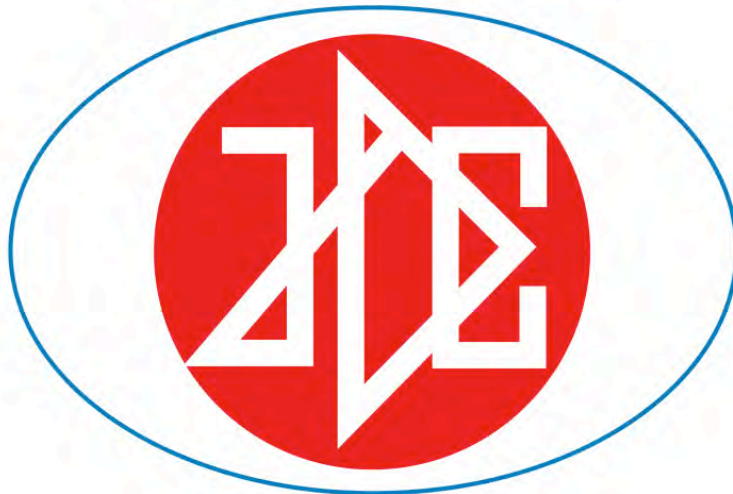




www.jdc-inc.co.jp

JDC 株式会社



JDC, inc.
Since 1968

旧社名： 株式会社 日本開発コンサルタント
Former name : Japan Development Consultants, Inc.

〒857-0852 長崎県佐世保市千景町5-29号
5 - 29 Hizukushi-cho, Sasebo-city, Nagasaki-ken, Japan
Tel : 0956 - 34 - 7500 Fax : 0956 - 34 - 7501



JDC Company profile



JDC, Inc. is a Japanese company with more than 30 years experience in the design and production of metal coils processing machinery and tools for slitter lines.

JDC was established in 1968 in Osaka for the development of civil engineering. In 1987 JDC moved their head office to Sasebo in order to concentrate on the business field of machinery and in 1994 a new office building and the Technical Development Center was opened.

In November 1st 2011 the company name of Japan Development Consultants ,Inc. will change in JDC, Inc.

Our worldwide patented machinery is installed in 34 different countries where we have sold more than 1000 belt-type tensioning devices and we have registered a total of 80 patents and trademarks.

JDC machinery for slitter lines

BELTBRIDLE™ type was launched into the international market at the beginning of 1980.

ROBELTOR™ type was presented in 1994

RB21™ type was developed in 2003 after our long years experience gained through the sale of more than 800 units of **Beltbridle and Robeltor**.

Since 2003 we have sold more than 250 **RB21™**



RB 21™



Ω Omega Type BELTBRIDLE™

JDC is specialized in the development and construction of patented belt-type strip-winding tension devices that are installed in the slitter lines between the loop-pit and the re-coiler.

Our tensioning devices are different from the traditional braking bridle that has only one roll that process all the slit strips at the same speed .

Our machinery is based on the exclusive multi endless belts system that process each slit strip at its specific speed, also in combination with the interchange from belt side to felt side by 180 degrees rotation.

JDC equipments for slitter lines

- **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



field of application of RB21

The field of application of RB21 is to rewind firm and tight coils and to provide a uniform tension for slit stripes of every kind of coil without scratching or marking the coil surface and with easy operation and maintenance work.

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. It is particularly recommended to slitting of coils with a thickness below 2 mm to a large number of stripes.

RB21™ is able to process many different kinds of coils at an operative speed up to 400 mt/minutes :

- high quality coils with delicate surfaces using belt bridle elements
- normal quality coils using the felt pad side.
- oily and wet coils using New Omega belts

| APPLICABLE SPECIFICATION OF COIL FOR STANDARD DESIGN specially designed machinery may be provided for application specifications beyond the standard performance | | RB 21™ | | | |
|--|--------|--|------------------------------------|---|--------------------------------------|
| | | belt element side for dry materials | felt pad side for dry materials | felt pad side for oily/wet materials | omega belt for oily/wet materials |
| Thickness range | mm | 0.1 up to 3.2 | 0.05 up to 6 | 0.1 up to 6.0 | 0.2 up to 5.0 |
| Maximum coil width | mm | 2300 | 2300 | 2300 | 2300 |
| Minimum slit width | mm | 15 | 10 | 10 | 20 |
| Maximum operating speed | mt/min | 400 | 400 | 400 | 300 |
| MAIN PROCESSED MATERIALS | | Bright-finished stainless steel | All non-delicate surface coils | All oiled/wet coils | All oiled/wet coils |
| | | Tin-plated steel | | All non- delicate surface coils | All delicate surface coils |
| | | Galvanized steel | | | |
| | | Silicon (magnetic) steel | | | |
| | | Pre-coated steel | | | |
| | | Rubber-coated steel | | | |
| | | Embossed steel | | | |
| | | Bright and coloured aluminium | | | |
| | | Bright brass and copper | | | |

