



Jyoti Ltd.

Water • Power • Progress

JYOTI Vertical Non-Clog Centrifugal Pump



Ideal for handling Sewage Sludge,
Chemicals and hot liquids

ISO 9001:2015 || TUV INDIA



Sewage and effluent disposal stations often face difficulties in the priming operations. The water passages of the pump frequently get clogged. Moreover, it is necessary to protect the driving units particularly the electric motors and the electrical system, as a whole, from the pumped liquid.

'Jyoti' Vertical Non-Clog pump ('Jyoti' VNC pump) is designed to overcome these difficulties. 'Jyoti' VNC pump offers maximum flexibility in its application and installation; as a result it can work in dry as well as wet sumps. 'Jyoti' VNC pump thus has proved to be the ideal choice for handling sewage, effluent, turbid liquids of high viscosity and flood waters.

TECHNICAL DETAILS

'Jyoti' VNC pump is available in

- (a) Standard type with cast iron impeller.
- (b) Standard fitted type with Bronze impeller.
- (c) Standard fitted type with Stainless Steel impeller.
- (d) Standard fitted type with 2.5% Ni-CI impeller.

SPECIFICATIONS

Size: up to 600 mm
Capacity up to 40,000 LPM
Total Head up to 70M

MOTOR DRIVE

This VNC pump is normally driven by a 'Jyoti' vertical hollow shaft, 3-phase squirrel cage induction motor. The motor is equipped with a thrust-bearing which carries the thrust load of the pump together with the load of the impeller and line shafts. Non reversible ratchet is incorporated in the motor to prevent reverse rotation of the motor. An impeller adjustment nut is provided on the top clutch of the motor. This nut facilitates raising and lowering of the impeller setting.

'Jyoti' VNC pump suitable for coupling with vertical solid shaft motor can also be provided. In this arrangement the four components, viz. thrust bearing, impeller adjustment nut, non-reversible ratchet and coupling are provided inside the motor skirt.

CONSTRUCTIONAL FEATURES

Impeller:

Two vane, non-clogging, enclosed type impeller reduces chances of clogging to a minimum. Impeller can handle large soft solids i.e. compressible non abrasives. ('Jyoti' VNC 150 can handle soft solids up to 100 mm diameter). Impeller is dynamically balanced.

Casing:

Designed to accommodate a range of angular positions, it

can withstand at least one and half times the maximum discharge pressure.

Pump Bracket:

Provided with a bronze bearing, it acts as a rigid support for casing and suspension pipes.

Line Shaft and Bearings:

A series of Line Shafts, each 1.5metres

Long, connect the shaft to the driving

Head shaft. The line shaft are connected by bronze bearings housed in cast iron spiders

Suspension Pipe Assembly:

This specialized arrangement offers flexibility for the pump to work on dry as well as wet sump.

Lubrication:

Oil pipe lines branch out from the manually operated oil lubricator and connect the bearings individually.

Emptying:

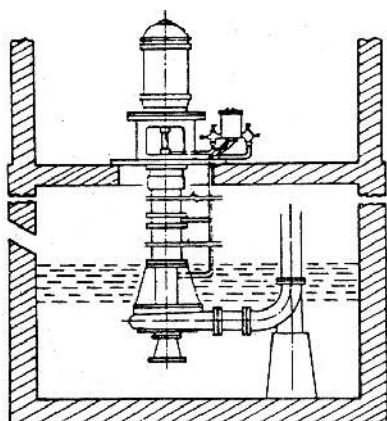
In case of installation for wet sump, provision is made in the design itself for emptying, when necessary, in case of service overhaul, repairs etc.

Screening:

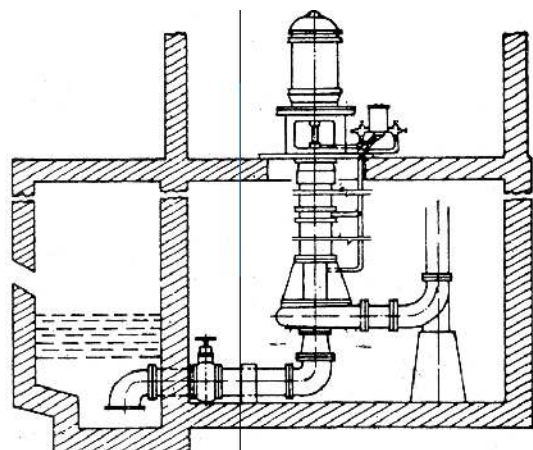
Horizontal and Vertical screens of appropriate mesh size or strainers have to be installed prior to entry of liquid, to prevent entry of oversized solids.

