



Ogura announces new manufacturing operation in China

Canton, China

Many of the world's office equipment products (copiers, fax machines and printers) are now being assembled in China. In order to provide better localization, Ogura has decided to build a micro clutch assembly plant in the Canton region of China. The plant will initially be set up for micro clutch assembly, but other related products could be possible once the plant is fully operational.

Initial production is scheduled to begin by the end of this year. Subcontractors for the raw material components have already been approved by Ogura engineering.

Ogura's strict quality control will monitor these suppliers to make sure Ogura's stringent quality guidelines are adhered to.

Micro clutch production is initially set for 3 million clutches per year. If customer requirements exceed that quantity, the plant offers additional space that will allow production to expand to meet customer needs.



Manufacturing facility in
Canton, China

Ogura production improves manufacturing efficiency

Kiryu, Japan

After clutch rotors went through the e-coat painting line, parts were unloaded and stored on pallets. Forklift trucks would then store those pallets in a holding area until the parts were moved to the assembly process. On average, 30 pallets of parts were being held in this area. Effective this year, a number of changes were made to reduce this work-in-process inventory between the painting line and the assembly line.

Now when parts come off the painting line, they are automatically placed on transfer conveyors. These transfer conveyors then move parts to a loading elevator. The elevator raises the parts up to a brand new overhead



New Loading Elevator

conveyor, which then transports these parts to a central sorter line. This new sorter line is equipped with an optical recognition system that automatically sorts by model and then transfers those parts to the correct assembly area.

Since the parts are now traveling a long distance between the paint line and the assembly facility, the conveyors travel at high speed. To keep the parts moving quickly, new high-speed cornering conveyors were installed. This eliminated right angle transfers of parts, which prevents the

parts from potentially getting scraped or nicked.

The improvements offer a number of benefits:

1. Idle time from when parts come out of painting is now eliminated.
2. The labor of storing parts and then bringing parts to the assembly line is now eliminated as well as the additional forklift time.
3. The space that was previously used for holding these parts can now be used for other manufacturing operations.
4. Manufacturing now has better process control. (Painting and assembling used to be two separate processes, now it is combined into one.)
5. Since the new conveyor is overhead, existing floor machinery layout did not have to be changed.



High Speed Cornering Conveyor

OIC EMPLOYEE PROFILE

Michael Hehnen European Sales Manager

Guten Tag, my name is Michael Hehnen. I am the European Sales & Marketing Manager of Ogura Industrial. I joined Ogura Ind. in April. I am German and live in Ahlen. That city has a population of 55K people. Ahlen is located about 150 km southwest of Cologne.



Michael Hehnen
European Sales
Manager

I have a masters degree in engineering and business from the University at Paderborn. I am also educated in 'REFA Prozessorganizer', which helped me during my work at the Alcoa Automotive Company to analyze and improve workflow processes.

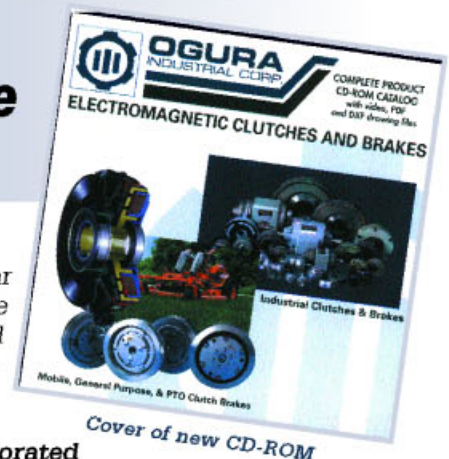
Before coming to Ogura I worked for a number of years in the clutch brake business with the Nexen Europe Group, formerly known as Horton Industrial Products, in Belgium, Brussels. I was the Northern European Sales & Application Engineer and also handled other responsibilities like business development and marketing.

When I am not at work I enjoy spending time with my friends and parents. I like skiing, mountain biking and especially gliding. (I wish I had more time for that hobby. I started gliding at the age of 14.) Of course, I am also very interested in soccer and I like Formula 1 motor racing.

In a few years I would like to see Ogura, with its superb products, in the top European market position! I will keep on working for that vision.

New CD-ROM released/ Web Site improvements

The latest version of OIC's popular CD-ROM has just been released. The CD has new colors on the front and back cover to make it easier to distinguish it from previous versions. **The latest additions and improvements on the new CD have also been incorporated**



Cover of new CD-ROM

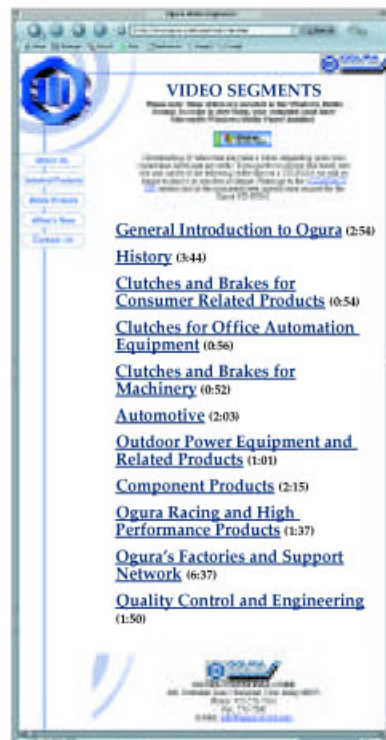
on the Ogura web site.

Two brand new series of industrial clutches and brakes have been added. These are the PMB and the PET Series. The PMB is a permanent magnet brake designed to hold when power is released. These are offered in six different models. The PET Series is a permanent magnet hysteresis clutch or brake that is offered in four different series.

