloy Top Bracket, Outer portable Casing (up to 10HP) and pump Base makes it best suited for application

HIGH CORROSION RESISTANCE

All hardware, strainer, outlet, lifting hooks & seal housing are in SS for maximum corrosion resistance & life longevity

STATOR CASING

Extruder Aluminium alloy for best heat dissipation, which allows it to run for a longer time without submersences as compared to Cast Iron pumps

MODULAR SEALING SOLUTION

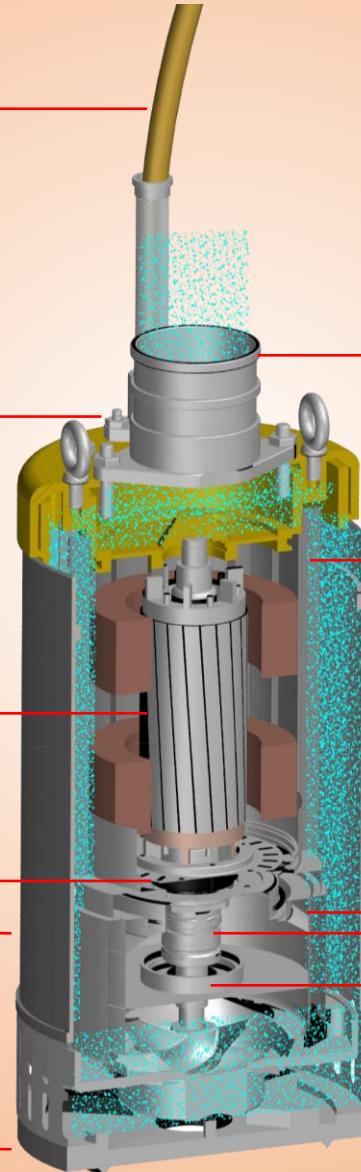
Twin SS seals in tandem (TC vs TC) for best sealing against water leakage into the motor in abrasive & muddy environment thus ensuring long life between service intervals

OPTIMIZED EFFICIENCY

Gap b/w Nitrile rubber molded Wear plate/ Diffuser & impeller can be adjusted up to 5mm even at sites to optimize the flow, thereby reducing spare part consumption

IMPROVED ABRASIVE RESISTANCE

Rubber moulded Wear Plate, Diffuser & Nitride hardened 55-410 impellers with hardness HRC (52-55) for more life in abrasive & muddy application



Overview Flowcore Dewatering Pump – FcDW Ultra High Head

Technical Specifications

Shut Off Head Range

175 M to 190 M

Flow Rate Range

120 M³/H to 210 M³/H

HP Range

100 HP to 120 HP



Application of FcDW Industry Wise

- Tunnels
- Mines (without slurry)

Recommended for Type of Water

- Dirty & Muddy Water.
- Water that has little suspended solid particles ranging 4-12 mm.
- Specific Gravity up to 1.1
- PH values from 5 to 8

Salient Features FcDW – Ultra High Head

POWER CABLE

50 sq mm H07RNF cable 10 mtrs, which can withstand any PH, crack proof and run over lifetime

EASE OF HANDLING

Lifting Hook (SS316) Provided for Ease of Access While operations

ENHANCED PERFORMANCE

SS316 diffuser & bronze wear rings makes the pump efficient & improves efficiency day to day on continuous running

