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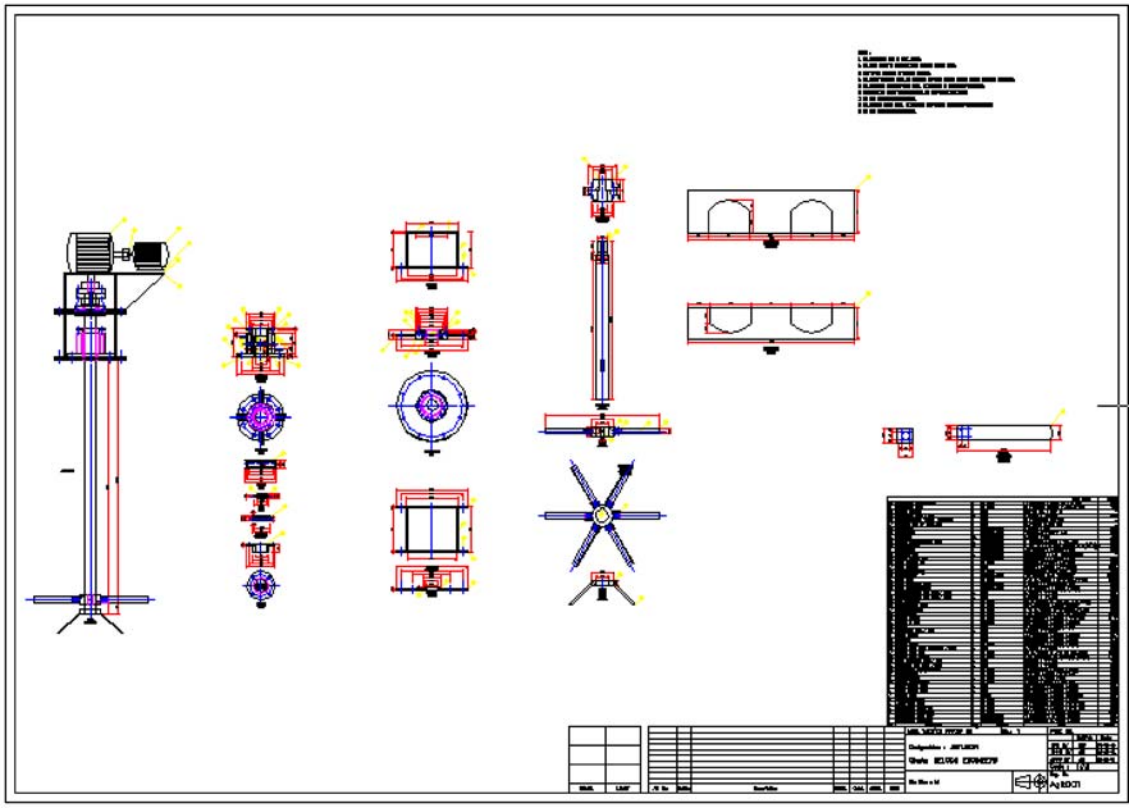
**Program for Design and Drawing of Agitator / Mixer**

I offer Design and Drawing program which Designs and Draws a detailed drawing of Agitator / Mixer, with user friendly dialog boxes, which is an add-on for any CAD program for Designing and Developing GA drawing for Agitator / Mixer. Program for Design and Drawing of Agitator / Mixer asks for some parameters and designs. Program for Design and Drawing of Agitator / Mixer then draws the GA drawing and components. Program for Design and Drawing of Agitator / Mixer gives all minor details (even weight of each component and total weight) at Quotation Stage itself and this helps to quote in most competitive manner.



Program for Design and Drawing of Agitator / Mixer will draw Drawing like this.

**How the Program Runs?**

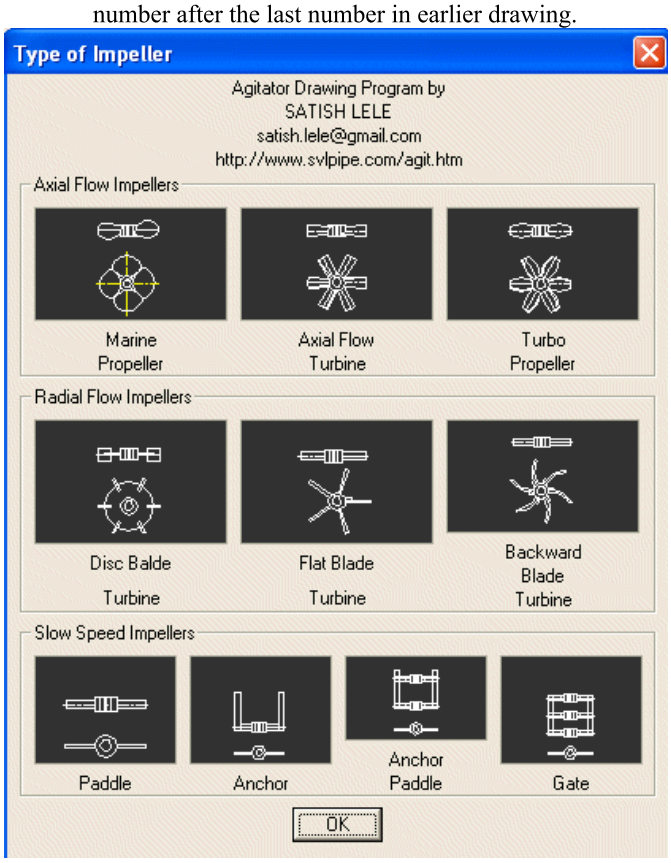
The Program for Design and Drawing of Agitator / Mixer asks for parameters in the following dialog boxes, and based on these values, Program for Design and Drawing of Agitator / Mixer designs and draws.


In demo mode of Program for Design and Drawing of Agitator / Mixer you can select predefined sizes.

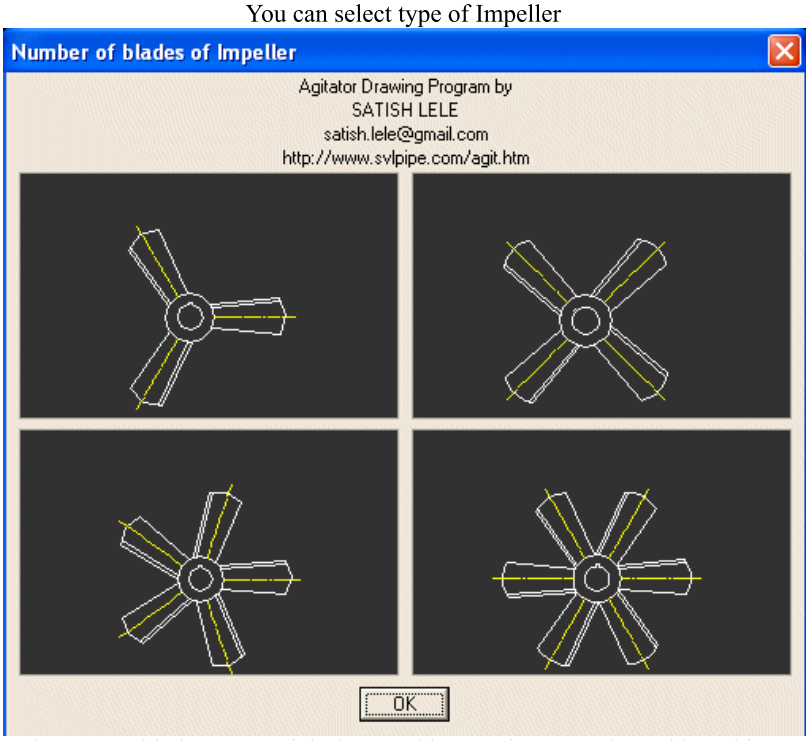

With Program for Design and Drawing of Agitator / Mixer, you can draw either in Foot-Inch units or in Metric Units.


You can create drawing or quit
If you select drawing option


You can select the first tag number in this drawing. If this drawing is continuation of another drawing, first tag number will be the next number after the last number in earlier drawing.

