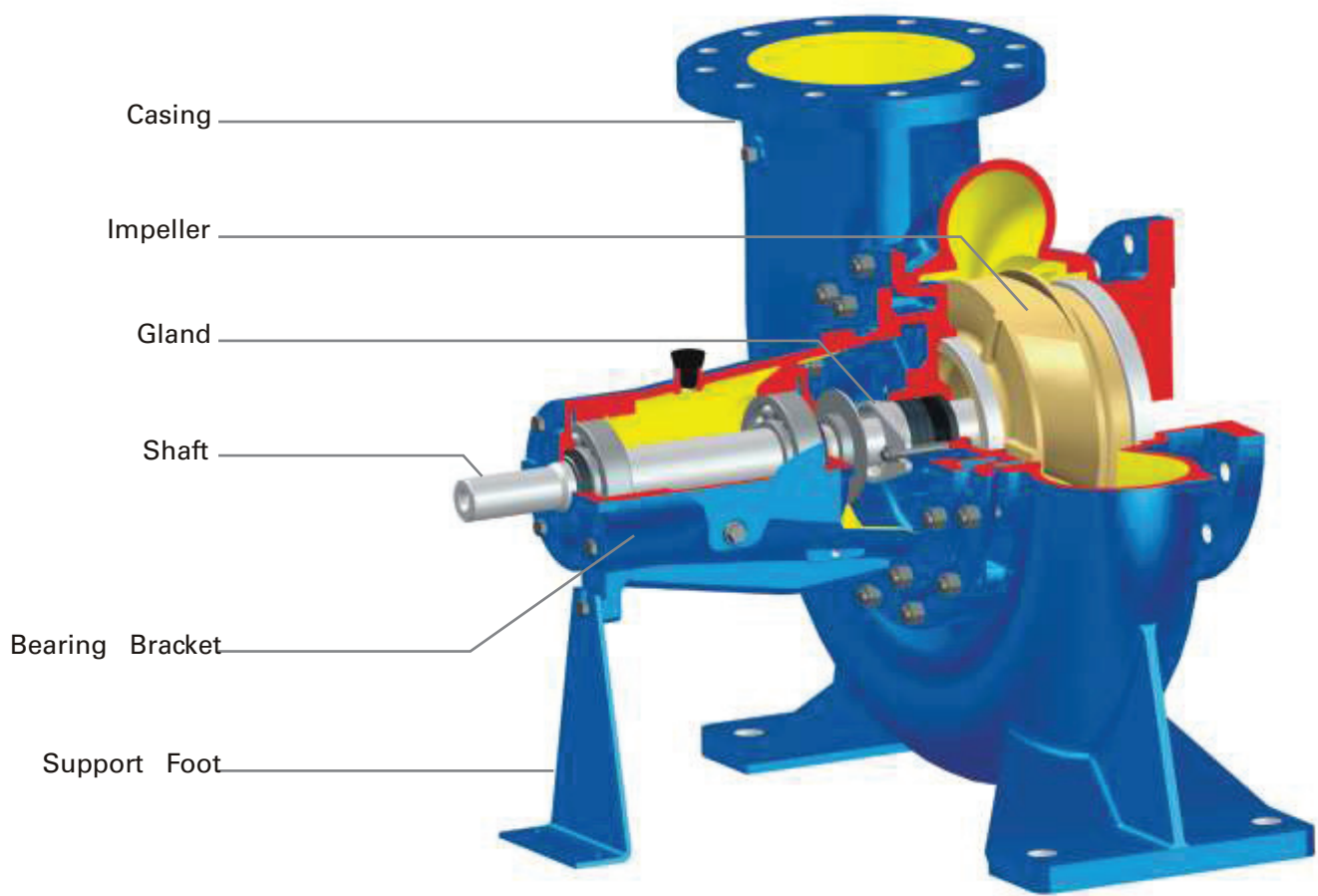




END SUCTION PUMPS  
TYPE - WNL





## RANGE

## APPLICATIONS

|               |                                 |                                                        |
|---------------|---------------------------------|--------------------------------------------------------|
| Delivery size | : 150 mm to 300 mm              | Water Supply, Irrigation, Water Circulation, Injection |
| Capacity      | : up to 2100 <sup>3</sup> m /hr | Water Systems and Prawn Farming                        |
| Head          | : up to 42 metres               |                                                        |

## FEATURES

These are horizontal shaft single stage, single suction pumps of back pull out type design. These pumps operate at 1450 rpm at 50Hz.