RUST PROOF

Anti-Corrosive Stainless Steel Strainer

BALL BEARING

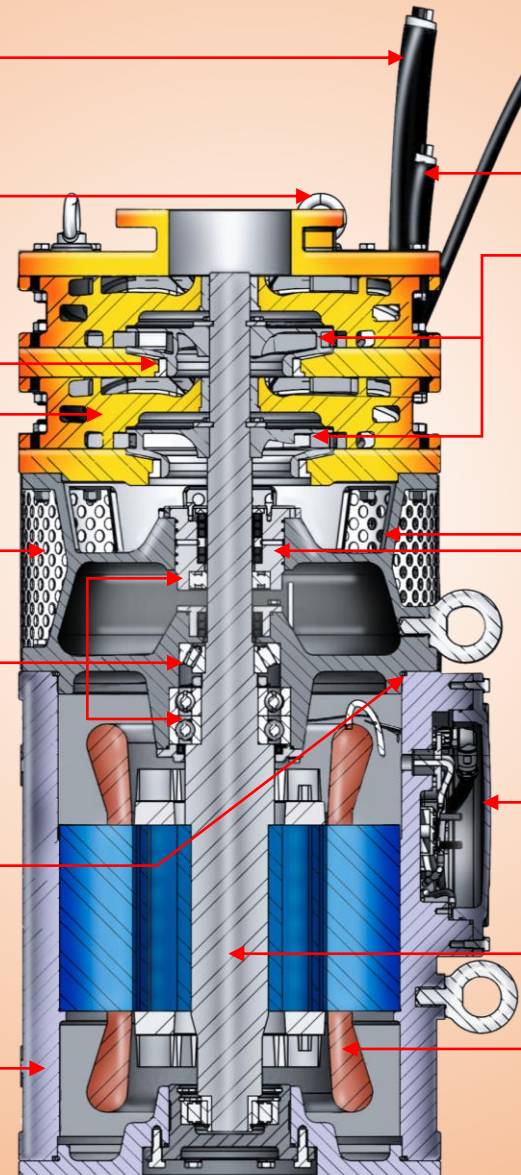
All ball bearings are filled with high temperature greases containing special anti-corrosive additive which ensures long life between service intervals.

IMPROVED ABRASIVE RESISTANCE

All rubber parts are made up of Viton rubber which can withstand saline water & can also be used where containment of abrasive particles are more

NATURALLY COOLED

As motor is naturally cooled thus overall thrust load on the pump is also very low



DATA CABLE

7 core X 1.5 sq mm cable embedded with 3 Warrick (USA) sensor of which one is in motor, one in mechanical seal & one temperature sensor for overheat protection for inclusion of foreign material

HIGH WEAR RESISTANCE

2-Stage Impeller in SS316 grade which resists wear & tear caused by abrasive particles & enables pump for extended performance

MULTI STAGE PUMP

2 stage Ultra High Head Pump for dewatering purpose up to 200m

MODULAR SEALING SOLUTION

Dual SiC vs SiC mechanical & Oil seal, which offers double sealing, reliability and Zero Leakage into motor in abrasive & muddy environment. Therefore, reducing the risk of failure & ensure long life between service intervals

FLEXIBLE DEPLOYMENT

It can be installed and used in vertical as well as Horizontal position

ANTI-CORROSIVE

High torsional strength shaft(SS431)

MOTOR PROTECTION

H class insulation winding (temperature rise to 180 c) embedded with thermal sensor in stator winding which protects the motor in the event of excessive high temperature

Overview Flowcore Non-Clog Pump - FcNC

Application of FcNC Industry Wise

- Construction
- Tunnels
- Some Sewage Bypass
- Hotcake product for manhole cleaning and sewage bypass because of 14" dia.

Recommended for Type of Water

- Thick, soft, wet mud or other similarly viscous mixtures of watery liquids and solids, especially the product of an industrial or refining process.
- Specific gravity up to 1.2
- PH values from 5 to 8

Technical Specifications

Shut Off Head Range
22 M to 30 M
Flow Rate Range
1250 LPM to 1500 LPM
HP Range
6 HP to 20 HP



Salient Features FcNC

POWER CABLE

50 sq mm H07RNF cable 10 mtrs, which can withstand any PH, crack proof and run over lifetime

MOTOR PROTECTION

Class H insulation (max temp rise 180°C), Bi-metallic thermal switches embedded in the stator winding which protects the motor in the event of excessive high temperature.

BALL BEARING

All Ball Bearings are filled with high temperature grease containing special anti-corrosive additive which ensures long life between service intervals.

TRULY NON-CLOG

With its bottom discharge, the Pump can efficiently handle material up to 70mm, which makes it best for heavy sludge applications.

LIGHT WEIGHT AND COMPACT SIZE

Its lightweight & compact design with Aluminium Alloy top cover, bearing bracket, outlet & pump base, makes it best suited for portable applications.