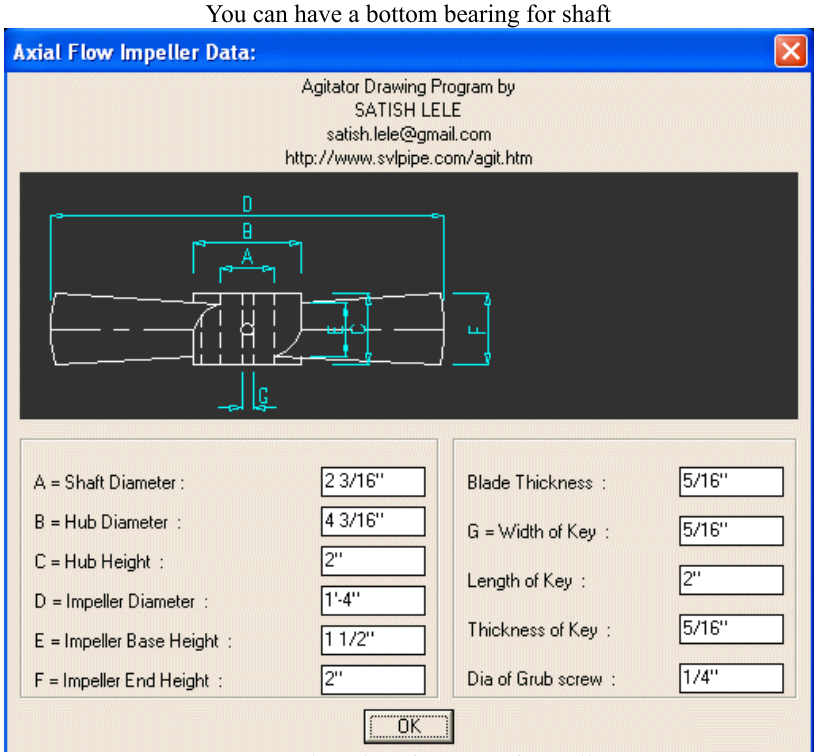


You can select type of Impeller

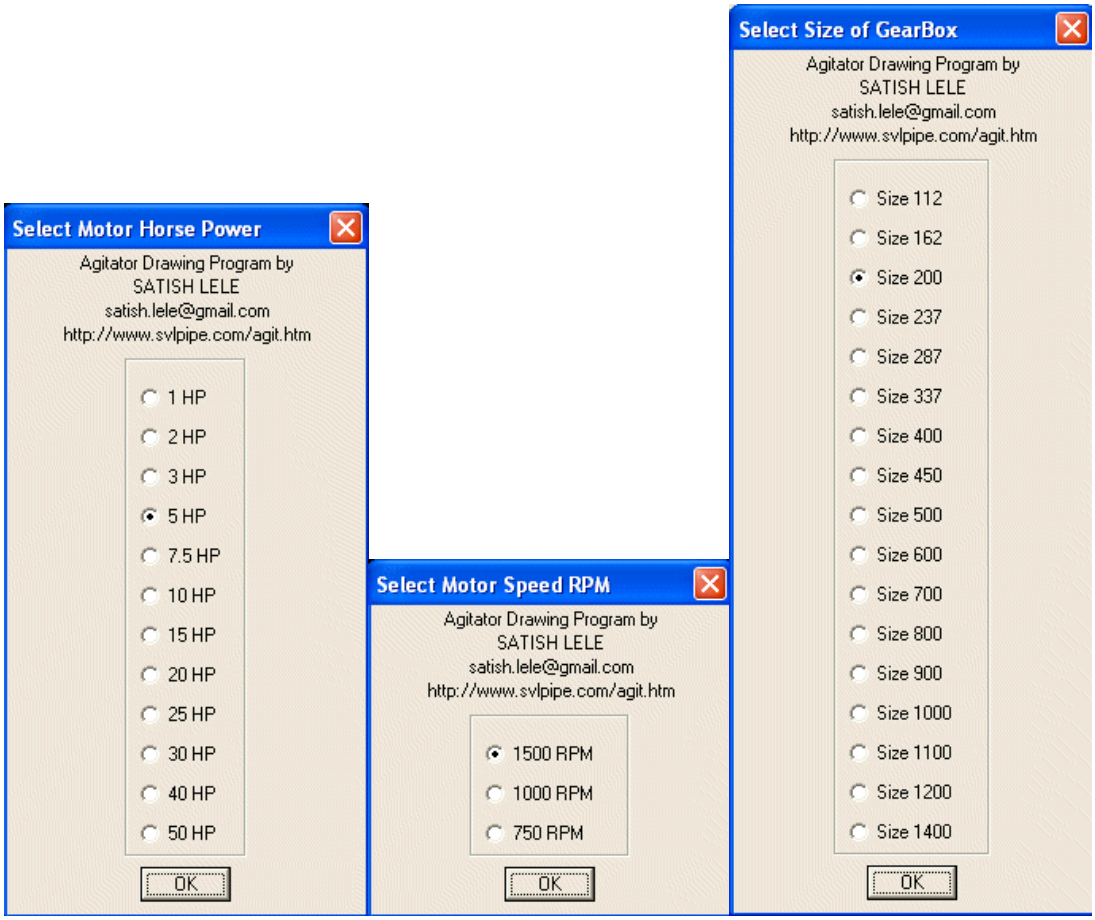



For Marine Propeller you can select 3 or 4 blades. For Axial Flow Turbine, TurboProp, Flat Balde turbine and Disc Blade turbine you can select 3 to 6 blades. For Backward Blade Turbine you can select 2 to 6 blades. For Paddle, Anchor, Anchor/Paddle or Gate you can select only 2 blades.


You can have a bottom bearing for shaft

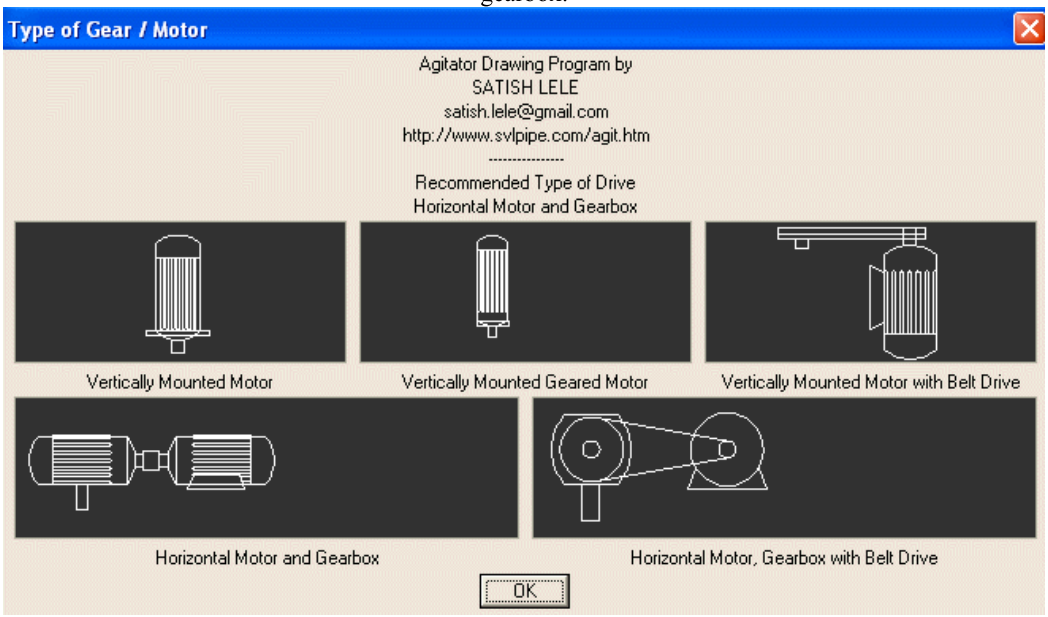



You can select sizes for parts of Impeller.