'JYOTI' VERTICAL NON-CLOG PUMP OFFERS

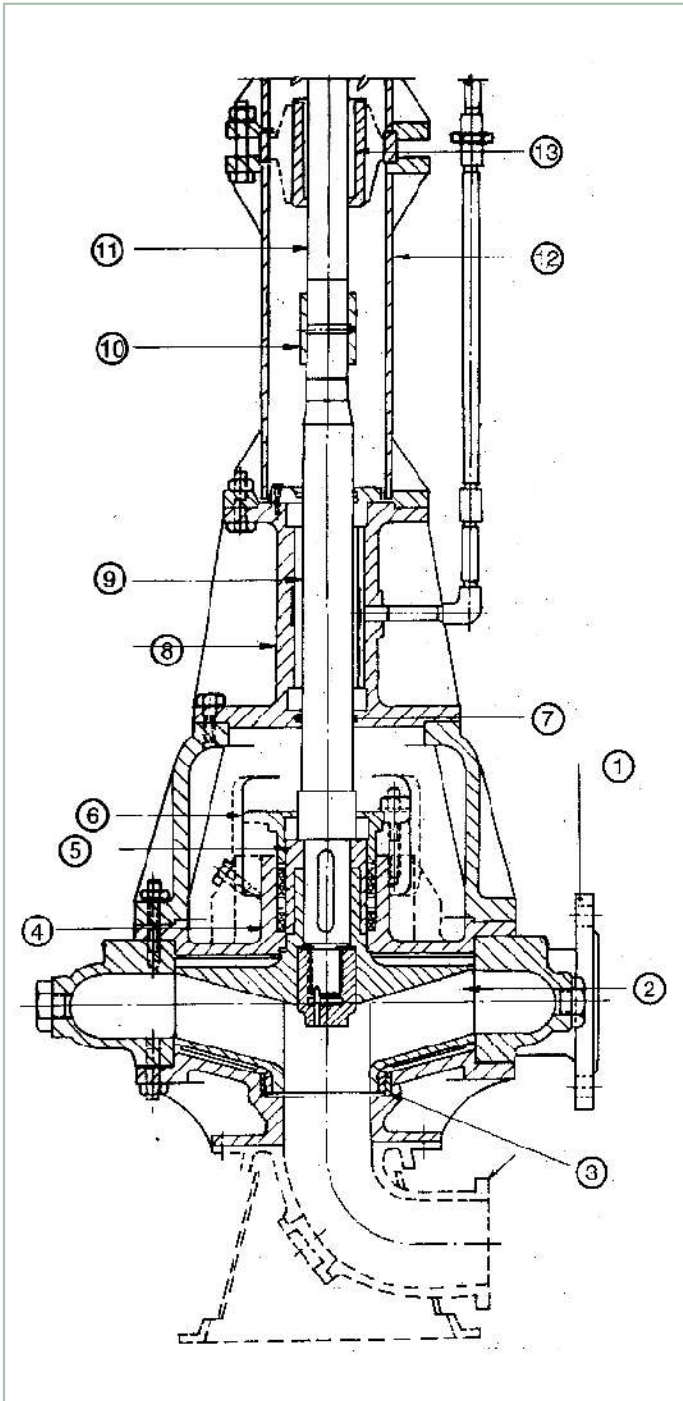
- **Low Operational Costs** - Due to design featuring optimum efficiency
- **Variable Setting** - Column length of pump can be raised or lowered according to liquid level in sump
- **Enclosed Shaft** - Enables working on dry or wet sump
- Eliminates need of criss-cross girder network
- Provides proper alignment of line shafts
- **Impeller Lock** - Eccentric screw holding the impeller nut secures impeller
- **Impeller Adjustment** - Feasible only with enclosed shaft - it is possible to free the pump in case of clogging or seizure