FOR SALINE WATER (OPTIONAL)

Pump can be equipped with Sacrificial Zinc Anodes for enhancing life in Saline water.

IMPROVED CABLE SEALING

1 m long 55 Steel grip & cable gland ensures better protection against water leakage from cable entry aide

HIGH CORROSION RESISTANCE

All hardware, lifting hooks, seal housing & shaft are in SS for maximum corrosion resistance & life longevity

STATOR CASING

Extruded Aluminium Alloy for best heat dissipation, which allows it to run for longer time without submergence as compare to Cast Iron pumps

MODULAR SEALING SOLUTION

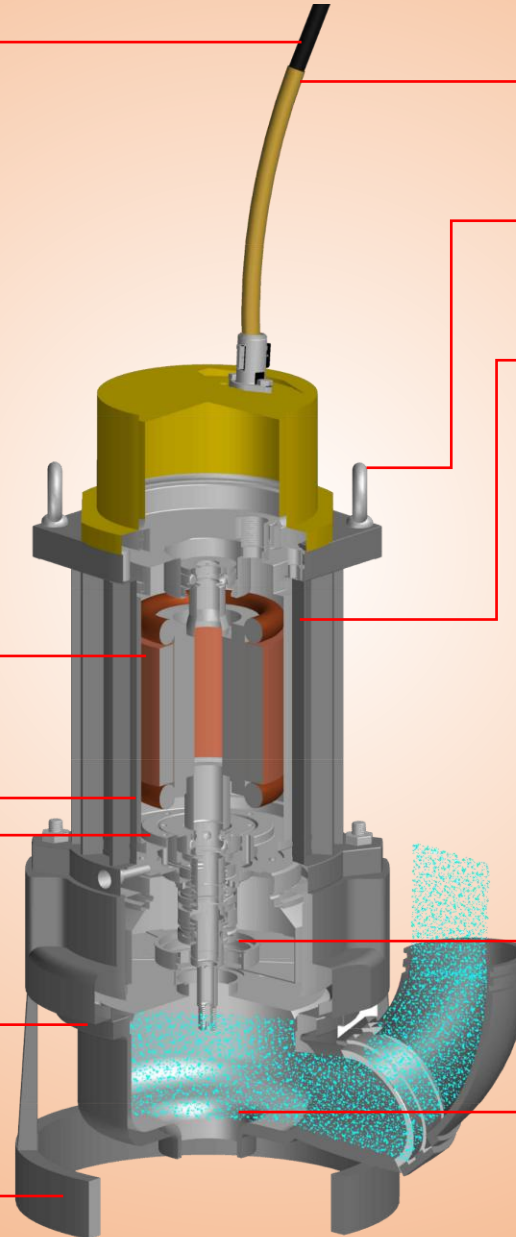
Twin SS seals in tandem (TC vs TC) for best sealing against water leakage into motor in abrasive & muddy environment, thus ensuring long life between service intervals.

OPTIMIZED EFFICIENCY

Gap b/w Nitrile rubber moulded Wear plate & Impeller can be adjusted up to 5mm even at sites to optimize the flow, thereby reducing spare part consumption.

IMPROVED ABRASIVE RESISTANCE

\$5-304 Volute & Nitride hardened 55-410 Impellers with hardness HRC (52-55) for more life in abrasive & muddy application.



Overview Sewage Pump - FcSW

Application of FcSW Industry Wise

- Municipal Corporations
- Residentials Complexes
- Industrial Complexes

Recommended for Type of Water

- Sewage from residential, commercial, and industrial buildings, sewage treatment plants, and septic systems.
- Solid handling capacity of 20-100mm
- Specific gravity up to 1.7



Technical Specifications

Shut Off Head Range

5 M to 60 M

Flow Rate Range

775 LPM to 33000 LPM

HP Range

2 HP to 200 HP

Overview Slurry Pump - FcSL

Technical Specifications

Shut Off Head Range
32 M to 37 M
Flow Rate Range
3100 LPM to 4168 LPM
HP Range
Up to 75 HP

Application of FcSL Industry Wise

- Harbour Construction
- Various Types of Mines
- Thermal Power Stations
- Heavy Industries



Recommended for Type of Water

- Ash Transfer, Silt Removal, Sand and gravel Pumping, Coal Runoff sumps, Mine Waste Pumping, General Slurry Pumping.
- Fluids containing solids in suspension to a max of 70% by weight.