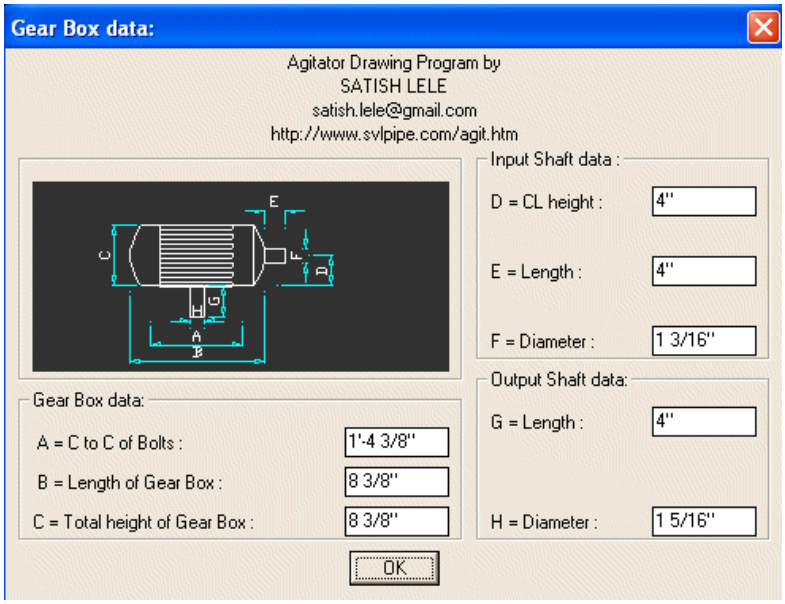



Program for Design and Drawing of Agitator / Mixer shows recommended HP, motor RPM and size of gearbox. You can select Horse Power of Motor, Speed (RPM) of Motor and size of gearbox.

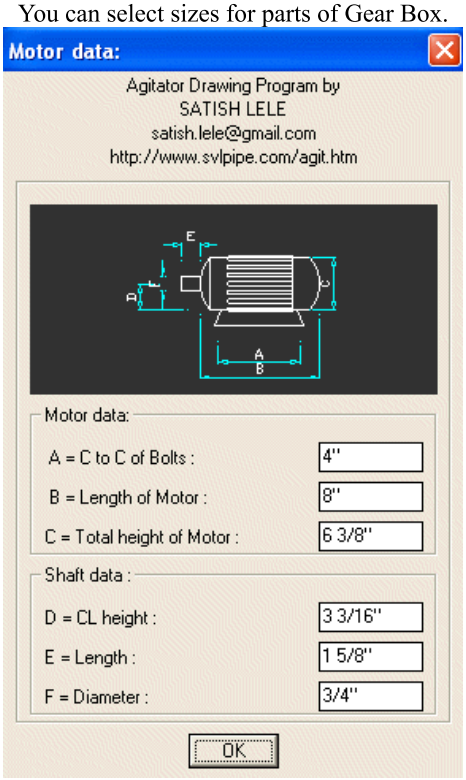

Program for Design and Drawing of Agitator / Mixer shows best possible combination based on rotational speed of agitator and gear ratio of gearbox.



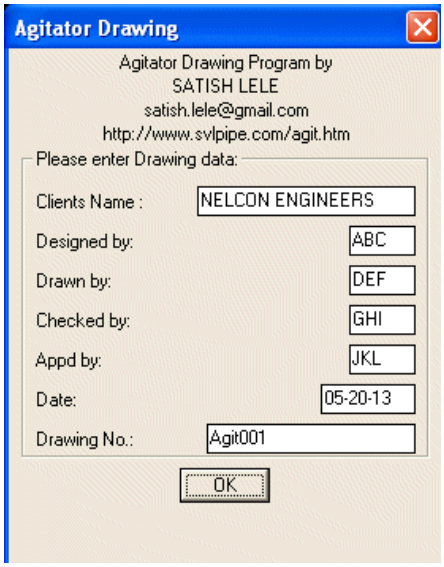

You can still select the Drive unit.



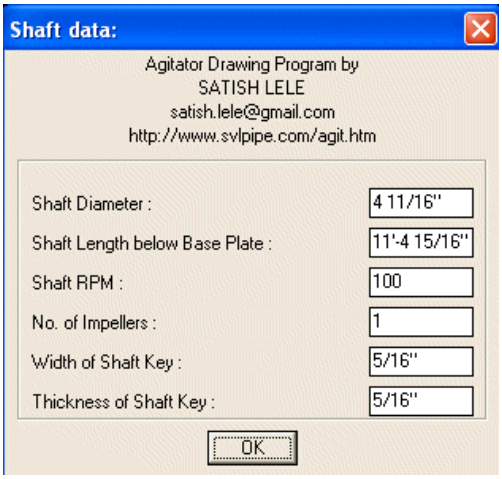

You can select sizes for parts of Gear Box.



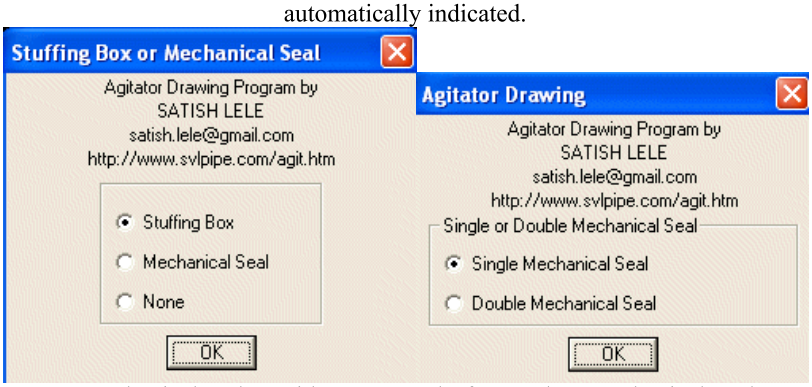

You can select sizes for parts of Motor.



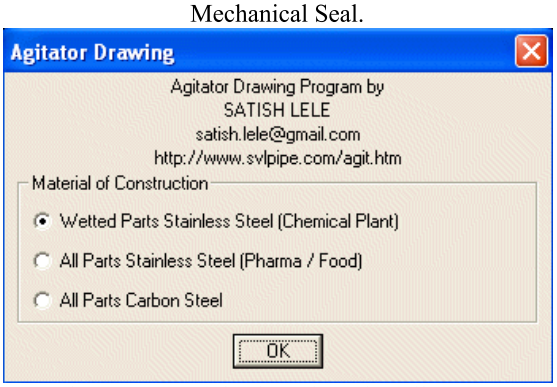

You can enter the data generally entered in Title Block. Current date is automatically displayed. You can enter drawing number. The drawing will be saved with this number.




You can specify diameter and length of shaft. If diameter and length of shaft is calculated by process design calculations, it will be automatically indicated.

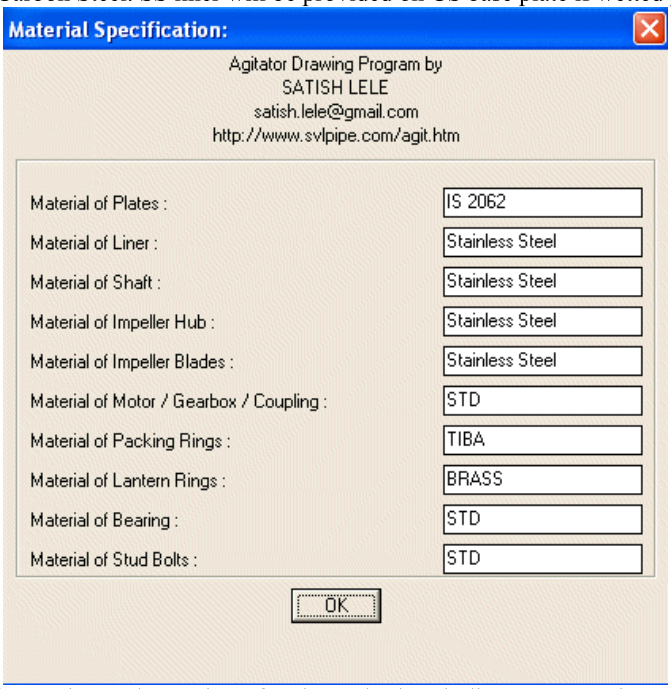



You can select either Stuffing Box, Mechanical seal or without any seal. If you select Mechanical Seal, you can select Single or Double Mechanical Seal.