RB 21™ processing oily / wet materials

RB21®™ is able to set "New Omega-belt" which has been developed for processing of even oily materials. JDC invented the New-Omega belt for treatment of oily-wet surface coils without any scratches on coil surface. This special belt can catch the wet coil surface by vacuum effect of the special pattern engraved on the belt surface. Recently, requirements for scratch-free processing of oily material are increasing especially for automobile use.



Omega type endless belt with rugged pattern



New Omega type endless belt with engraved pattern



The principle of the braking – tension generating method of RB 21™

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 smaller friction of the inner side of the belts which are set around the cooling water drums respectively upper and lower, therefore it is avoided the use of pulleys.

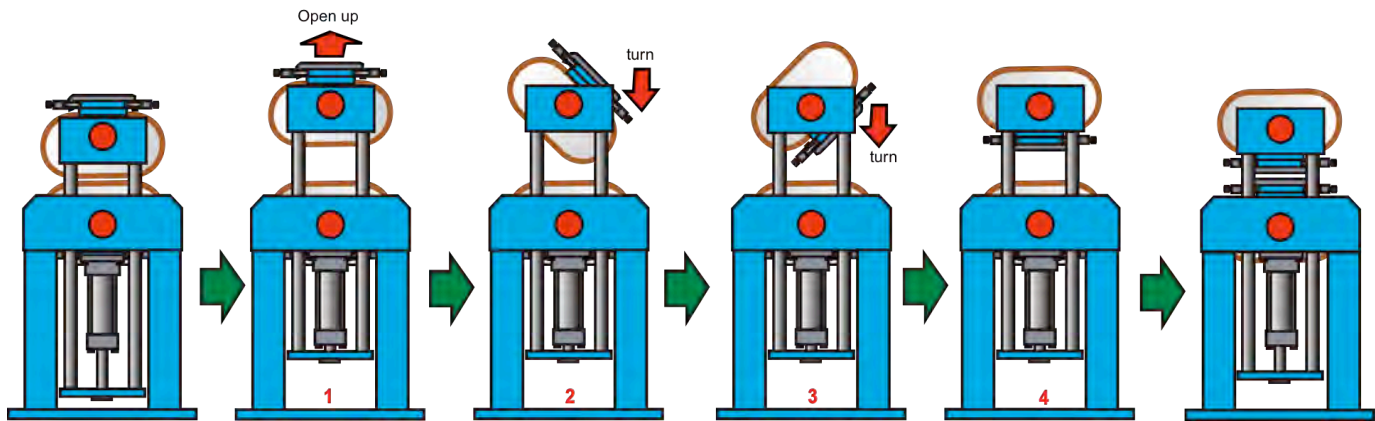
Friction heat is generated due to braking tension built up through the friction force at sliding part of the belt acting on the slider metal. The heat is carried off by the cooling water in the circulating system.

The belt tension device and the felt tension device are assembled together as a shape mono-frame.

One mono-frame set is located in the upper part and another one is located in the lower part of the stand structure.

The interchange from belts to felts side through 180° rotation of the mono-frames is carried out by the turning gear of the electric drive motor.

The suitable braking tension according to the thickness of the processed materials is easily controlled by a pressure-regulating device which is connected to two hydraulic cylinders located in the stand structure to apply a clamping force to the upper and lower mono-frame.



BELT BRIDLE ELEMENTS SIDE



FELT PAD ELEMENTS SIDE



QUICK INTERCHANGE BELT / FELT



COOLING WATER UNIT

RB 21™ may be installed on a movable cart

Entry side of RB21

The separator is a common spacer and disk assembly type by our standard design.

The following are available at extra cost:
our “**SealEX**” the air-expansion type shaft
or

our “**Auto-SealEX**” air-expansion type shaft with computerised automatic tool setting device.



Front view of RB21

The RB21 is installed on movable cart which is provided by the manufacturer of the line.



Backside view of RB21

The RB21 needs a hydraulic source, cooling water piping and an electric cable for control.

These utility pipes and cables shall be installed on movable cable-bear units at the rear of the RB21 unit.