Salient Features - FcSL

POWER CABLE

H07RNF cable 10 mtrs, which can withstand any PH, crack proof and run over lifetime

MOTOR PROTECTION

H class insulation winding (temperature rise to 180 c) embedded with thermal sensor in stator winding which protects the motor in the event of excessive high temperature

BALL BEARING

All ball bearings are filled with high temperature greases containing special anti-corrosive additive which ensures long life between service intervals.

IMPROVED ABRASIVE RESISTANCE

All rubber parts are made up of Viton rubber which can withstand saline water & can also be used where containment of abrasive particles are

IMPROVED WEAR RESISTANCE

Our volute casting/agitator/impeller/wear plate contains 27% chromium which enhances its wear resistance

BEST IN CLASS SLURRY PUMP

Our Slurry pumps are designed for better handling of fibrous materials mixed within the pumped liquid

EASE OF HANDLING

Heavy duty SS handles provided for lifting Pump while operation.

SELF COOLING SYSTEM

Improved air cooling using fin designed stator casing

SPECIAL FEATURE

Inbuilt with Moisture & Temperature Sensor to protect motor on special request

MECHANICAL SEALING SOLUTION

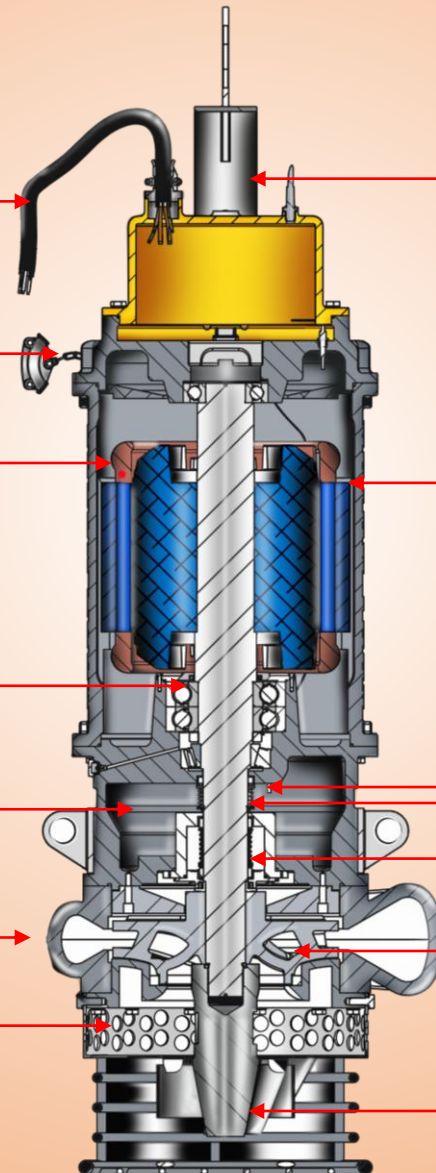
Dual SiC vs SiC mechanical & Oil seal, Which offers double sealing, reliability and Zero Leakage into motor in abrasive & muddy enviroment. Therefore, reducing the risk of failure & ensure long life between service intervals

HARDENED VOLUTE CASTING & IMPELLER

Our pump is fitted with ductile iron hardened volute casting with 17-22 HRC & high chromium alloy steel impeller with 55-58 HRC

AGITATOR

Highly efficient & high Chrome steel agitator with hardness 55-58 HRC to lift settled solids



Submersible Pumps – Control Panel

OUTER DUTY (IP62)