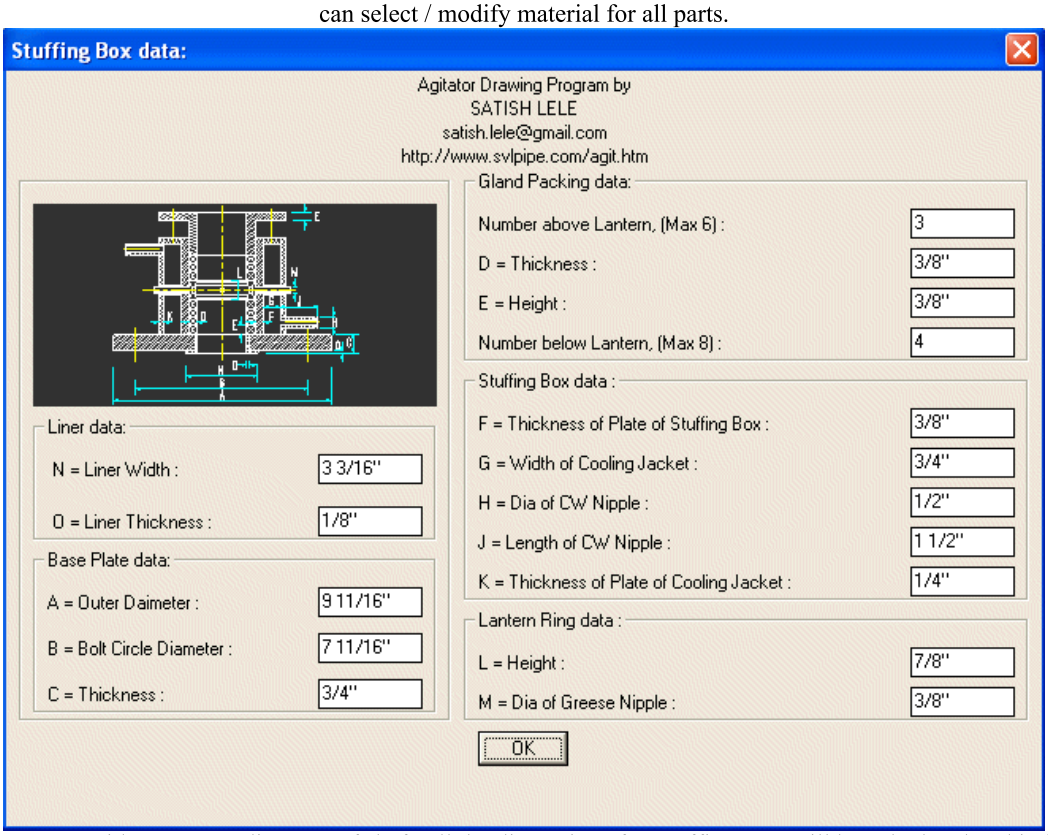



You can select Material of construction for wetted parts. Material selected can be All Parts of Stainless Steel, Wetted Parts Stainless Steel or

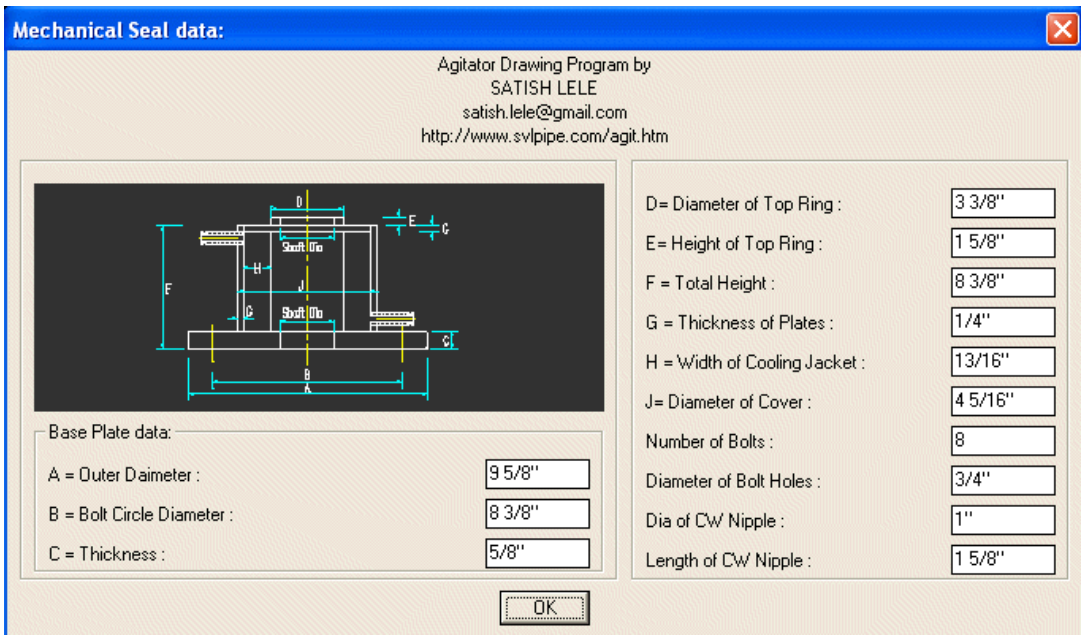
All Parts of Carbon Steel. SS liner will be provided on CS base plate if wetted parts are SS.



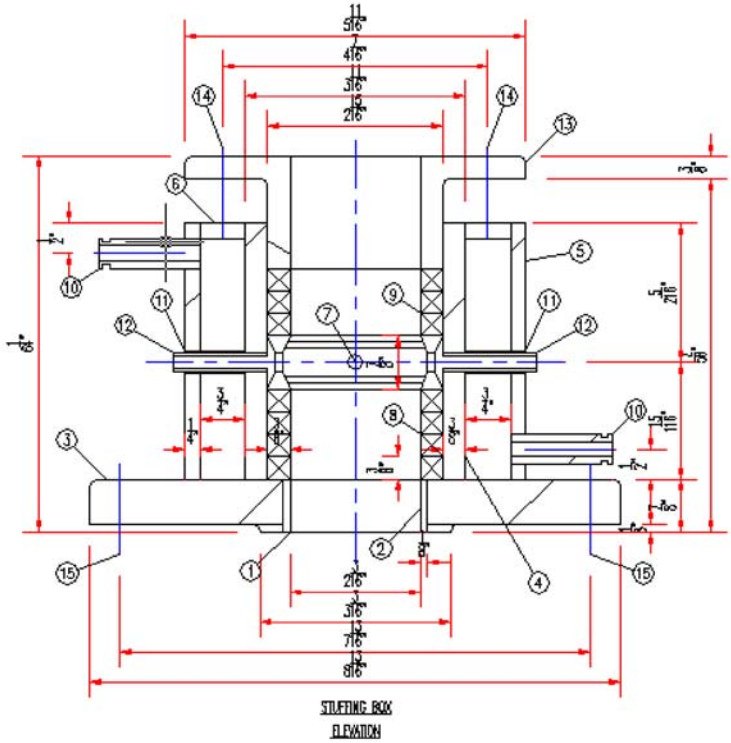

If you select Stuffing Box, Program for Design and Drawing of Agitator / Mixer indicates appropriate material of construction for parts. You can select / modify material for all parts.



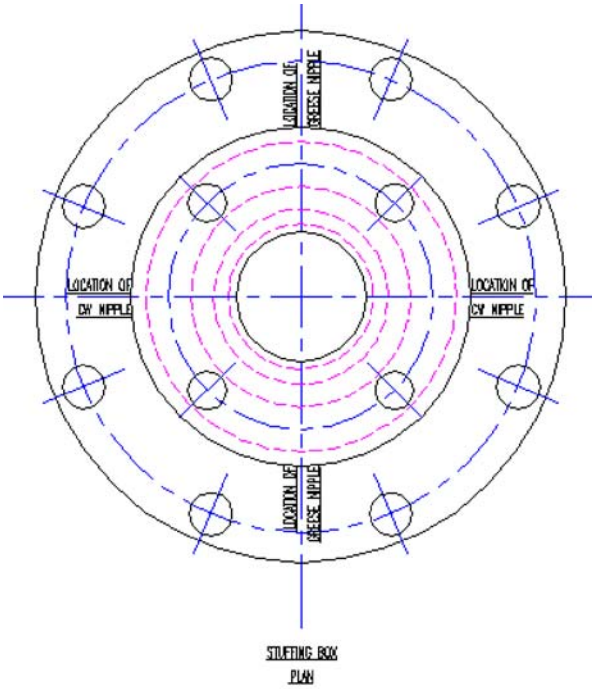

If you select Stuffing Box, with respect to diameter of shaft, all the dimensions for Stuffing Box will be calculated and indicated by Program for Design and Drawing of Agitator / Mixer. You can change the same.