Ω Omega type Beltbridge™ for processing of dry and oily / wet materials



Upper side

Dry type belts-elements

- The belts can catch dry-surface coils through the belt layer with a high friction coefficient.

Lower side

Wet type belts-elements

- The belts can catch wet-surface coils through the belt surface with a special pattern with vacuum effect.



Oiled surface coils are processed by lower wet-type belts.

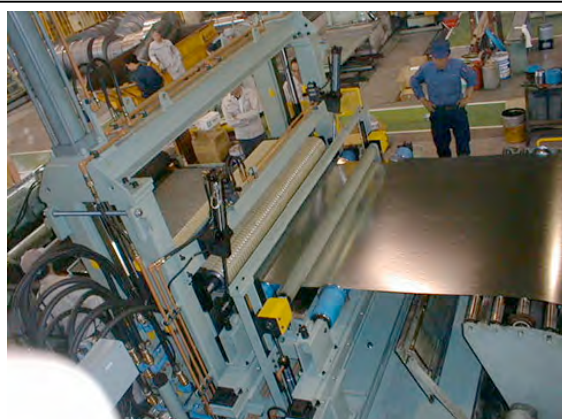
The outside of the belts catches oiled coil surface, while the inside of the belts generate tension due to the friction force acting against the sliding-metal parts.



Upper belt elements are at the position for the dry coil treating, lowered by hydraulic cylinders located on top.

While the dry-type belt elements are on the pass-line, wet-type belts-elements are evacuated to lower space in vertical stand.

Every belt element has special connecting / disconnecting fittings for lifting and lowering movements.



Dry surface coil such as galvanized or pre-painted coil is processed by upper dry-type belts. The dry-type belt is used also for non-ferrous materials, copper or copper alloy, etc..

| APPLICABLE SPECIFICATION OF COIL FOR STANDARD DESIGN specially designed machinery may be provided for application specifications beyond the standard performance | | Ω Omega type Beltbridge™ | |
|--|--------|---|---|
| | | Upper side : Dry type belt elements for dry materials only | Lower side : Wet type belts elements for oily/wet materials only |
| Thickness range | mm | 0.2 up to 3.2 | 0.2 up to 5.0 |
| Maximum coil width | mm | 2000 | 2000 |
| Minimum slit width | mm | 20 | 40 |
| Maximum operating speed | mt/min | 300 | 300 |
| PROCESSED MATERIALS | | All delicate dry surface coils | All delicate oily/wet surface coils |



Only one product in the world “ SealEX “™ : the tubeless type air-expansion shaft

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.

SealEX™ 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.

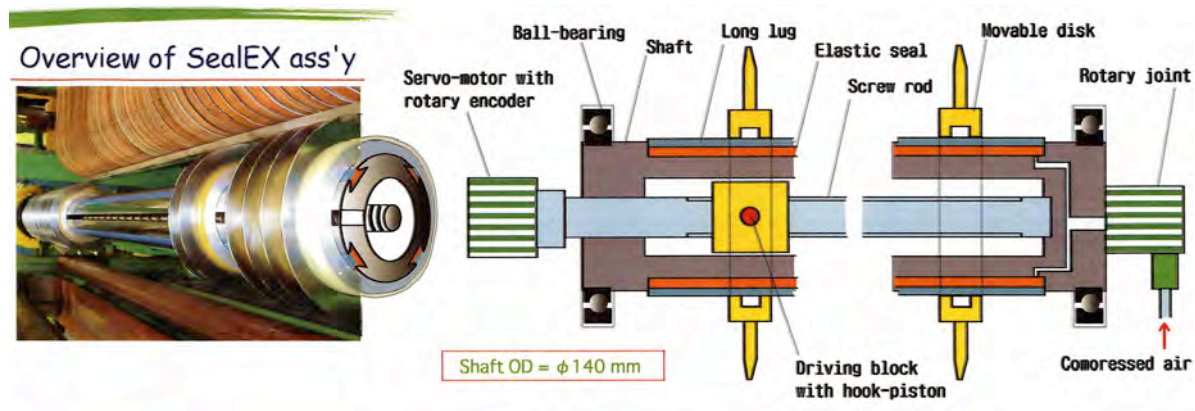
As soon as air is released, the long lugs return to the bottom of the grooves due to the reshaping nature of the elastic seal, then the rotary tools or cores can be moved freely.

*** Clear design** -. There are absolutely no movable parts around the shaft since the disk-driving device is arranged in the hollow shaft.