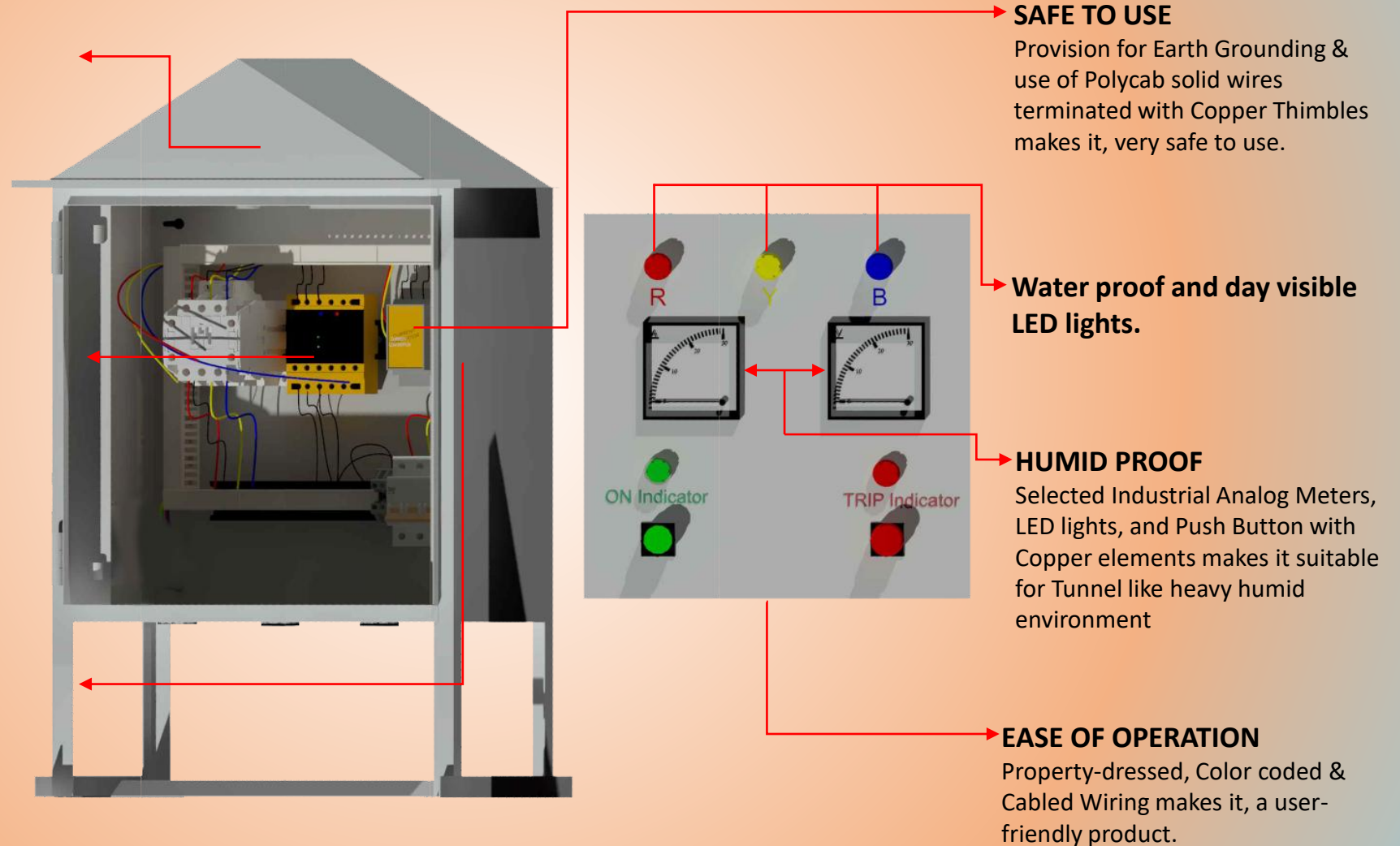
Hut style Feeder Pillar structure, with EPDM rubber seated double door arrangement, makes it suitable for operation in rain.

HEAVY DUTY

Industrial Contactor & Circuit breakers for better protection against Current Fault, Overload & Short Circuit.

COMPLETE PROTECTION

With 2CO(change over)output Relay, the Panel has All-In-One Protection against Dry Run. Run time Phase failure & overloading at input & output.