INSTALLATION IN WET PIT

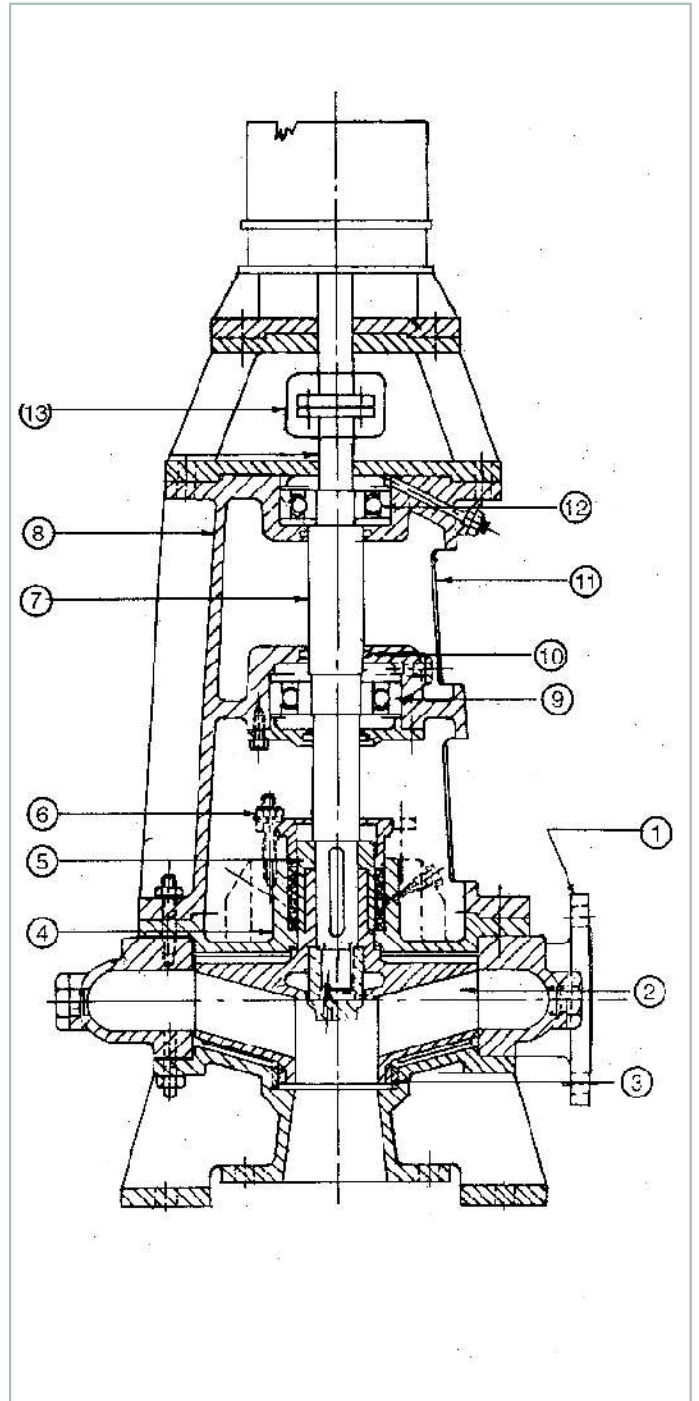


INSTALLATION IN DRY PIT



13	Line Shaft Bearing	Leaded Tin Bronze IS:318
12	Suspension Pipe	E.R.W Steel
11	Line Shaft	S.S. 410 or CS-40
10	Coupling	S.S. 410 or CS-40
9	Pump Shaft	S.S. 410 or CS-40
8	Bearing bracket	C.I. Gr FG 200 IS:210
7	Seal for Bearing	FELT Packing
6	Gland	C.I. Gr FG 200 IS:210
5	Shaft Sleeve	C.I. Gr FG 200 IS:210
4	Stuffing Box	C.I. Gr FG 200 IS:210
3	Casing ring	C.I. or Bronze
2	Impeller	C.I. or Bronze
1	Pump casing	C.I. Gr FG 200 IS:210
Sr.No.	Part Name	Material

