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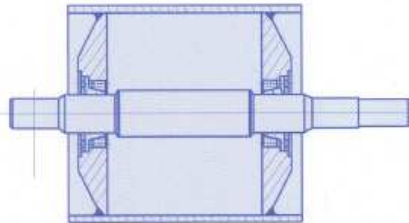
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ICE-Trade Pulley's

Axle / flange executions

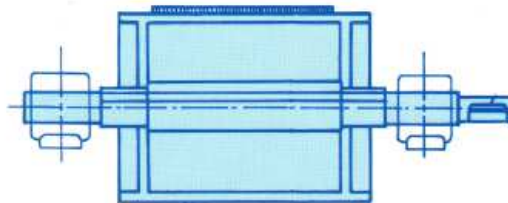
Cone clamp

- this is the **only** system which allows axle exchange in case of shaft damage
- the cone clamp can take up an enormous torque and is therefore suitable for all pulley's



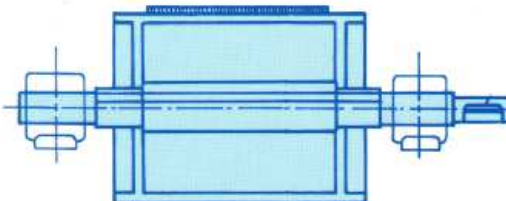
Welded axle

- the cheapest shaft / flange version is the welded axle
- big disadvantage is that the molecule structure of the axle changes during welding which can cause shaft breaking when over-tensions appear



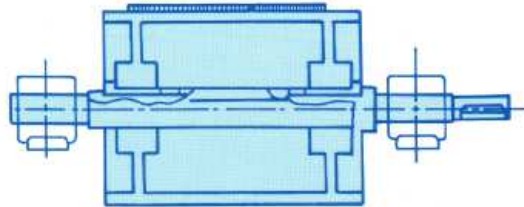
Shrink fit flange, our specialty !!

- the best alternative for a welded axle is the shrunken flange on the shaft
- the hole in the flange has a smaller diameter, with a tolerance, than the axle
- by heating up the flange, the hole is expanding
- after installing the flange on the shaft and letting it cool down the flange is unmovable fixed on the axle
- this does not change the structure of the shaft and is therefore the best alternative for welded axles



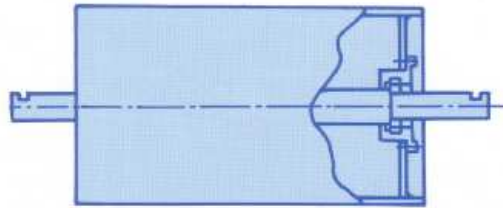
Key Axle / flange

- older system, which needs more machining and is therefore expensive
- the axle is not exchangeable, because of contact corrosion and rust
- once installed it's fixed forever



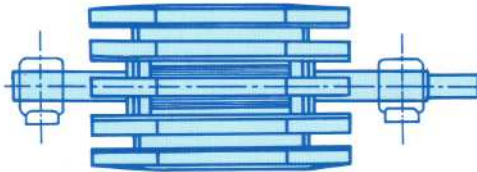
UCFC Bearing

- for pulley's which do not allow installation of standard bearing blocks because the installation is too narrow, or there is no place for
- the UCFC bearing is bolted on the flange



Elevator pulley

- execution with or without a double cone inside



Axle materials

- depending the effort on the axle, the axle material is chosen
- shafts are designed with generous fillet radii between changes of section and fine finish to achieve minimum tension and avoid stress raisers