Auto-prime Surface Pump - FcAP



Technical Specifications

Shut Off Head Range

02 M to 150 M

Flow Rate Range

Upto 3500 m³/h

(= 58000 LPM)

HP Range

20 HP to 500 HP

Application of FcAP Industry Wise

- Oil & Gas
- Mining and Quarry
- Municipalities
- Construction
- Industry
- Civil Work
- Flood Control

Recommended for Type of Water

- **Closed Impeller** - Solid handling capacity up to 15 mm only
- **Open Impeller** - Solid handling capacity up to 75 mm.
- Specific gravity up to 1.1
- PH value 5 -8

[Control + Click to play Auto-Prime Animated Video](#)

Salient Features - FcAP

PLUG & PLAY

Galvanized steel quick-release coupling which makes an easy & leakproof connection.

IMPROVED OXIDATION RESISTANCE

Priming Tank and Discharge Heads are coated with rubber paint from the inside to protect against direct contact with water.

HIGH CORROSION RESISTANCE

Casing in Cast Iron, Shaft EN8. & Sleeve SS 410 for maximum corrosion resistance & life longevity.

EASE OF OPERATION

Tyre coupling makes it truly a site pump, performance un-effected on any surface.

SAFE TO USE

Outdoor Duty IP62 panel with industrial Contactor & Circuit Breakers Properly dressed Copper thimbles terminated wiring makes it user-friendly.

AUTO PRIMING

Enable user to run pump with No-Down time because of Priming & Re-Priming

IMPROVED ABRASIVE RESISTANCE

Impellers, Wear Ring, Wear Plate all in SS304 & Stuffing Box in Cast Iron (CI) for more life in abrasive & muddy application.

MODULAR SEALING SOLUTION

Twin SS seal in tandem (TC vs TC) for best sealing against water leakage in abrasive & muddy environments, thus ensuring long life between service intervals.

BALL BEARING

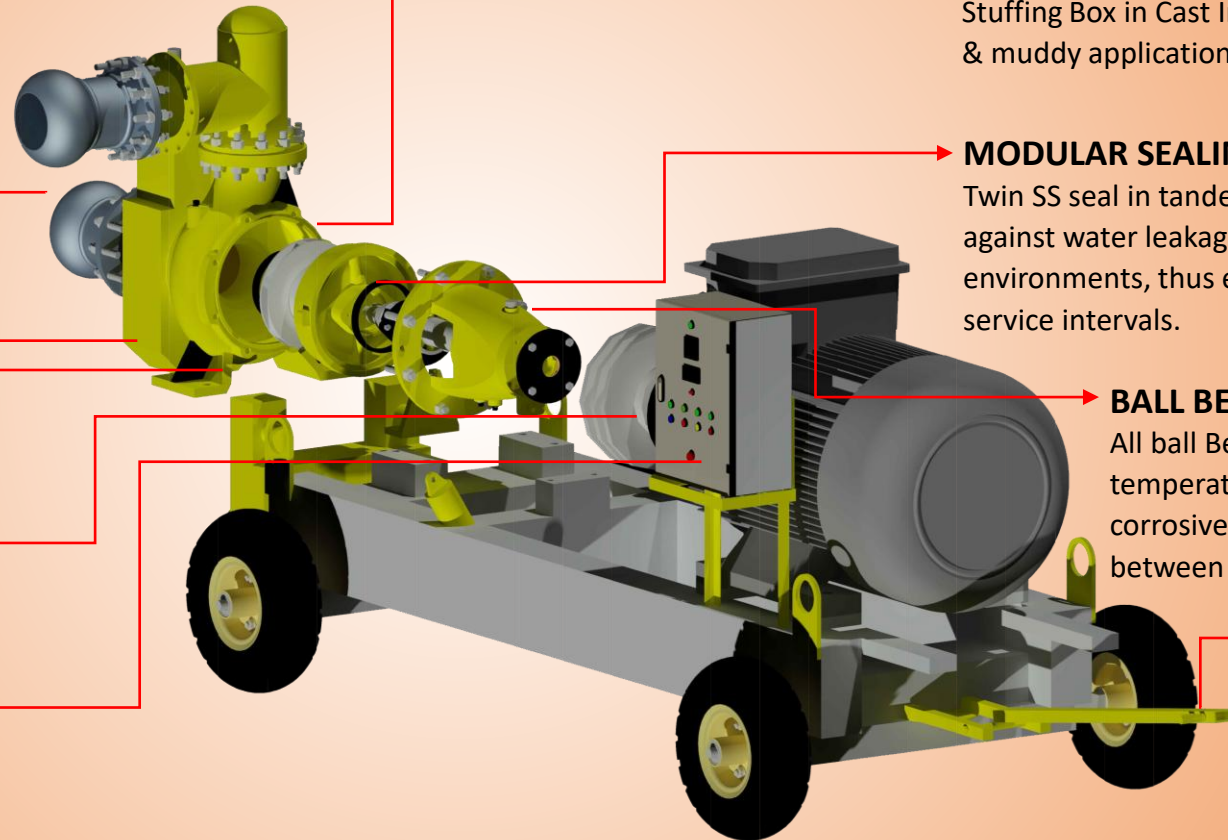
All ball Bearings are filled with high-temperature grease containing special anti-corrosive additives which ensure long life between service intervals.

