THE ORIGINAL UPCAST®



Wherever. Better.

etter. Wherever



GREENerCAST technology



Single-furnace UPCAST[®] system



Double-furnace UPCAST® system



UPCAST OY is the exclusive supplier of the original

UPCAST® process developed within the Outokumpu Group. The work of early UPCAST[®] pioneers was characterized by technical innovation and production know-how.

At UPCAST OY we have combined this legacy with a strong commitment to customer support providing UPCAST® technology users with unique performance.

GREENerCAST

UPCAST[®] technology in itself has always New developments with such twin acting • Introduction of stepless power control with been an environmentally friendly process. characteristics have been labeled as GREEN-Just electricity, compressed air and cooling water are needed to keep the process running. No harmful emissions are released to • Introduction of double loop inductors the surroundings. The fact that UPCAST® technology is based on fundamentally green principles doesn't however mean that it couldn't be made any greener.

As the direct environmental effects of UPCAST[®] technology are practically nil we have been concentrating on the indirect ones, especially energy consumption. But as energy consumption is also very much ... Redesigned furnace linings an economic issue we are in fact 'killing two flies with one blow'

erCAST technology which include e.g.:

- > with special channel design the spereduced by improved convection within the channel
- ➤ inductor cooling needs are reduced the channel
- - ► heat losses are reduced by improved
 - furnace insulation

Always green. Now greener.



vourable mass flows within the channel.

fast switching transistors

➤ specific energy consumption in furnaces is reduced by smooth adjustment of inductor power

cific energy consumption in furnaces is Technical development is a never ending road. You can never reach the finishing line just keep on moving towards it.

by smooth temperature gradients within We at UPCAST OY are committed to maintaining the momentum by further develop-➤ inductor life-time is increased by fa- ment of our GREENerCAST technology.



Single-furnace UPCAST[®] system

For production capacities up to 12,000 TPA

decisive factors being sufficient "dwell-time" available for lower capacity lines. UPCAST® figuration. for the melt and ample space for the cool- is a multi-strand casting system where the ers. Each furnace is electrically heated with number of operational strands increases with

a channel inductor - both single- and dou- rising production capacity. Casting machines

Each single-furnace UPCAST[®] line is a comble-loop types being used. Stepless power run with servo-driven withdrawal systems pact unit built around a combined melting/ control has replaced the more conventional and each individual strand has its own coiler. holding furnace. These open-top type fur-stepped one as the standard. Cathode A wide range of cast product sizes can be naces come in several sizes. Production charging is performed automatically al- cast - even simultaneously. Single-furnace capacity determines the size to be used - though a semi-automatic alternative is also lines are expandable to double-furnace con-





Double-furnace UPCAST® system

For production capacities up to 40,000 TPA

comprises of a separate melting and holding double-loop types being used. UPCAST® UPCAST® is a multi-strand casting system furnace connected with a short launder. A melting furnaces are of cylindrical type where the number of strands increases wide range of furnace sizes is available. having two inductors each while the open- with rising production capacity. Casting Production capacity determines the furnace top type holding furnaces work with just machines run with servo-driven withdrawal combination to be used - decisive factors one inductor. Stepless power control has systems and each individual strand has its being sufficient "dwell-time" for the melt and replaced the more conventional stepped one own coiler. A wide range of cast product ample space for the coolers in the holding as the standard. Cathode charging as well sizes can be cast - even simultaneously.

furnace. All furnaces are electrically heated as melt transfer - from melting to holding

Each double-furnace UPCAST[®] line with channel inductors – both single- and furnace – is performed automatically.











UPCAST® Customer support

Our business philosophy at UPCAST OY is not to be a mere equipment supplier but also to offer support and expertise needed to make the UPCAST[®] line a reliable link in your production chain.

Our support starts already at the design complete commissioning phase ensuring a source of original UPCAST® spare parts and stage as all UPCAST[®] lines are tailor-made to suit your individual needs and facilities and continues with a comprehensive set We maintain a 'guick reaction' customer supof instructions for installation of the equipment. If needed, we can also come to your site to supervise the installation work. We will familiarize your staff with the operation of the equipment and transfer the process know-how. Our experts will see through the procedures. UPCAST OY is the exclusive or improved overall performance.

smooth and timely start-up.

port service to help you solve any equipment or process related problem in the shortest possible time. Our experts make regular visobserve and if necessary correct operational

UPCAST® Applications

Although best known for the production of oxygen free copper rod, UPCAST[®] technology is not restricted just to one material and one cast shape

UPCAST[®]-Rod. The majority of UPCAST[®] lines produce rod - both Cu-OF and alloys. The most commonly cast rod diameter is 8 mm - the industry standard for wire and cable. Bigger diameters are cast for manufacturing a variety of products e.g. bus-bars, trolley wires, electroplating anodes etc.

UPCAST[®]-SGTube. Tubes have been cast with UPCAST[®] technology already since late 70's. The rather coarse grain structure attainable at

that time restricted their use for the manufacture of fittings. However, now as the result of a highly successful development program it is possible to cast thin-walled tubes with a fine grain structure - UPCAST®-SGTube - suitable for sanitary and ACR tube production.

UPCAST[®] Cu-OF. UPCAST[®] oxygen free copper has superior ductility and excellent electrical conductivity. These characteristics make UPCAST[®] Cu-OF rod well-suited for all electrical applications and a preferred feedstock for fine and multi-wire drawing, magnet wire production and rotary extrusion machines.

Alloyed coppers and copper alloys. Low alloyed coppers widely produced with UPCAST® include silver bearing and phosphor-deoxidized coppers. There is a wide range of copper alloys that are cast with UPCAST® - most common being brasses and bronzes. Utilisation of UPCAST® technology within this field is expanding rapidly.



consumables which are available for immediate dispatch from our well-equipped stock.

As UPCAST[®] is of modular design it is easy to modernize and upgrade. This means that your UPCAST[®] line can adjust to changing its especially to newly commissioned lines to market demands whether it is a question of new cast products, more production capacity



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