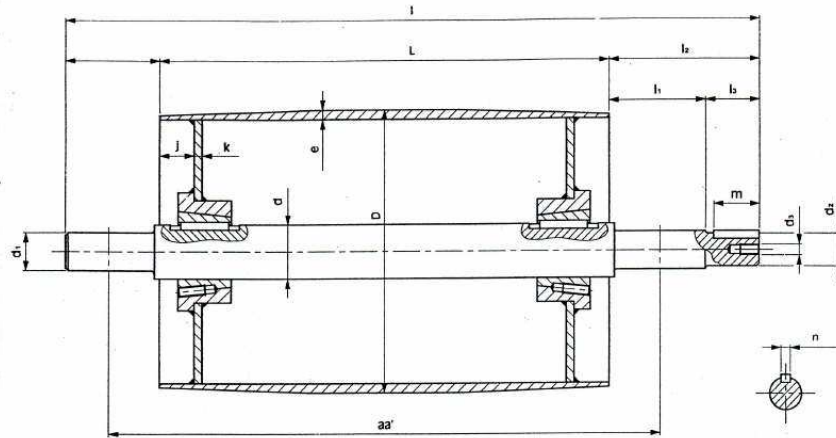
Pulley tube

Standard dimensions

| | | | | | | | | | | | | |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|
| $\varnothing D$ | 133 | 159 | 219 | 245 | 300 | 324 | 355 | 406 | 508 | 609 | 712 | 812 |
| thickness e | 4 | 4,5 | 5,9 | 6,3 | 7,1 | 7,1 | 8,0 | 8,8 | 11 | 12,5 | 12,5 | 14 |
| k | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 15 | 15 | 15 | 15 |
| j | 40 | 40 | 40 | 40 | 50 | 50 | 50 | 60 | 70 | 70 | 70 | 70 |

Other dimensions: on request.

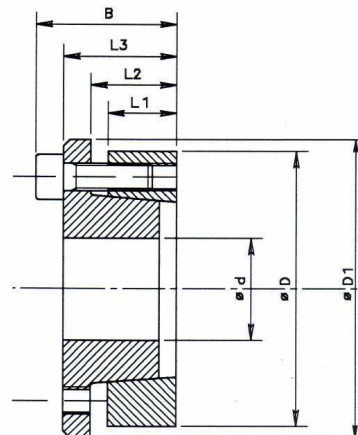
Please note that the above diameters are without machining the tube !



The above pulley has the Vecobloc system, which is also available. This older system is a combination of the key axle and a bikon system. Nowadays we install a Cone Clamp instead of the Vecobloc system for the following reasons :

- less machining hours
- axle remains exchangeable

The Cone Clamp, shaft-to-hub connection.





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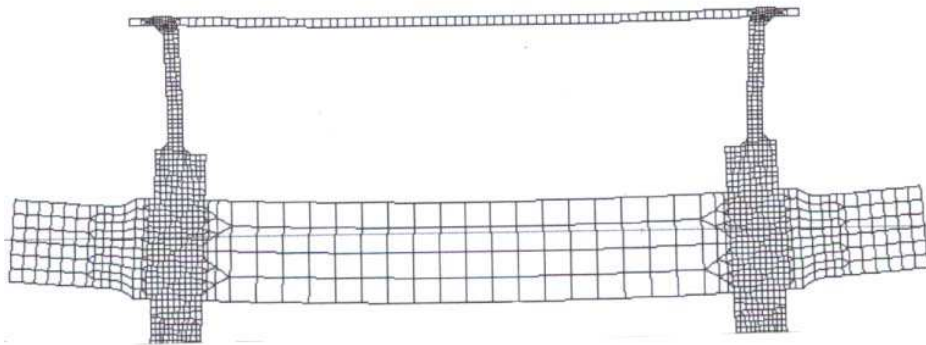
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Besides the standard tube size for pulley's we are able to produce other dimensions on request.

We use the CAD system to design the pulleys and the computer program Castor, to calculate the forces in the finished elements of the pulley.



