



STAINLESS STEEL CASTINGS  
NICKEL STEEL ALLOYS  
CENTRICAST AND MECHANICAL TUBES

### **CAST AND CENTRICAST COMPONENTS FOR DECANTERS AND SEPARATORS.**

Our Company is producing since more than 40 years a wide range of sand and centrifugally cast products for rotating decanter and separator industries. These items are supplied to leading world producers of such components (upon request reference list can be supplied). More technical details can be found in following notes.

#### **Production technologies**

Horizontally centricast pipes with OD between 90 and 1200mm, ID between 50 and 1350mm, lengths up to 4700mm. geometries can be either cylindrical and also shaped. We have now in production a new machine for the production of short lengths (450 – 1400mm), with possibility of shapes, as requested by many decanter parts.



Vertically centricast items with OD between 300 and 1400mm, ID between 150 and 1350mm, lengths up to 1250mm. Vertical centricast items are normally shaped, but we can produce also simple cylindrical rings.

As complementary products we can produce also sand cast parts, which are requested by such industry generally for some internals, with raw net unitary weight up to 7500 Kgs.

NDE (not destructive tests) are normally performed on items. Volumetric as UT on martensitic compositions and XRay on all alloys (no limits of wall, due to availability of three linear accelerators (up to 500mm wall) and all type of isotopes, like Ir/Co, for smaller thicknesses). Surface NDE are mostly dye penetrant inspections, which are standard applied on all items.

Fabrication through qualified welding processes are performed internally, because high alloys require strict control on such processes.

Machining is an important phase in the production of these items and is routinely done by a relevant number of qualified subsuppliers. We can provide all type of machining, up to the most stringent requirements up and to the maximum dimensional limits. Machining is also sized in order to grant the right productivity and relative competitive lead times also in case of big lots.

### Alloys



We produce parts for decanters and separators in all possible stainless compositions (martensitic, ferritic, austenitic, lean duplex, duplex, superduplex, superaustenitic, nickel base). A lot of alloys can be produced under official licence of world leading steel mills, like Sandvik Steels, Outokumpu Oy (formerly Avesta), Haynes Intl.. Properties of our standard and licenced alloys can be derived from our web [www.fondinox.com](http://www.fondinox.com). We can produce also very thick items, due to our high experience on high alloys, in terms of metallurgical knowledge, heat treatment practices, structural and segregation studies.

### Why to use centrifugal casting technology for rotating parts ?

The widespread use of such technologies in decanters and separators is the result of many interesting features of centricast products: first of all their complete isotropy in properties, which grants the minimum deformation during high rotational speeds, in contrast with hot finished materials, which show a certain anisotropy with different mechanical resistance in various directions (axial, radial, tangential). Another positive effect is caused by the possibility in foundry to make very special alloys in small batches and not only in big heats, like those typical of steel mills. Particularly in duplex alloys, from the same alloy we can derive by a careful phase balancing, far different mechanical properties, acc. to project requirements. Other positive features is the metallurgical microcleanliness of the metal, due to high separation effect of light not metallic inclusions towards inner diameter created by the extreme high centrifugal effect (120/130g in horizontal, 50/70g in vertical products), what permits a better performance in corrosive environments. Solidification of molten metal is then also very rapid, what contributes in creating a very fine grain size. Total absence of possible foundry defects is granted. Coming to more practical issues: production cycle is very short (at least up to raw heat treated item), unitary pieces can be easily realized in competitive way, provided availability for their metallic moulds.



## **Product and Company introduction**

Upon request we can supply comprehensive documentation on both processes (either horizontal, or vertical centrifugation), we can elaborate technical proposals for centricast execution of Your designed parts, we can make full offer for complete lots up to the most stringent finish level. For any further need please contact our internal contact for such type of products, in the person of our Sales Mgr. Mr. Michele Morini ([michele.morini@fondinox.com](mailto:michele.morini@fondinox.com))



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