### **Casing :**

End suction with top centre line delivery high efficiency volute type, suction and discharge nozzles as well as the supporting feet are cast into the casing.

### **Impeller :**

Enclosed type and balanced dynamically. Hydraulically balanced by balancing holes.

### **Shaft :**

Three shaft units cover range of large size pumps. Made of high tensile steel, accurately ground and is supported by two deep groove ball bearings housed in the bearing housing. Shaft in stuffing box protected by a shaft sleeve.

### **Stuffing Box :**

Either gland packed or with mechanical seal. Water-cooled stuffing box can also be provided.

### **Bearing :**

Standard lubrication is oil. Grease lubrication can be given against specific requirement.

### **Direction of Rotation :**

Clockwise when viewed from driving end.

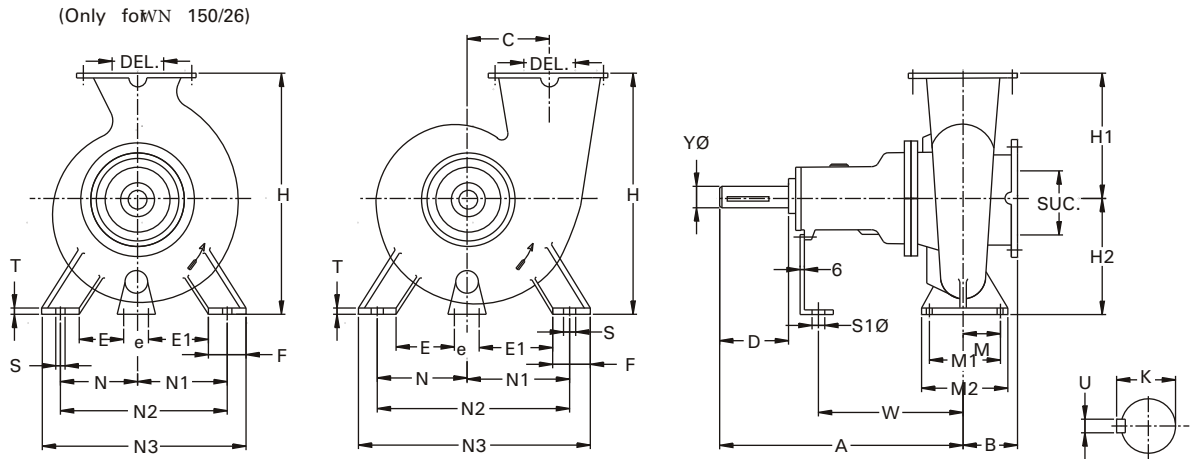
### **Drive :**

These pumps are suitable for coupling with electric motors or I.C. engines (directly or through belt).

### **Flanges :**

As per BS 4504, Table 10/11. Drilling as per ASA/DIN also available.