Pulley execution

- steel
- stainless steel
- according customers specification



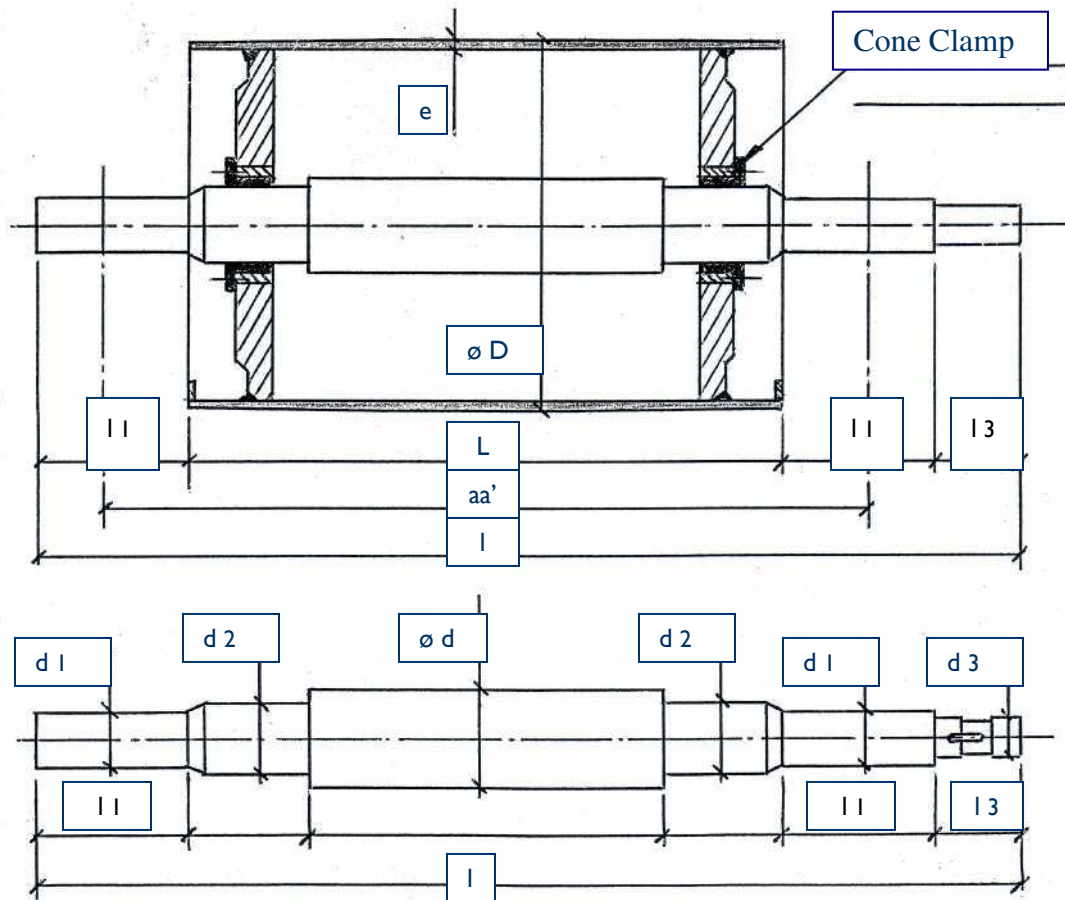
Pulley with shrink fit flange



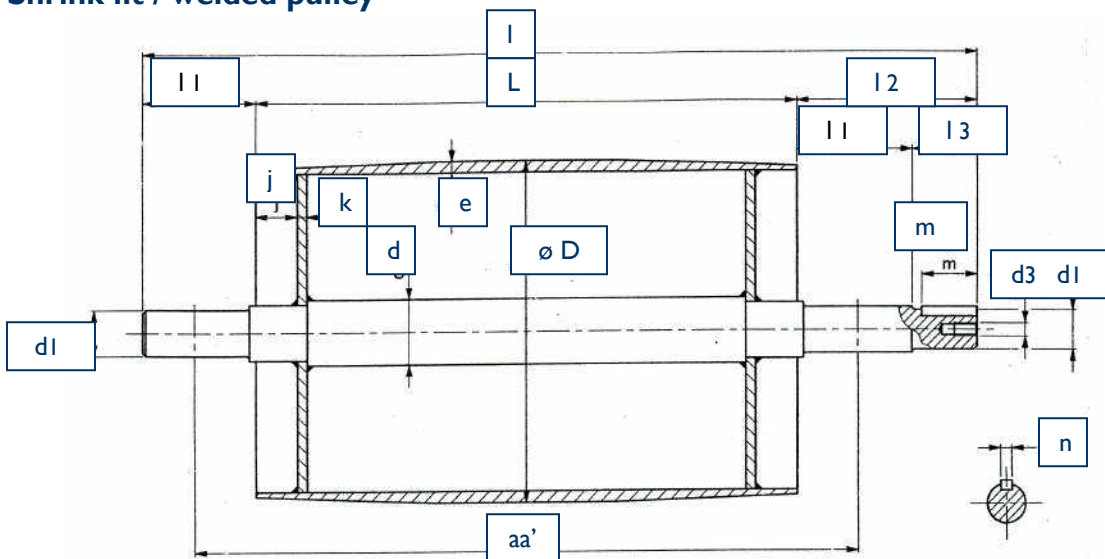
Drum with cone clamp

Dimensions

Pulley with Cone Clamps



Shrink fit / welded pulley





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Inquiry information

Type of pulley

| | |
|---------|---|
| drive | * |
| tail | * |
| snub | * |
| tension | * |
| other | * |

Pulley tube

| | |
|-------------|------------|
| ø D | |
| L | |
| crowned | yes / no * |
| cylindrical | yes / no * |
| e | |
| j | |
| k | |

Axle dimensions

| | |
|------------|---|
| ø d | |
| ø d1 | |
| ø d2 | |
| ø d3 | x |
| l | |
| l1 | |
| l2 | |
| l3 | |
| m | |
| n | |
| aa' | |
| cone clamp | * |
| welded | * |
| shrunk | * |