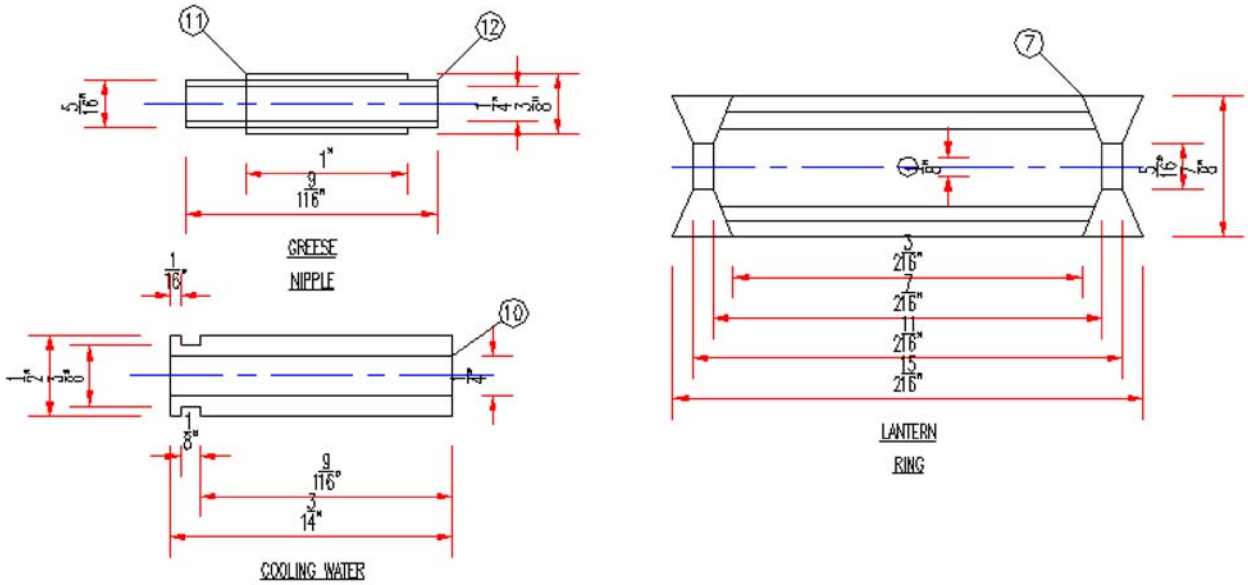

If you select Mechanical Seal, with respect to diameter of shaft, all the dimensions for Mechanical Seal will be calculated and indicatedby Program for Design and Drawing of Agitator / Mixer. You can change the same.



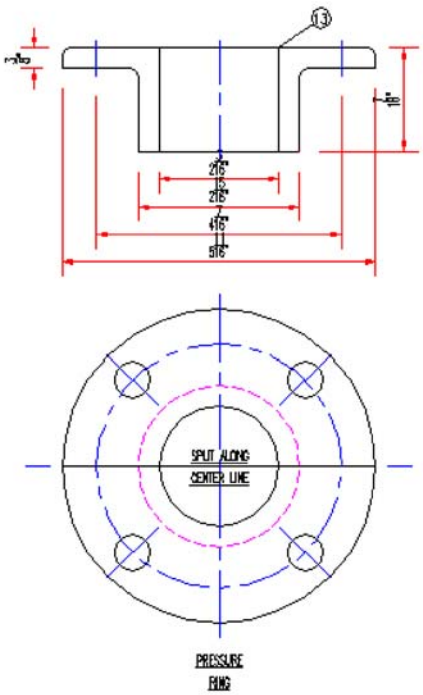

Elevation of Stuffing Box.




Plan of Stuffing Box.



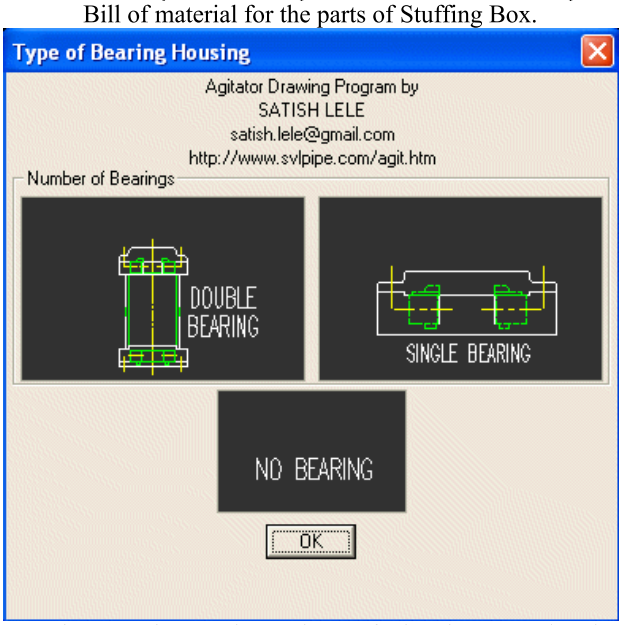

Details of smaller parts of Stuffing Box.



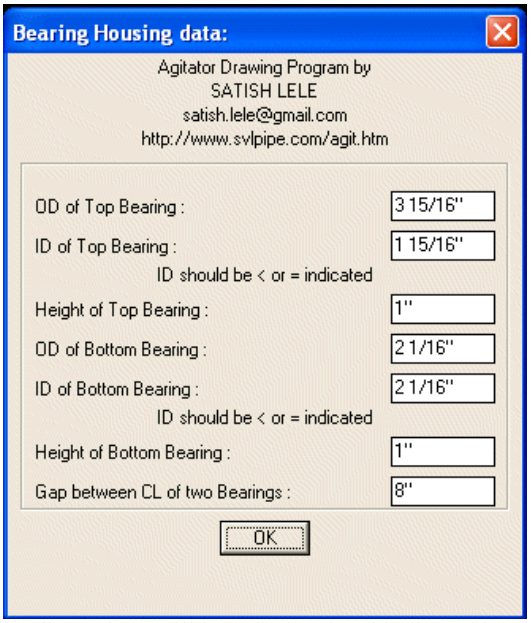

Elevation and Plan of top pressure ring.

| No | Description | Qty | Material | Size | Wt lbs |
|---|---|---|---|---|---|
| 15 | Base Plate Stud Bolts / Nuts | 8 | STD | 5/8"(Dia) 1 1/2"(Lg) | 1.14 |
| 14 | Top Cover Stud Bolts / Nuts | 4 | STD | 5/8"(Dia) 1 1/2"(Lg) | 0.57 |
| 13 | Stuffing Box Top Split Cover | 2 | CS | 5 11/16"(OD) 2 3/16"(ID) 3/4"(Lg) | 6.07 |
| 12 | Greese Nipples | 2 | CS | 5/16"(OD) 1/4"(ID) 1 9/16"(Lg) | 0.03 |
| 11 | Greese Nozzles | 2 | CS | 3/8"(OD) 5/16"(ID) 1"(Lg) | 0.02 |
| 10 | Cooling Water Nozzles | 2 | CS | 1/2"(OD) 1/4"(ID) 1 11/16"(Lg) | 0.15 |
| 9 | Upper Packing Rings | 3 | TIBA | 2 15/16"(OD) 2 3/16"(ID) 3/8"(Ht) | 0.12 |
| 8 | Lower Packing Rings | 4 | TIBA | 2 15/16"(OD) 2 3/16"(ID) 3/8"(Ht) | 0.16 |
| 7 | Lantern Ring | 1 | BRASS | 2 15/16"(OD) 2 3/16"(ID) 7/8"(Th) | 0.77 |
| 6 | Jacket Cover Plate | 1 | CS | 5 3/16"(OD) 3 11/16"(ID) 1/4"(Th) | 0.77 |
| 5 | Jacket Shell Plate | 1 | CS | 5 11/16"(OD) 5 3/16"(ID) 4 1/4"(Lg) | 5.32 |
| 4 | Stuffing Box Shell Plate | 1 | CS | 3 11/16"(OD) 2 15/16"(ID) 4 1/4"(Lg) | 4.85 |
| 3 | Stuffing Box Base Plate | 1 | CS | 8 13/16"(OD) 2 3/16"(ID) 3/4"(Th) | 12.71 |
| 2 | Stuffing Box Shaft Liner | 1 | SS | 2 7/16"(OD) 2 3/16"(ID) 7/8"(Lg) | 0.23 |
| 1 | Stuffing Box Base Liner | 1 | SS | 3 3/16"(OD) 2 7/16"(ID) 1/8"(Th) | 0.12 |