GENERAL DIMENSIONS / MOUNTING DETAILS

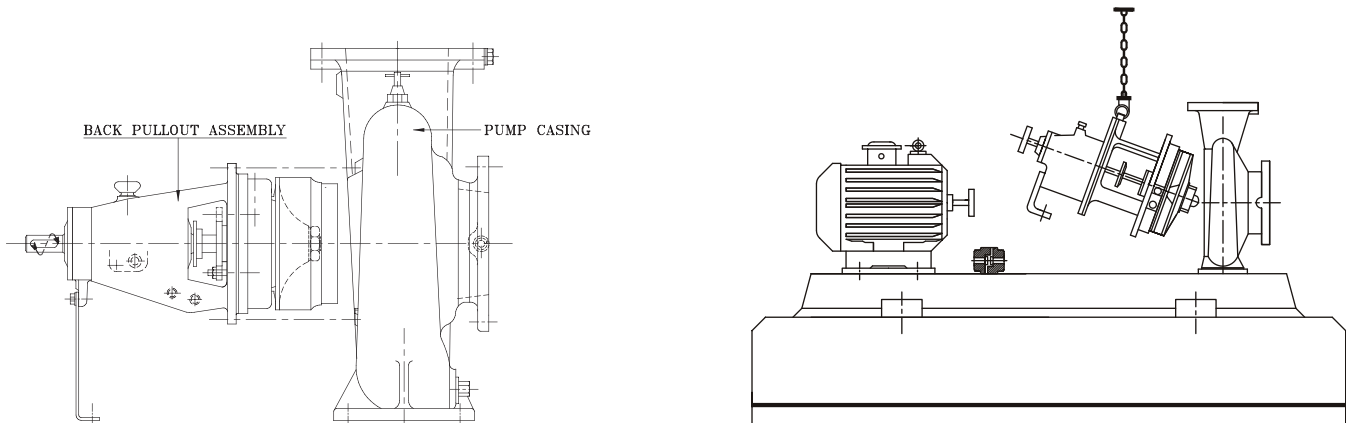


| Pump    | Suc. | Del. | A   | B   | C   | D   | E   | E1  | F   | H   | H1  | H2  | K    | M     |
|---------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|
| 150/26  | 200  | 150  | 470 | 160 | –   | 80  | 150 | 150 | 100 | 655 | 375 | 280 | 35   | 75    |
| 200/26  | 200  | 200  | 560 | 200 | 250 | 110 | 180 | 240 | 110 | 650 | 300 | 350 | 45   | 100   |
| 200/33  | 200  | 200  | 670 | 200 | 265 | 110 | 215 | 215 | 100 | 685 | 315 | 370 | 51.5 | 132.5 |
| 250/33A | 250  | 250  | 670 | 220 | 295 | 110 | 220 | 290 | 120 | 720 | 320 | 400 | 51.5 | 140   |
| 200/36  | 200  | 200  | 670 | 200 | 262 | 110 | 215 | 215 | 100 | 685 | 315 | 370 | 51.5 | 132.5 |
| 250/33B | 250  | 250  | 670 | 220 | 310 | 110 | 240 | 320 | 120 | 780 | 350 | 430 | 51.5 | 140   |
| 250/36  | 250  | 250  | 670 | 220 | 310 | 110 | 255 | 255 | 120 | 825 | 400 | 425 | 51.5 | 140   |
| 300/34  | 300  | 300  | 670 | 250 | 325 | 110 | 240 | 335 | 150 | 850 | 375 | 475 | 51.5 | 145   |
| 300/36  | 300  | 300  | 670 | 250 | 345 | 110 | 240 | 335 | 150 | 875 | 400 | 475 | 51.5 | 160   |