| UCFC | * |
| other | * |

Bearing blocks

| | | |
|------------|-----|---|
| brand | SKF | * |
| type | | |
| bearing n° | | |

Pulley lagging

| | |
|------------|--|
| Shore | |
| diamond | |
| smooth | |
| thickness | |
| hot / cold | |
| vulcanized | |
| other | |

For the different qualities of pulley lagging please consult the separate data sheet.

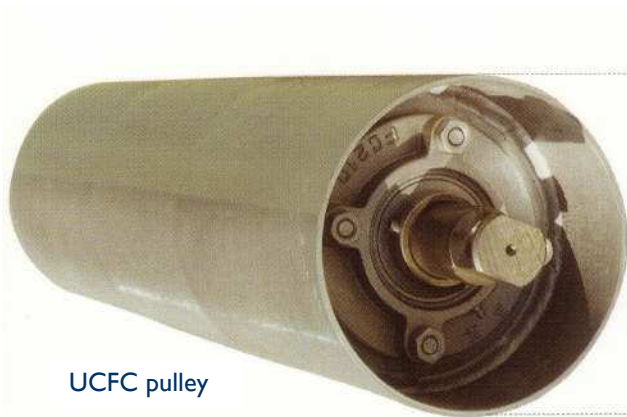


Pulley calculation

Calculation of all the tensions of the finished elements of the pulley.

For calculation of the dimensions of the pulley, axle, drum end discs and the welding we need the following information :

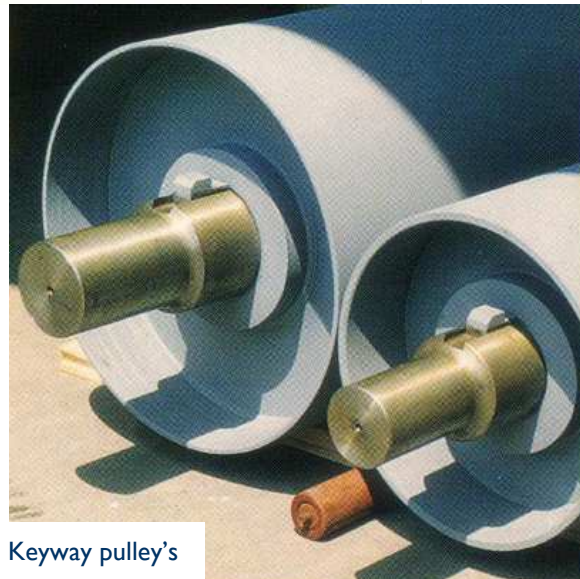
| | |
|-----------------|-----|
| installed kW | |
| RPM | |
| belt speed | m/s |
| belt width | mm |
| tonnage / h. | |
| pulley diameter | mm |
| type of pulley | |