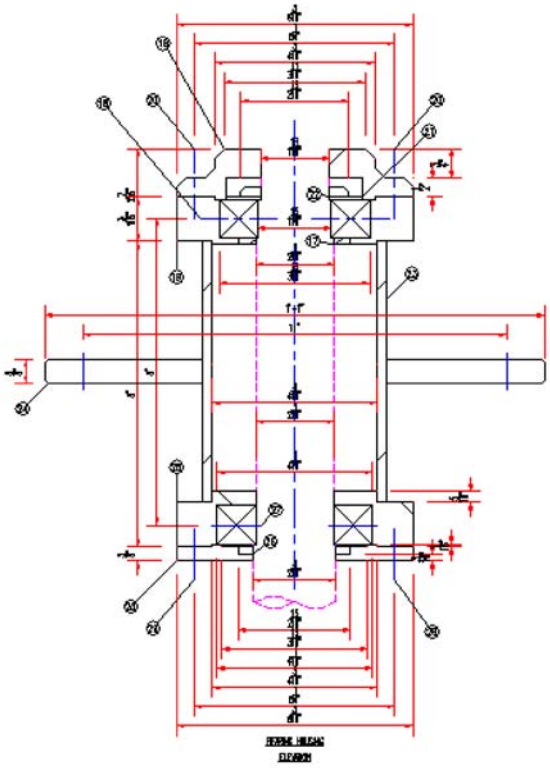
Bill of material for the parts of Stuffing Box.



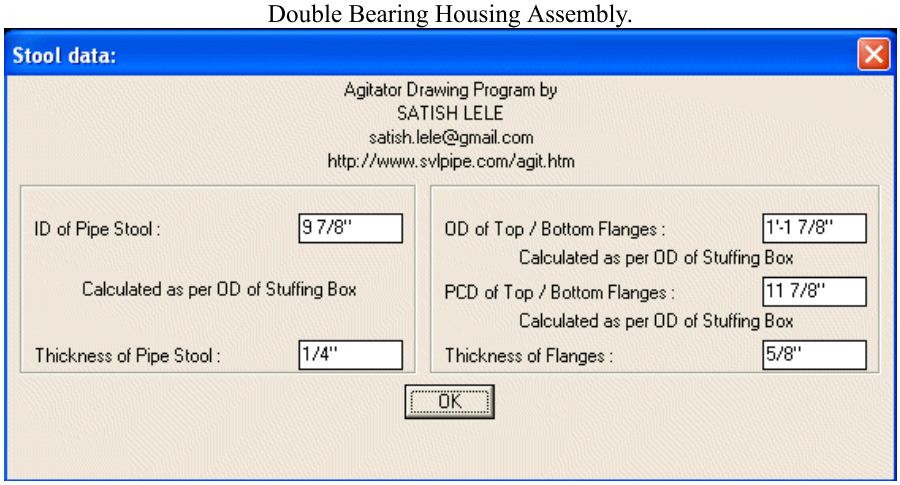

You can select type of Bearing Housing. Bearing Housing can be made up of 2 bearings or only 1 bearing. You can also have a shaft without any bearing on shaft.



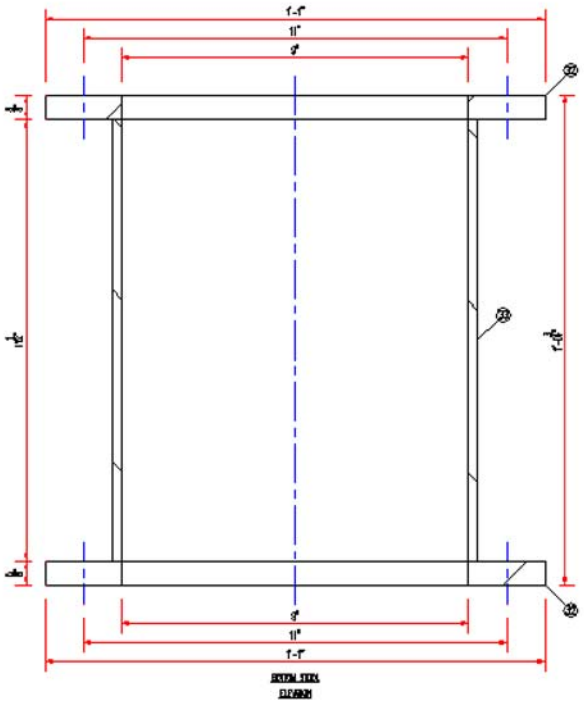

For a bearing housing having 2 bearings, all the dimensions will be calculated and indicated by Program for Design and Drawing of Agitator / Mixer. You may change some of these.



Double Bearing Housing Assembly.



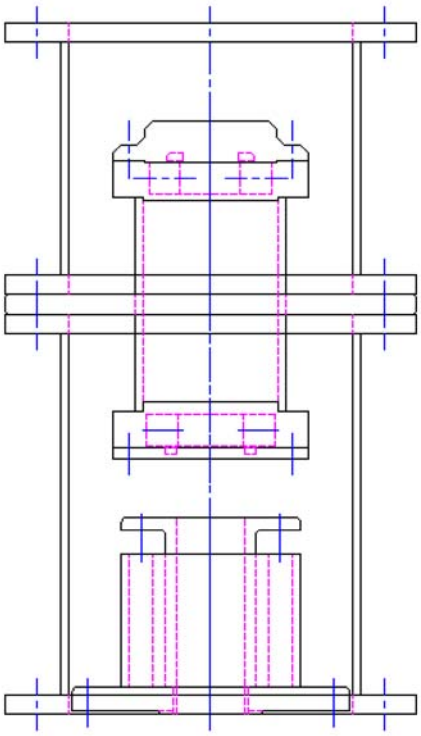
The dimensions of top and bottom stool will be calculated and indicated by Program for Design and Drawing of Agitator / Mixer. You may change some of these.