VERTICAL NON-CLOG (VNC) PUMP WITH SUSPENSION ASSLY. FOR WET/DRY PIT

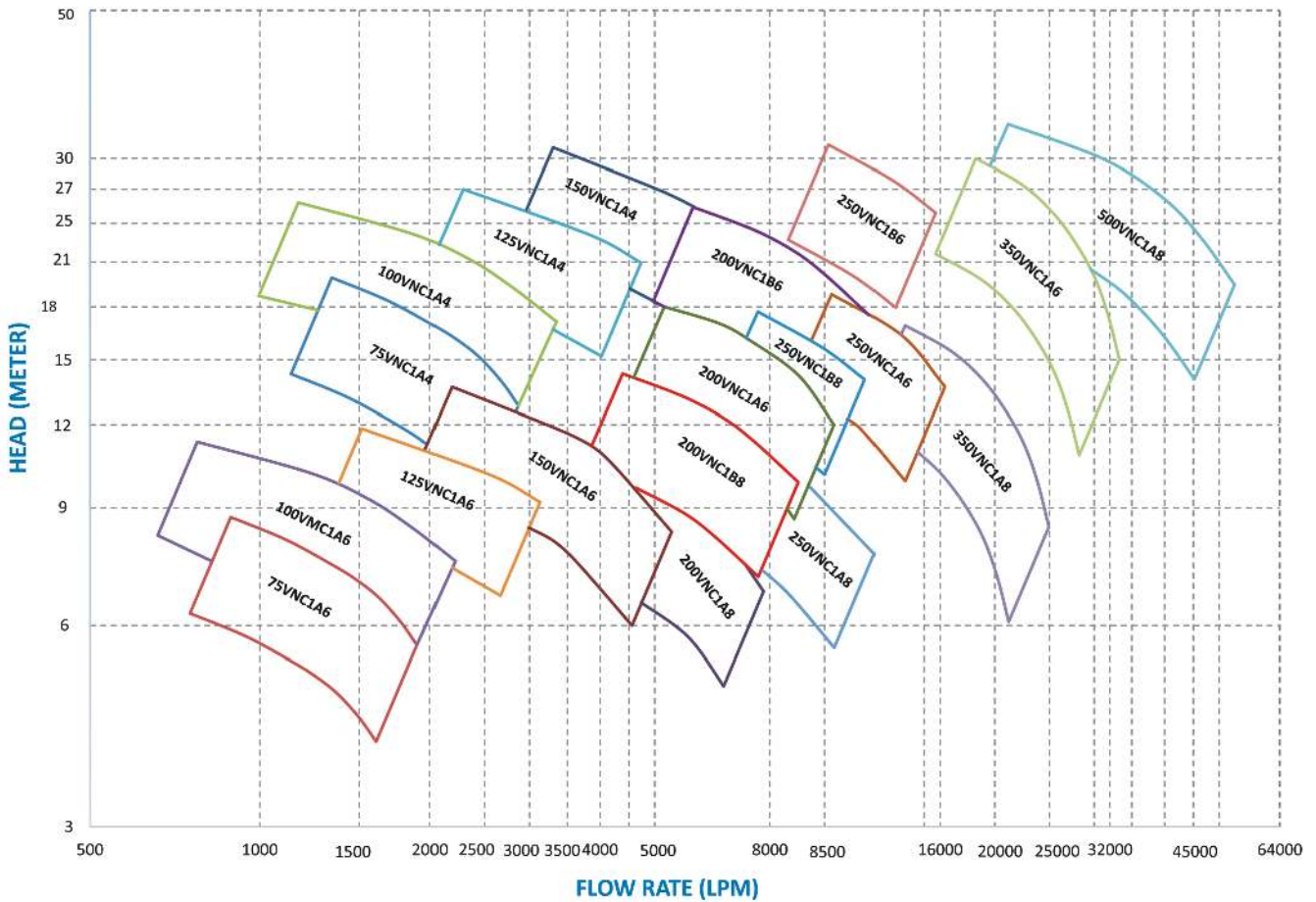


13	Coupling	S.S. 410 or CS-40
12	Top Bearing	TEFLON Bush Bearing
11	Suspension Pipe	---
10	Seal for Bearing	Felt Packing
9	Bottom Bearing	Antifriction Bearing
8	Bearing Bracket	C.I. Gr FG 200 IS:210
7	Pump Shaft	S.S. 410 or CS-40
6	Gland	C.I. Gr FG 200 IS:210
5	Shaft Sleeve	C.I. Gr FG 200 IS:210
4	Stuffing Box	C.I. Gr FG 200 IS:210
3	Casing ring	C.I. or Bronze
2	Impeller	C.I. or Bronze
1	Pump casing	C.I. Gr FG200 IS:210
Sr.No.	Part Name	Material

VERTICAL NON-CLOG (VNC) PUMP DIRECT MOUNTED FOR DRY-PIT ARRANGEMENT

FAMILY CURVE FOR VERTICAL NON-CLOG PUMP (VNC).

FAMILY CURVES OF JYOTI VNC PUMPS



Note : Last digit indicates the Speed Corresponding to no. of Poles Motor



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