UCFC pulley



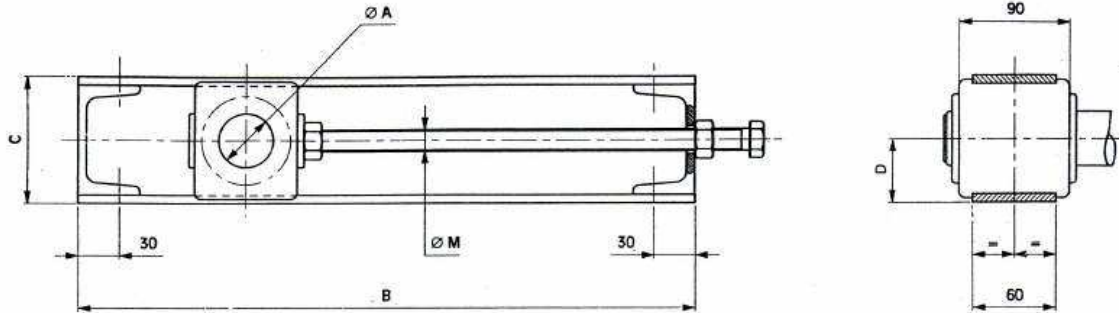
Shrink fit drums ready for sea freight



Keyway pulley's

Pulley Tension Systems LD

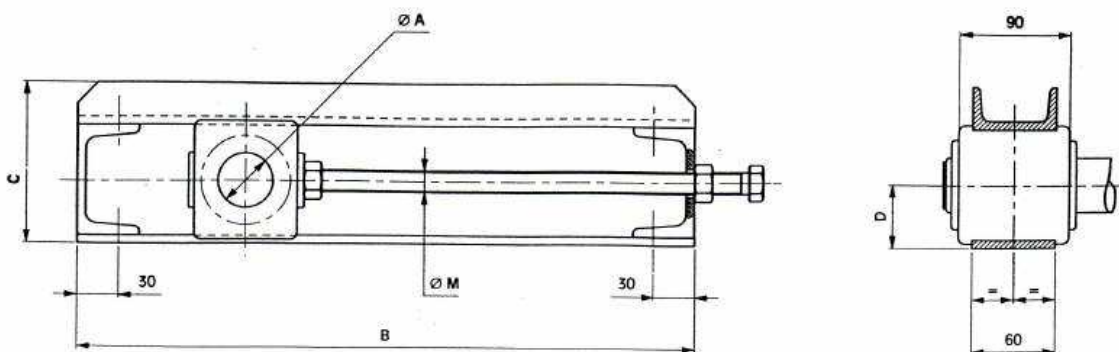
OT 121



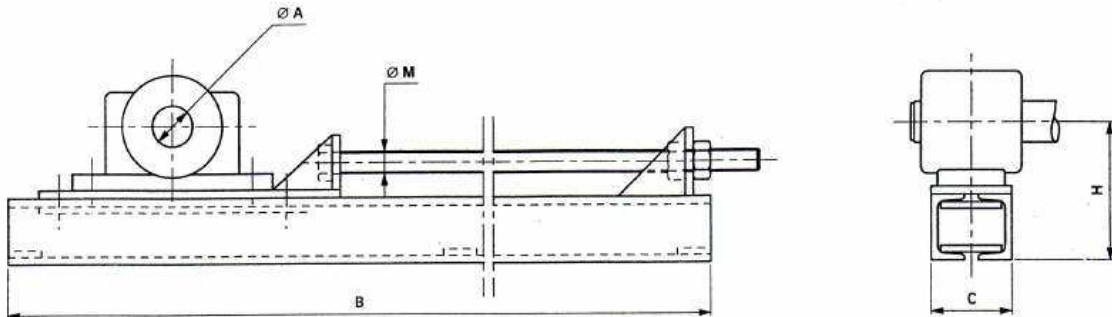
| standard version | | | | | | | | |
|------------------|----|-----|-----|----------------|---------------|-----|----|-----|
| C | D | Ø M | Ø A | tension length | B min. - max. | C | D | Ø M |
| 100 | 50 | 20 | 30 | B - 200 | 400 - 1000 | 120 | 50 | 20 |
| 100 | 50 | 20 | 40 | B - 200 | 400 - 1000 | 120 | 50 | 20 |
| 100 | 50 | 20 | 50 | B - 200 | 400 - 1000 | 120 | 50 | 20 |
| 120 | 60 | 30 | 60 | B - 200 | 400 - 1000 | 140 | 60 | 30 |
| 120 | 60 | 30 | 70 | B - 200 | 400 - 1000 | 140 | 60 | 30 |

reinforced version

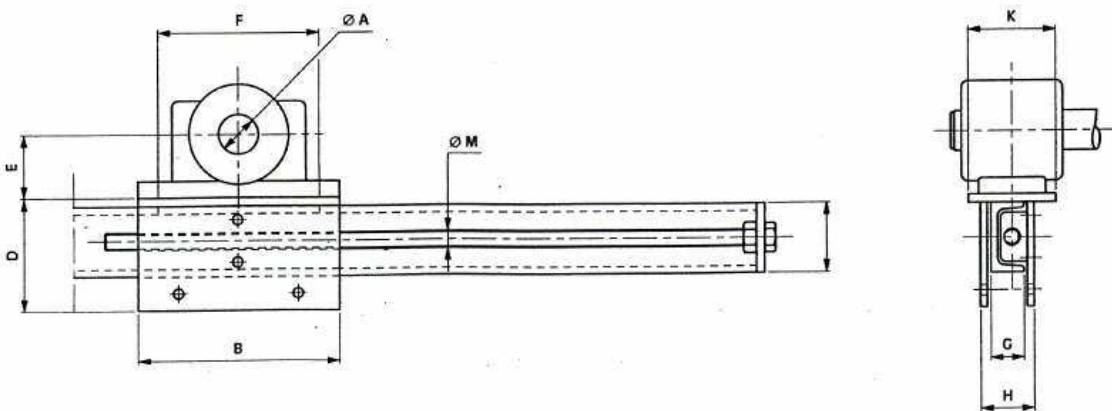
OT 122



Pulley Tension Systems HD

OT 130


| $\varnothing A$ | tension length min. - max. | B | C | H | $\varnothing M$ |
|-----------------|-------------------------------|------|-----|-----|-----------------|
| 70 | 200 - 800 | 1400 | 125 | 215 | 30 |
| 80 | 200 - 800 | 1430 | 125 | 220 | 30 |
| 90 | 200 - 800 | 1470 | 130 | 232 | 30 |
| 100 | 200 - 800 | 1500 | 130 | 245 | 30 |

OT 140


| $\varnothing A$ | tension length min. - max. | B | D = C + | E | F | H = G + | K | $\varnothing M$ |
|-----------------|-------------------------------|-----|------------|-----|-----|------------|-----|-----------------|
| 70 | 200 - 750 | 340 | 50 | 95 | 260 | 25 | 120 | 30 |
| 80 | 200 - 730 | 370 | 50 | 100 | 290 | 25 | 120 | 30 |
| 90 | 200 - 710 | 400 | 50 | 112 | 320 | 25 | 140 | 30 |
| 100 | 200 - 690 | 430 | 50 | 125 | 350 | 25 | 140 | 30 |

For further information, please contact us.