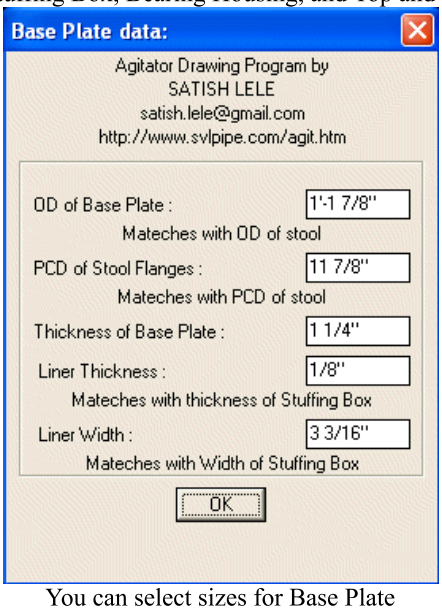
Drawing of Stool.

| | | | | | |
|---|---|---|---|---|---|
| | | | | Total Weight | 192.47 |
| 33 | Bottom Stool Shell | 1 | CS | 9 1/2"(OD) 9"(ID) 11 1/2"(Lg) | 24.64 |
| 32 | Bottom Stool Flanges | 2 | CS | 1'-1"(OD) 9"(ID) 5/8"(Th) | 25.47 |
| 31 | Top Stool Shell | 1 | CS | 9 1/2"(OD) 9"(ID) 7 3/8"(Lg) | 15.80 |
| 30 | Top Stool Flanges | 2 | CS | 1'-1"(OD) 9"(ID) 5/8"(Th) | 25.47 |
| 29 | Lower Cover Stud Bolts / Nuts | 4 | STD | 1/4"(Dia) 1 5/16"(Lg) | 0.07 |
| 28 | Lower Bearing Casing | 1 | CS | 6 3/16"(OD) 2 1/16"(ID) 1 7/16"(Th) | 11.26 |
| 27 | Lower Bearing | 1 | STD | 4 1/16"(OD) 2 1/16"(ID) 1"(Ht) | 2.81 |
| 26 | Lower Bearing O Ring | 1 | RUBBER | 2 15/16"(OD) 2 3/16"(ID) 3/16"(Th) | 0.02 |
| 25 | Lower Bearing Cover | 1 | CS | 6 3/16"(OD) 2 3/16"(ID) 3/8"(Th) | 2.89 |
| 24 | Support Ring | 1 | CS | 1'-1"(OD) 4 13/16"(ID) 5/8"(Th) | 21.17 |
| 23 | Bearing Casing Channel | 1 | CS | 4 13/16"(OD) 4 5/16"(ID) 6 13/16"(Th) | 7.15 |
| 22 | Lock Nut | 1 | CS | 2 13/16"(OD) 1 13/16"(ID) 1/8"(Th) | 0.13 |
| 21 | Spring Washer | 1 | CS | 3 9/16"(OD) 1 13/16"(ID) 1/16"(Th) | 0.13 |
| 20 | Top Cover Stud Bolts / Nuts | 4 | STD | 1/4"(Dia) 1 13/16"(Lg) | 0.10 |
| 19 | Top Bearing Casing | 1 | CS | 6 3/16"(OD) 2 1/16"(ID) 1 3/16"(Th) | 9.05 |
| 18 | Top Bearing | 1 | STD | 3 15/16"(OD) 1 15/16"(ID) 1"(Ht) | 2.70 |
| 17 | Top Bearing O Ring | 1 | RUBBER | 2 15/16"(OD) 2 1/16"(ID) 3/16"(Th) | 0.02 |
| 16 | Top Bearing Cover | 1 | CS | 6 3/16"(OD) 1 13/16"(ID) 1 5/16"(Th) | 10.56 |
| No | Description | Qty | Material | Size | Wt lbs |

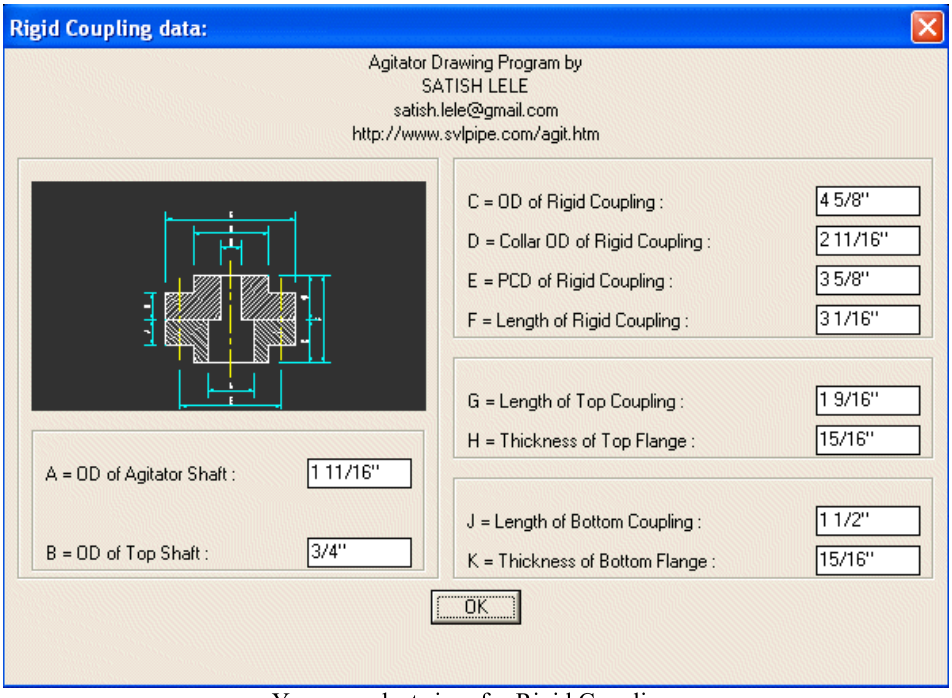
Bill of material for the parts of Bearing Housing and Stool.



Assembly of Stuffing Box, Bearing Housing, and Top and Bottom Stools.




You can select sizes for Base Plate




You can select sizes for Rigid Coupling.

In trial mode of Program for Design and Drawing of Agitator / Mixer, you can select values of Radio Button, Image Buttons, Check Boxes and List box, but you can not change values in Edit Boxes.

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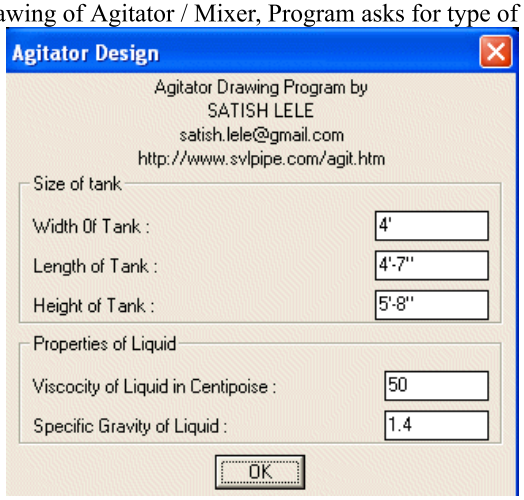
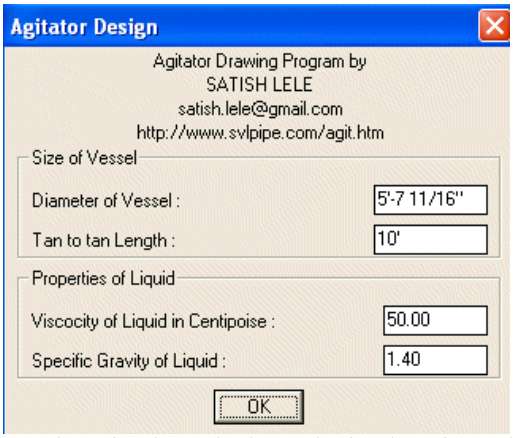
The dialog boxes in Design mode are different.


In run mode of Program for Design and Drawing of Agitator / Mixer, Program asks for type of vessel (Vertical Cylindrical or Rectangular)

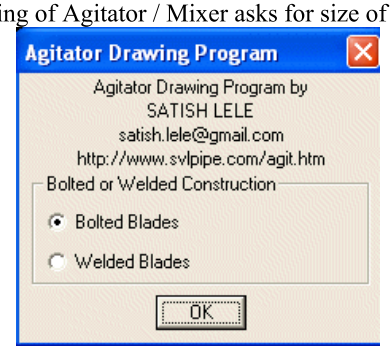



Program for Design and Drawing of Agitator / Mixer asks for size of Rectangular tank and properties of liquid.

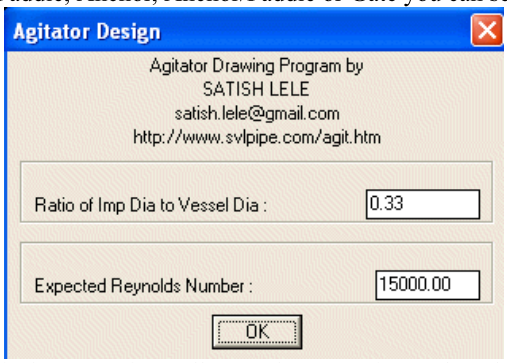
OR




Program for Design and Drawing of Agitator / Mixer asks for size of vessel and properties of liquid.

