JDC, Inc. is a Japanese company that has over 30 years of experience in the design and construction of patented machines and separator shafts to be installed in slitting lines for the tensioning of metallic strips.

On beginning of 2012, JDC Japan established the company JDC International in Switzerland with the mission to promote and sell its machines into overseas markets.

The field of application of our machines is to rewind firm and tight coil providing a uniform tension to the slit strips with a total protection of the surface against scratches or marks.
JDC designs and manufactures different types of tensioning machines based on our patented exclusive system of endless belts that slits the coils with easy operation and maintenance.

The principle of the braking – tensioning system of the machines of JDC

The special endless belts have two layers with different outer / inner frictional coefficients. The belts move simultaneously with the coil speed catching by larger friction on the outer side of the belts, and in the meantime braking tension is generated by the smaller friction of the inner side of the belts. Friction heat is generated due to braking tension built up through the friction force at sliding part of the belt acting on the slider metal. The heat is carried off by the cooling water in the circulation system.

The machines of JDC are installed between the loop pit and the re-coiler and are namely suited to be used inside the:

- Slitting lines that mainly process materials with delicate and sensitive surfaces
- Slitting lines of Service Centres that require a frequent alternating between slitting materials with delicate and not delicate surfaces
- Slitting lines that especially process wet and oily materials with delicate and sensitive surfaces

Our machines can be easily installed in existing slitting line instead of braking rolls and felt press and JDC may assist the customer in the modernization / revamping of the line.

The machines of JDC are installed into the slitting lines manufactured by the most important European and Asian line makers. More than 1300 machines are operating worldwide by the factories of leading producers of steel, stainless steel aluminium and copper.

Separator shafts for slitting lines

Our patented separator shafts are designed to make fast and safe the set up of the separators disks, saving space and time. They can be easily installed into any slitter line and may be combined with any tension device.

- SealEx™: tubeless type air-expansion shaft
- Auto SealEx™: tubeless type air-expansion shaft with automatic tool setting device
- HYDEX™: hydraulic expansion separator shaft for heavy coils on recoiling drum
- 3K-NUT™: hydraulic nut for separator setting device of rotary shaft
RB21™ Type

RB21™ is a very flexible tension unit because of the exclusive interchange concept of belt / felt tension system operated by a motorized 180 degrees rotary change unit that quickly allows to change the processing from delicate to un-delicate coils. RB21™ is the perfect machine for the coil centres.

**APPLICABLE SPECIFICATION OF COIL FOR STANDARD DESIGN OF RB21**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Belt Element Side for Dry Materials</th>
<th>Felt Pad Side for Dry Materials</th>
<th>Felt Pad Side for Oily/Wet Materials</th>
<th>Omega Belt for Oily/Wet Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness range</td>
<td>0.1 up to 3.2</td>
<td>0.05 up to 6</td>
<td>0.1 up to 6.0</td>
<td>0.2 up to 5.0</td>
</tr>
<tr>
<td>Maximum coil width</td>
<td>2300</td>
<td>2300</td>
<td>2300</td>
<td>2300</td>
</tr>
<tr>
<td>Minimum slit width</td>
<td>15</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Maximum operating speed</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>300</td>
</tr>
</tbody>
</table>

**MAIN PROCESSED MATERIALS**

- Bright-finished stainless steel
- Tin-plated steel
- Galvanized steel
- Silicon (magnetic) steel
- Pre-coated steel
- Rubber-coated steel
- Embossed steel
- Bright and coloured aluminium
- Bright brass and copper

**SPECIAL FEATURES OF "RB21"**

- No scratches on beautiful coil surface due to special belts rotating together with strip-speed
- Uniform tension of every slit-strip due to multi-belts catch and run with every slit-strip speed.
- Suitable tension for every coil thickness because tension is provided by hydraulic pressure.
- Quick interchange of the belt/felt-tension for dry/oiled material by rotation of drum-elements.
- High productivity due to highest-speed operation by high performance drum-cooling device.
- Economical-high cooling efficiency by natural air-cooled radiator type water cooling device.
- No sudden shutdown and easy maintenance due to simple mechanism & compact design.

Worldwide Professional leader of Metal coil winding
RB21™ Type

The belt tension device and the felt tension device are assembled together as a mono-frame shape. The belts are set around the cooling water drums respectively upper and lower side, avoiding the use of pulleys. The braking tension is easily controlled by a pressure regulating device which is connected to 2 hydraulic cylinders located in the stand structure to give a pinching force to the upper and lower mono-frame. The type of RB21 is settled by JDC according to the material, the slit width, the thickness range and the speed requested by the customer.

RB21 – WD type with elliptical drum for wide range application

RB21 – SO type with circular drum for thin gauge and special materials

The exclusive interchange concept of belt / felt system of RB 21

RB 21 may be installed on a movable cart

Entry side view of RB21
The separator is a special spacer with a disk assembly type according to our specific design.

Front view of RB21
RB21 is installed on movable cart which is provided by the line maker

Backside view of RB21
The utility piping and cable are installed on a movable cable-bear unit at backside of the RB21 unit
BELTBRIDLE™ Type

The special endless belts have two layers with different outer / inner frictional coefficients. The belts, extended by idle pulleys, move simultaneously with the coil speed catching by larger friction on the outer side of the belts, and in the meantime braking tension is generated by the smaller friction of the inner side of the belts. The tension is adjusted settling the pressure of the hydraulic cylinder. The belts are specially made of a flexible material so that they grip the strips plably. The result is that there is no scratching and marks on high quality coils.