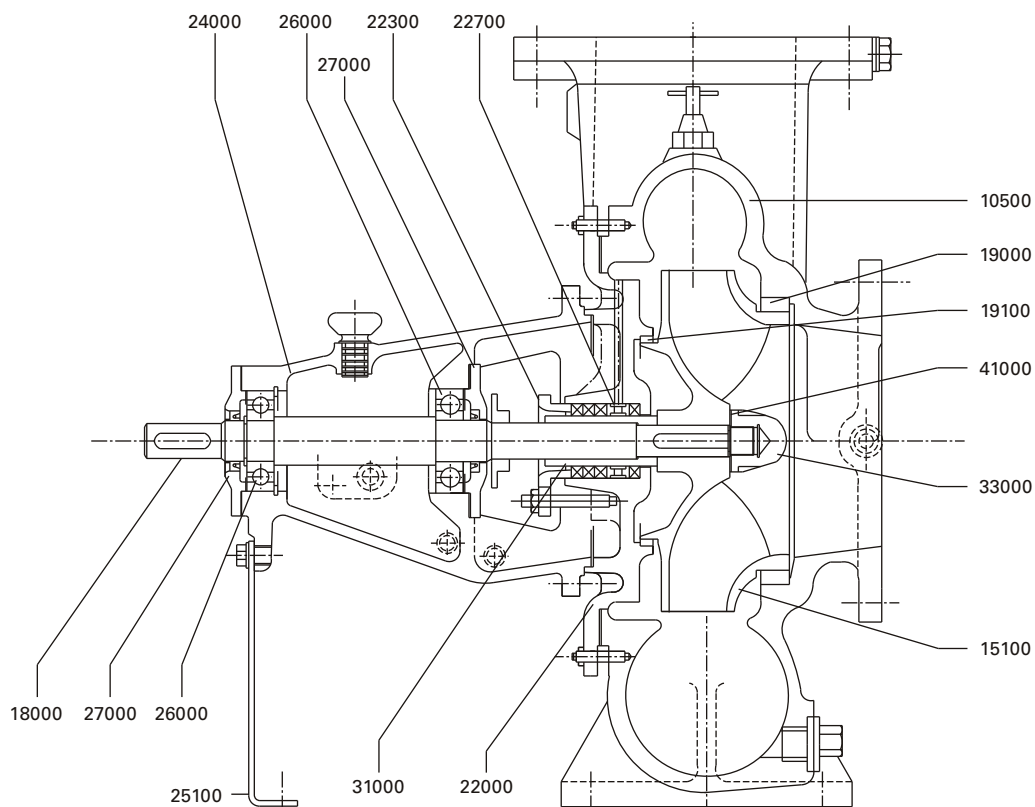
| Pump    | M1  | M2  | N   | N1  | N2  | N3  | Sø | S1ø | T  | U  | W   | Yø | e   | Wt. in Kg |
|---------|-----|-----|-----|-----|-----|-----|----|-----|----|----|-----|----|-----|-----------|
| 150/26  | 150 | 200 | 200 | 200 | 400 | 500 | 23 | 14  | 20 | 10 | 342 | 32 | 110 | 140       |
| 200/26  | 200 | 260 | 235 | 295 | 530 | 640 | 27 | 19  | 25 | 12 | 400 | 42 | 140 | 202       |
| 200/33  | 265 | 335 | 280 | 280 | 560 | 630 | 33 | 19  | 25 | 14 | 500 | 48 | 140 | 250       |
| 250/33A | 280 | 350 | 280 | 350 | 630 | 750 | 33 | 19  | 30 | 14 | 500 | 48 | 140 | 320       |
| 200/36  | 265 | 335 | 280 | 280 | 560 | 630 | 33 | 19  | 25 | 14 | 500 | 48 | 140 | 265       |
| 250/33B | 280 | 350 | 300 | 380 | 680 | 800 | 33 | 19  | 30 | 14 | 500 | 48 | 140 | 360       |
| 250/36  | 280 | 350 | 315 | 315 | 630 | 750 | 33 | 19  | 30 | 14 | 500 | 48 | 140 | 400       |
| 300/34  | 290 | 360 | 315 | 410 | 725 | 875 | 33 | 19  | 30 | 14 | 500 | 48 | 140 | 450       |
| 300/36  | 320 | 400 | 315 | 410 | 725 | 875 | 33 | 19  | 30 | 14 | 500 | 48 | 140 | 480       |