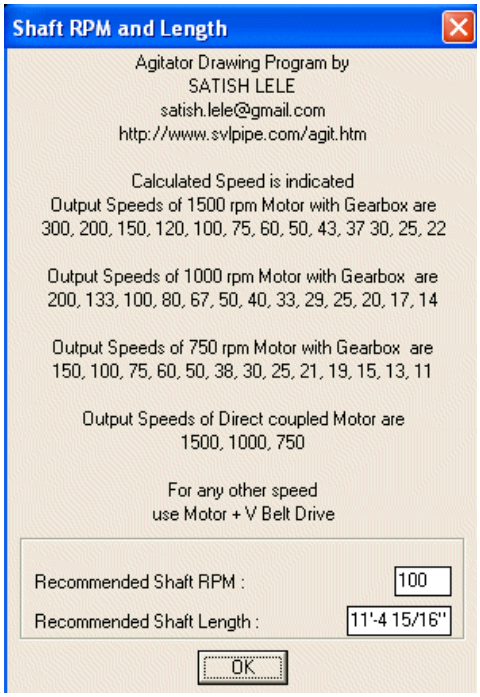



For Axial Flow Turbine, TurboProp, Paddle, Anchor, Anchor/Paddle or Gate you can select either Bolted or Welded Impeller

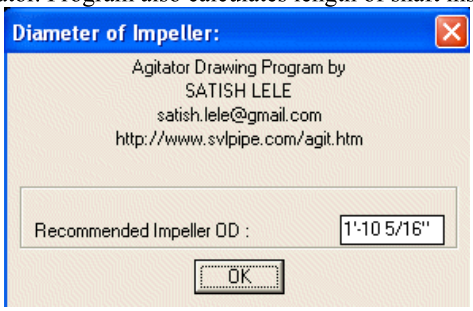



You can decide proportion of Diameter of Impeller to Diameter of Vessel, and expected Reynold's Number.

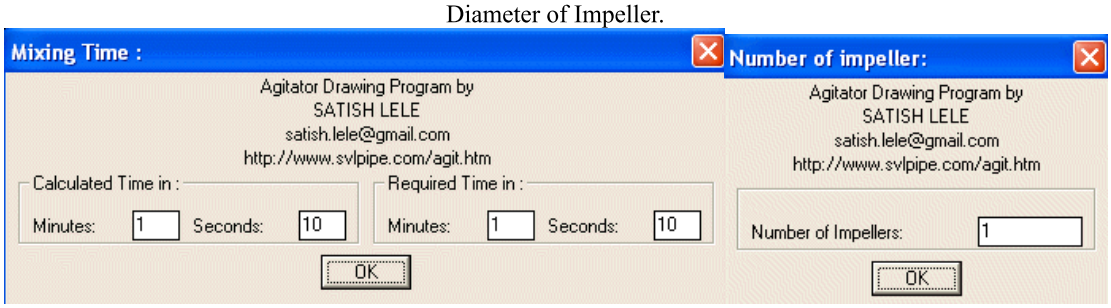

Based on the impeller selected, Program for Design and Drawing of Agitator / Mixer will indicate Mixing number and Power number.



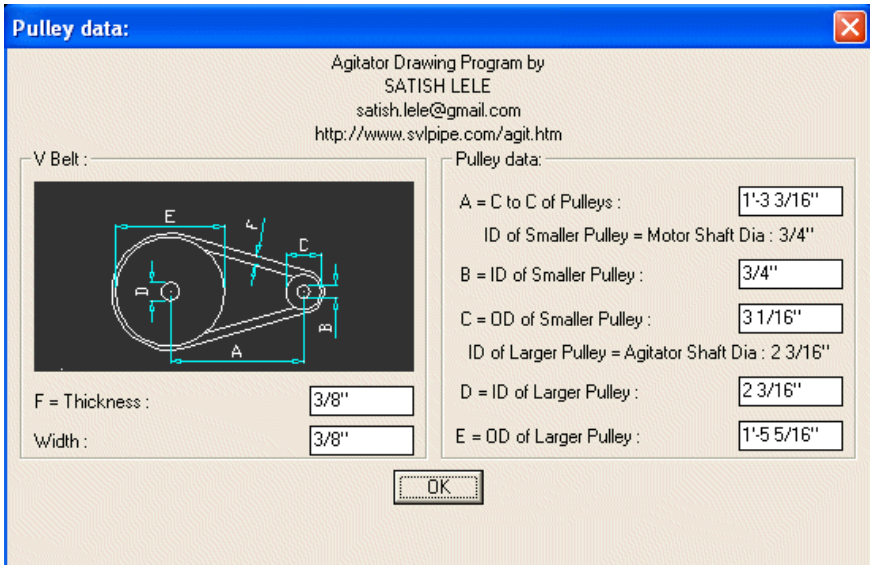

Based on Reynold's number and ratio of Impeller dia to Vessel dia, Program for Design and Drawing of Agitator / Mixer calculated the desired rotational speed of agitator. Program also calculates length of shaft inside vessel and indicates length.



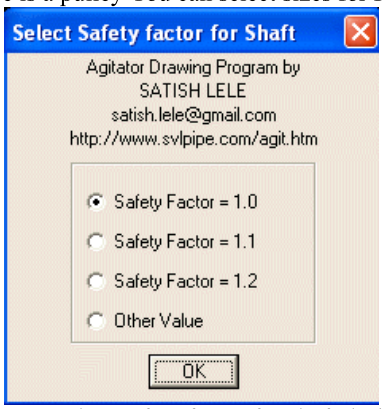

Based on rotational speed of agitator you selected, Program for Design and Drawing of Agitator / Mixer shows the recommended Outside Diameter of Impeller.



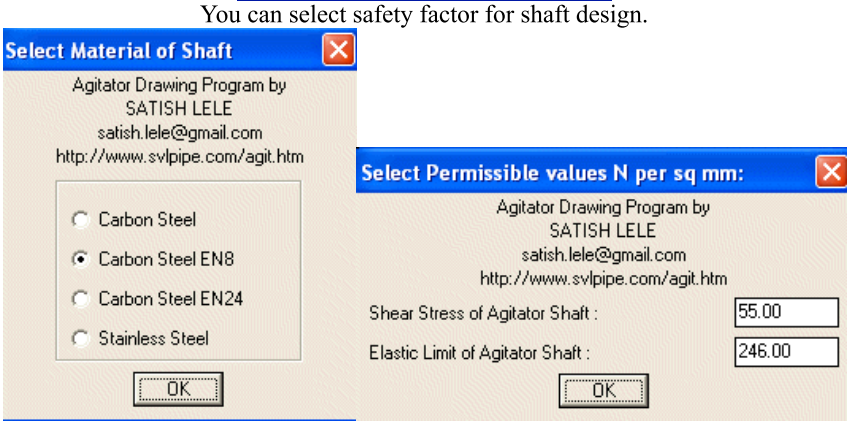

Program for Design and Drawing of Agitator / Mixer then calculates how much time it will take for full, mixing. You can select required time. Based on this, Program for Design and Drawing of Agitator / Mixer will select number of impellers.



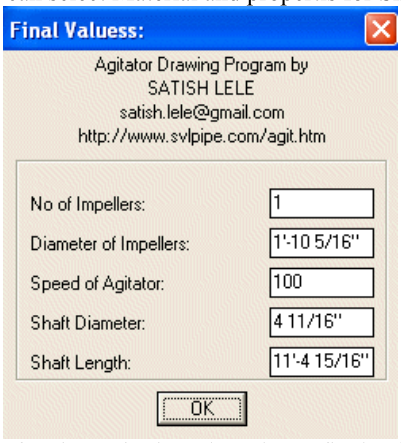

If there is a pulley You can select sizes for Pulley.




You can select safety factor for shaft design.




You can select Material and propertis for Shaft.




Program for Design and Drawing of Agitator / Mixer then shows final values that will be used for drawing.


Program for Design and Drawing of Agitator / Mixer then offers option to continue drawing or exit.