The BELTBRIDLE is settled by JDC according to the material, the slit width, the thickness range and the speed requested by the customer.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Upper side (Dry type belt elements for dry materials only)</th>
<th>Lower side (Wet type belts elements for oily/wet materials only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness range (mm)</td>
<td>0.2 up to 3.2</td>
<td>0.2 up to 5.0</td>
</tr>
<tr>
<td>Maximum coil width (mm)</td>
<td>2000</td>
<td>2000</td>
</tr>
<tr>
<td>Minimum slit width (mm)</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Maximum operating speed (mt/min)</td>
<td>300</td>
<td>300</td>
</tr>
</tbody>
</table>

**PROCESSED MATERIALS**

<table>
<thead>
<tr>
<th>Upper side (Dry type belts-elements)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The belts catch dry-surface coils through the belt layer with a high friction coefficient</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lower side (Wet type belts-elements)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Omega belts catch wet/oily surface of the coils through the belt surface with a special pattern with vacuum effect.</td>
</tr>
</tbody>
</table>

Oiled surface coils are processed by lower wet-type belts. The outside of the belts catch the wet/oily coil surface, while the inside of the belts generate tension due to the friction force acting against the sliding-metal parts.
SealEX™ Only one product in the world

SealEX™ is a tubeless air-shaft with a disk-driving device in the hollowed shaft that replaces existing separator rolls. Since it is tubeless inside, there is no risk of a sudden puncture. It may be installed into any slitter line and may be combined with any tension device.

The long lugs with the integrated trapezoidal elastic seals section in the grooves are extended by compressed air. Then, the long lug can fix the rotary tools or cores in any position on the SealEX shaft. As soon as air is released, the long lugs return to the bottom of the grooves due to the reshaping nature of the elastic seal, then the rotary tools or cores can be moved freely.

* **Clear design**: There are not movable parts around the shaft since the disk-driving device is arranged in the hollow shaft.
* **Safe**: the disk-driving device is protected by the shaft, therefore operations are safe and smooth.
* **Durable**: the long-lug is extended by the elastic rubber seal. There are no rubber tubes that may suddenly burst.
* **Light Aluminium**: The high-grade hollow aluminium shaft is lightweight and rotates smoothly when processing thin gauge strips.

**AutoSealEX™ Only one product in the world**

"AutoSealEX™" is the motorized and computer-controlled version of the SealEX™

* **Computerized**: the servo-motor drives the screw and a computer program sets in accurate position. each movable disk
* **Labor-saving**: no need to set manually many disks and spacers as with conventional separators.
* **Fast**: the set-up of the disks only takes about 1 to 2 minute using "Auto-SealEX"
* **Repeat the program**: only press one button on your key pad to repeat the program stored in the computer

**Concept of Auto-SealEX**

Auto-SealEX installed on RB21

*Worldwide Professional leader of Metal coil winding*
HYDEX™: the hydraulic expansion separator shaft for heavy gauge coils

HYDEX is a rotary shaft used for the separator roll which consists of an outer thin hollow tube and an inner shaft made of hard steel. The outer tube is expanded by hydraulic pressure between the gap of the outer tube and the inner shaft, in order to firmly fix the separators disks. HYDEX is suitable to process thick steel coils because of the high hydraulic pressure generates a strong force to set many disks on the shaft.

3K-NUT™: the hydraulic nut for separator tool setting device for rotary shaft

By using a simple T-bar wrench and turning the pressure screw, the pressure piston is pushed, the internally sealed oil is then pressurized to push out the ring piston which then press into position the rotary tools such as spacer and cutter for the slitter machine.

At the same time, the thrust power can be observed by the thrust-power indicator. Since main body is made of aluminium alloy of one-third the weight of steel, it is very easy to handle for operators.

New Ω Omega belt to process oily/wet materials

JDC designed the new Ω Omega belts to process coils with oily-wet surface without any scratch or mark. These special belts catch the wet/oily coil surface by vacuum effect of the special pattern engraved on the belt surface.
main materials with delicate surfaces processed by the machines of JDC

Company Profile

Trading Name  
JDC, inc.

Address  
(Head Office) 5-29 Hizukushi-cho, Sasebo-city, Nagasaki-ken 857-0852, Japan
(Technical Development Center) as above.

Established  
8th March 1968 in Osaka-city, Japan

Capital  
10,000,000.00 J. Yen

President  
Mr. Yoshito Hashikawa

Business pursuits  

Banks  
The Shinwa Bank, Head office
The 18th Bank, Sasebo branch
Fukuoka Bank, Sasebo branch

JDC-INTERNATIONAL SAGL
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Subsidiary Company

Business affiliates (Sales Agents)

Banks  

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HARVARD ENTERPRISES, INC. (Taipei, Taiwan)
CHEN KONG TRADING CO., LTD. (KAOSHIUNG, Taiwan)
Jinan Tri-Tiger Technology Development Co., Ltd.

Industrial Property  
(Effective as of October 2011)

Total 90 patents / trademarks
Patent applied for in: Japan, Korea, Taiwan, China and other Asian countries and also in Europe and USA

REFERENCES
Countries where we have installed our machines

ASIA
CAMBODIA
CHINA
HONG KONG
INDIA
INDONESIA
JAPAN
KOREA
MALAYSIA
PHILIPPINES
SINGAPORE
TAIWAN
THAILAND
VIETNAM

AMERICA
BRASIL
CANADA
MEXICO
USA

EUROPE
BELGIUM
CAMBODIA
CHINA
FRANCE
GERMANY
ITALY
NETHERLANDS
POLAND
PORTUGAL
RUSSIA
SLOVAKIA
SPAIN
SWEDEN
SWITZERLAND

AFRICA

Worldwide Professional leader of Metal coil winding