TRULY PORTABLE

Heavy Duty 4 wheeled trolley easy to Tow to multiple site locations in No time.

MOTOR/ENGINE COUPLED

Option to couple either with Motor or Engine(Radiator Air cooled) as per the need.



Which Pump to choose?



Selecting Auto-Prime Pump

- Suction Head is available up to 8.5 meters.
- Being Engine driven it is highly recommended to be used at sites with no or intermittent electricity supply.
- When it is not possible to immerse the pump in the water.
- When portability is important and the pump is required to be transported to multiple places.
- Where the required Flow Rate range is considerably high.

Vs



Selecting Submersible Pump

- No limitation on suction head.
- When possible, immerse the pump in sewage or slurry water.
- When there is a limitation of space to keep a pump.
- When no. of small sumps to be pumped one after the other.

Submersible Pump - Accessories

Flowcore offers a wide range of accessories for its pumps that enhance or extend the functionality of the pumps. For the submersible range - here are the accessories.

**Flowcore Pump
Panel**



Instant Service Pack



Agitators



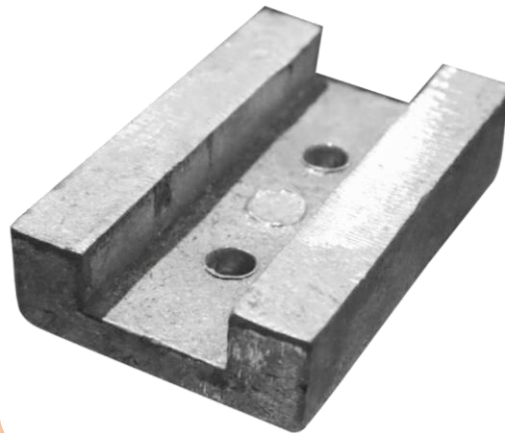
Submersible Pump - Accessories

Flowcore offers a wide range of accessories for its pumps that enhance or extend the functionality of the pumps. For the submersible range - here are the accessories.

Seal Kit



Zinc Anodes



Wear Part Kit



Auto-Prime Surface Pump - Accessories

Flowcore offers a wide range of accessories for its pumps that enhance or extend the functionality of the pumps. For the auto-prime surface range - here are the accessories:

Suction Stainer



Suction Pipe



Camlock Couplings



Delivery Pipe



Flat Hose



Flowcore Pumps Warranty - Terms and Conditions

Warranty Durtion

All Flowcore Pumps come with a warranty for a period of 12 months from the date of purchase.

Warranty Scope

Includes any problem arising on account of any Manufacturing Defect. Flowcore Pumps' liability shall be limited to repairs or replacement of defective parts at the sole discretion.

Warranty Exclusion

Any breakage of the product by mishandling or any wear and tear of machine parts shall not be covered under any warranty clause.

Warranty Disclaimer

Flowcore Pumps shall not in any event be liable for the cost of any special, indirect, or consequential damages to anyone.

Contact Us

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