Twelve new mobile models have been added. Seven new PTO clutch/brakes, 2 new general purposes clutches and 3 new mobile clutches are now included.

Eleven new video sections have been added showing the latest information on Ogura's manufacturing facilities and the products that Ogura is involved with. On the web these are now shown in a streaming format to reduce download time.

If you would like the latest CD-ROM, please ask your local sales representative or view the latest information on line at www.ogura-clutch.com.



Menu showing eleven new videos

Ogura Clutch Brazil receives QS-9000 Certification

São Paulo, Brazil

Ogura's air-conditioning clutch manufacturing operation in Brazil has been certified QS-9000. This plant joins the other QS-9000 certified plants in the US, France and Japan.



QS-9000 Certified plant in São Paulo, Brazil

APPLICATION STORY

Ogura Innovative Applications

Digging holes for fence posts can be back breaking work in good soil conditions. Now imagine having to dig over 100,000 postholes a year in all types of soil conditions including rocks and old concrete. That averages to just under 2,000 holes per week, for a full year. (Ouch, my aching back.)

The company that accomplished this didn't do it through pure

manpower, but brain-power.

The hydraulic pump is driven by an Ogura . . . clutch . . . the extra torque the clutch provides comes in handy when the hydraulic pump is used to assist the main auger drive.

They designed a machine, actually a piece of mobile boring equipment, which can navigate the most adverse terrain, is extremely

maneuverable, and can operate in extreme weather conditions.

The company, Dandy Diggers, manufactures this unique piece of mobile equipment, which an operator can drive into position and using its variable speed auger drive, the operator can exert up to 4,000 pounds of force to bore through all types of soil conditions.

The "Dandy Digger" uses a 25HP Kubota engine to drive a hydraulic pump, which then powers a variety of hydraulic motors. Four of these motors are for the ground drive wheels and a fifth is used as a power take off. The PTO can be used to drive a collection of "Quick-Tach" accessories, including an End Loader, Concrete Mixer, Post Pounder, or Post Puller.



Ogura P/N 512347



Try digging in this!

The PTO power can also be used to assist the 20HP Kohler engine which normally drives the auger. This comes in handy when using the "Extenda-Dig" option that allows the machine to bore holes to 7 feet deep and up to 30 inches in diameter.

The hydraulic pump is driven by an Ogura model # 512347 clutch through two V-belts. This clutch is rated at 250 ft. lb. and although 25HP at 3600rpm including a 3.0 service factor, produces an output torque of around 113 ft. lb., the extra torque the clutch provides comes in handy when the hydraulic pump is used to assist the main auger drive.

The Ogura model #512347 clutch is used to help in two areas. One is cold weather starting. The hydraulic pump can be disconnected from the engine to reduce the starting effort in extreme cold weather. The second area is opera-

tor safety. There is a limit switch under the operator's seat, which turns off the clutch so the hydraulic pump is not driven, effectively locking out the ground drive wheels when the operator is out of the vehicle.

This heavy-duty Ogura clutch has tackled other difficult applications including stump grinders, concrete saws, grain augers, agricultural and turf care equipment.

There are many other engine driven applications where the addition of an Ogura clutch will add value and convenience to an OEM's products.



Post Pounder



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Happy Autumn

from the staff of Ogura Industrial



NEW PRODUCT RELEASE

New series of Permanent Magnet Brakes

A new series of permanent magnet brakes (PMB Series) has been introduced by Ogura Industrial. These brakes engage when power is removed from the brake. They operate similar to spring applied brakes with the exception that instead of springs supplying the holding force, a permanent magnet supplies the necessary force to stop and hold. The reason the brake is able to disengage when power is applied is because the magnetic field in the coil counteracts the magnet field of the permanent magnet brake. However, once this powered magnetic field is removed, the permanent magnet takes over to stop and/or hold.



Ogura's new PMB Series

PMB units are currently manufactured in six sizes from 3.5 to 265 in.lb. All series are available with a combination armature/hub or armature only for custom designs.

These brakes offer high torque in a small size. This smaller size has an advantage in applications where space and/or weight is critical.

Brakes can come with either a flange or a hub option. In both cases, a wave spring is used as the connection, which provides zero backlash. The spring also pulls the armature away from the brake, maintaining an airgap, which eliminates drag torque.

New magnet materials allow the standard series of brake to operate efficiently up to 140°C. Other materials are available for higher temperature requirements.

Since the electromagnetic field can be varied against the permanent magnet field, controlled stops are possible allowing customers to compensate for both speed and load fluctuations.

Technical information on this new series is already posted on the web site. Please visit the Industrial Section on the web site at www.ogura-clutch.com to see this new series.

OGURA IN THE NEWS



Customers and Ogura personnel reviewing product improvements

OIC relays new info at EXPO 2002

Louisville, KY

OIC showed twelve new mobile products at the Louisville Lawn and Garden EXPO at the end of July. In addition, the new Ogura video was shown at the Show, allowing both current and potential customers to see Ogura's expanded product line and manufacturing facilities.

With many Ogura customers either exhibiting or visiting EXPO 2002, it was an ideal opportunity for Ogura sales and engineering personnel to relay the latest developments and upgrades in the mobile products line. Twenty two personnel from OIC (mostly sales and engineering) were at the show to relay the latest information to both current and potential customers. Engineers also had an opportunity to speak with end users to answer their questions on current design and to listen to their suggestions on what they would like to see improved.



OPEI Robot helps hand out Ogura sunglasses