Note : 1. All dimensions are in mm  
2. Flanges drilled as per BS4505 PN10

Back Pull Out Arrangement



## CROSS-SECTIONAL VIEW



## INTERCHANGEABILITY OF COMPONENTS

| Part no. | Name of the Part | Total<br>no. of<br>parts | Pump Model |         |         |        |         |         |        |        |        |
|----------|------------------|--------------------------|------------|---------|---------|--------|---------|---------|--------|--------|--------|
|          |                  |                          | 150/26     | 200/26  | 200/33  | 200/36 | 250/33A | 250/33B | 250/36 | 300/34 | 300/36 |
|          |                  |                          | Unit-35    | Unit-45 | Unit-55 |        |         |         |        |        |        |
| 10500    | Pump Casing      | 9                        | 1          | 2       | 3       | 4      | 5       | 6       | 7      | 8      | 9      |
| 15100    | Impeller         | 8                        | 1          | 2       | 3       | 4      | 5       | 5       | 6      | 7      | 8      |
| 18000    | Shaft            | 4                        | 1          | 2       | 3       | 3      | 3       | 3       | 4      | 3      | 3      |
| 19000    | Casing Ring      | 7                        | 1          | 2       | 3       | 3      | 4       | 4       | 5      | 6      | 7      |
| 19100    | Back Wear Ring   | 5                        | –          | 1       | 2       | 2      | 3       | 3       | 4      | 5      | 5      |
| 22000    | Casing Cover     | 7                        | 1          | 2       | 3       | 4      | 3       | 3       | 5      | 6      | 7      |
| 22300    | Gland            | 3                        | 1          | 2       | 3       | 3      | 3       | 3       | 3      | 3      | 3      |
| 22700    | Lantern Ring     | 3                        | 1          | 2       | 3       | 3      | 3       | 3       | 3      | 3      | 3      |
| 24000    | Bearing Housing  | 3                        | 1          | 2       | 3       | 3      | 3       | 3       | 3      | 3      | 3      |
| 25100    | Support Foot     | 5                        | 1          | 2       | 3       | 3      | 3       | 4       | 5      | 5      | 5      |
| 26000    | Bearing          | 3                        | 1          | 2       | 3       | 3      | 3       | 3       | 3      | 3      | 3      |
| 27000    | Bearing Cover    | 3                        | 1          | 2       | 3       | 3      | 3       | 3       | 3      | 3      | 3      |
| 31000    | Shaft Sleeve     | 4                        | 1          | 2       | 3       | 3      | 3       | 3       | 4      | 3      | 3      |
| 33000    | Impeller Nut     | 3                        | 1          | 2       | 3       | 3      | 3       | 3       | 3      | 3      | 3      |
| 41000    | Lock Washer      | 3                        | 1          | 2       | 3       | 3      | 3       | 3       | 3      | 3      | 3      |

MATERIAL OF CONSTRUCTION

|              |                                                                                    |
|--------------|------------------------------------------------------------------------------------|
| Casing       | Cast Iron / Cast Steel / Stainless Steel                                           |
| Casing Cover | Cast Iron / Cast Steel / Stainless Steel                                           |
| Impeller     | Cast Iron / Bronze / Phosphor Bronze / Cast Steel / Stainless Steel / Chrome Steel |
| Wear Ring    | Cast Iron / Bronze/ Steel                                                          |
| Shaft        | Carbon Steel / Stainless Steel                                                     |
| Shaft Sleeve | Stainless Steel / Bronze                                                           |
| Lantern Ring | Cast Iron / Bronze                                                                 |
| Gland        | Cast Iron / Bronze                                                                 |

MATERIAL STANDARDS

| Material                                                                                                                                                                  | IS                                                                                                                                                                            | ASTM                                                                                                                           | DIN                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cast Iron</b><br>Cast Iron                                                                                                                                             | IS 210 Gr. FG 260                                                                                                                                                             | ASTM A48 Class 40                                                                                                              | (0.6025)DIN 1691 GG25                                                                                                                                      |
| <b>Spheroidal Graphite Cast Iron</b><br>SG Iron (Ductile Iron)<br>SG Iron (Ductile Iron)                                                                                  | IS 1865 Gr 400/15<br>IS 1865 Gr 500/7                                                                                                                                         | A536, 60-40-18<br>A536, 65-45-12                                                                                               | (0.7040)DIN1693 GGG40<br>(0.7050)DIN1693 GGG50                                                                                                             |
| <b>Carbon Steel</b><br>Carbon Steel (Might)<br>Carbon Steel (Might)<br>MS Steel                                                                                           | IS 1570 (part II) Gr. 40C8<br>IS 1570 (part II) Gr. 20C8<br>MS IS 2062 - Fe 410 W A                                                                                           | ASTM A107 Gr. 1040<br>ASTM A107 Gr. 1020<br>ASTM-A283 GR.D                                                                     | (1.1186)C40E/CK40<br>(1.0402)C22<br>DIN 1700 GR ST4-2 FABRICATED STEEL44                                                                                   |
| <b>Cast Steel Grades</b><br>Cast Steel                                                                                                                                    |                                                                                                                                                                               | ASTMA 216 Gr. WCB                                                                                                              | 1.0619(GS-C25)                                                                                                                                             |
| <b>Cast Stainless Steel</b><br>Stainless Steel CF8M<br>Stainless Steel CF8M<br>Stainless Steel CF3M<br>Stainless Steel CF3M<br>Stainless Steel CF8<br>Stainless Steel CF3 | IS 3444 Gr. 4<br>IS 3444 Gr. 4<br>IS 3444 Gr. 16<br>IS 3444 Gr. 16<br>IS 3444 Gr. 1<br>IS 3444 Gr. 15                                                                         | ASTMA 351 Gr. CF8M<br>ASTMA 743 Gr. CF8M<br>ASTMA 351 Gr. CF3M<br>ASTMA 743 Gr. CF3M<br>ASTMA 351 Gr. CF8<br>ASTMA 351 Gr. CF3 | 1.4408(GX5CrNiMo19-11-2)<br>1.4408(GX5CrNiMo19-11-2)<br>1.4409(GX2CrNiMo19-11-2)<br>1.4409(GX2CrNiMo19-11-2)<br>1.4301(X5CrNi18-10)<br>1.4306(X2CrNi19 11) |
| <b>Cast Chromium Stainless Steel</b><br>Stainless Steel CA15<br>Stainless Steel CA15<br>Stainless Steel CA6NM<br>Stainless Steel CA6NM                                    | IS 3444 Gr. 10<br>IS 3444 Gr. 10<br>IS 3444 Gr. 24<br>IS 3444 Gr. 24                                                                                                          | ASTMA 217 Gr. CA15<br>ASTMA 743 Gr. CA15<br>ASTMA 487 Gr. CA6NM<br>ASTMA 743 Gr. CA6NM                                         | 1.4106&1.448(DIN17445 GX12Cr14)<br>1.4106&1.448(DIN17445 GX12Cr14)<br>1.4313&1.4317(GX5CrNiMo13-4)<br>1.4313&1.4317(GX5CrNiMo13-4)                         |
| <b>Chromium Stainless Steel Round Bar Material</b><br>Stainless Steel 410<br>Stainless Steel 420<br>Stainless Steel 431<br>Stainless Steel 316<br>Stainless Steel 316L    | IS 1570 (part V) Gr. X12Cr12<br>IS 1570 (part V) Gr. X20Cr13<br>IS 1570 (part V) Gr. X15Cr16Ni2<br>IS 1570 (part V) Gr. X04Cr17Ni12Mo2<br>IS 1570 (part V) Gr. X02Cr17Ni12Mo2 | ASTMA 276 type 410<br>ASTMA 276 type 420<br>ASTMA 276 type 431<br>ASTMA 276 type 316<br>ASTMA 276 type316L                     | 1.4006(X10Cr13)<br>1.4021(X20Cr13)<br>1.4057(X20CrNi17)<br>1.4401(X5CrNiMo17122)<br>1.4404(X2CrNiMo1810)                                                   |
| <b>Non Ferious Materials</b><br>Bronze<br>Phosphor Bronze                                                                                                                 | IS 318 Gr. LTB2 (CuSn5Zn5Pb5C)<br>IS 28 Gr. 1 (CuSn11PC)                                                                                                                      | ASTMB 584 - C90500                                                                                                             | DIN 1705 Rg 5<br>Zinc Free BornzelS 28 Gr. 1 (CuSn10C)                                                                                                     |

Family Curves of DB Large Pump at 1450 RPM-50Hz