*** Safe & durable** - The disk-driving device (screw rod/driving block/hook piston) is protected by the shaft, therefore operations are safe and smooth.

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 very lightweight and thus rotates smoothly, even when processing thin gauge strips.



Only one product in the world “AutoSealEX”™ : the shaft with automatic tool-setting device

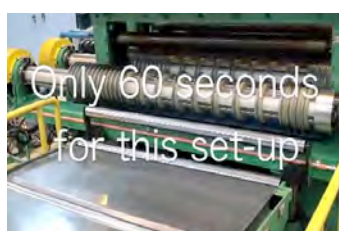
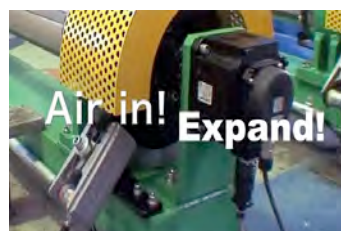
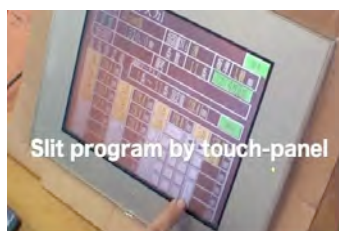
“AutoSealEX”™ is the motorized and computer-controlled version of the SealEX™

*** Computerized** - The servo-motor drives the screw and by a computer program sets each of the movable disks in accurate position.

*** Labor-saving & fast** - no need for setting thousands of disks and spacers as with conventional separators.

Set-up of the disks using "Auto-SealEX" only takes mere 1 to 2 minutes.

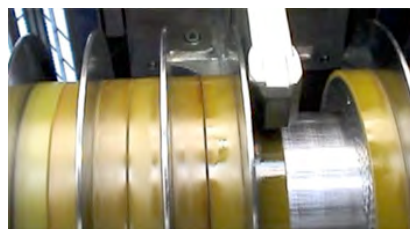
*** Repeat program** – Set- up is simplified due to the stored computer program. For performance of the same slitting process, only press one button on your key pad.



HYDEX™ : the hydraulic expansion separator shaft for heavy gauge coils



SLIT PROGRAM BY TOUCH PANEL



DISKS FIXED BY HYDRAULIC FORCE



USED ON RECOILER DRUM



ALSO USED BEFORE TENSION UNIT



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

Using simple a T-bar wrench, turn the pressure screw to push the pressure piston in so that the internally sealed oil is pressurized to push out the ring piston, which in turn presses the rotary tools, such as spacer and cutter for the slitter machine, into position. At the same time, the thrust power can be observed by the thrust-power indicator. Since the main body is made of aluminium alloy which has only one third the weight of steel, it can be easily handled by operators.



WITHOUT INNER-THREAD



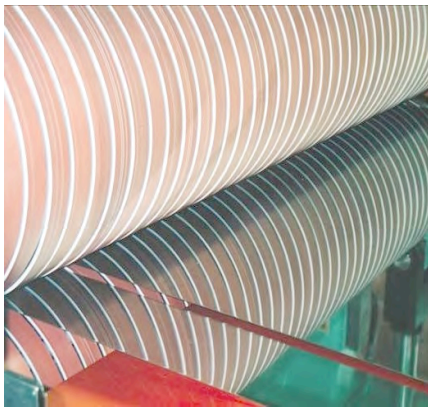
WITH INNER-THREAD



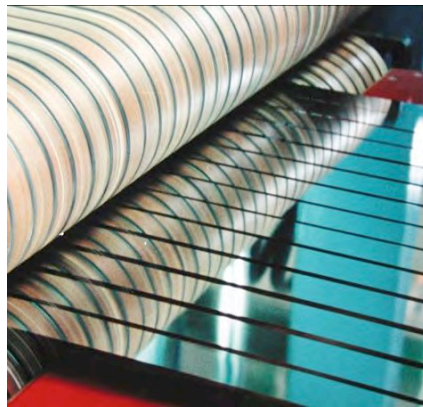
Countries where we have installed more than 1000 belt-type tensioning devices

| ASIA | EUROPE | AMERICA | AFRICA | AUSTRALIA |
|-------------|----------------|---------|--------------|-----------|
| JAPAN | GERMANY | USA | SOUTH AFRICA | AUSTRALIA |
| CHINA | ITALY | CANADA | | |
| TAIWAN | FRANCE | MEXICO | | |
| HONG KONG | SPAIN | BRASIL | | |
| KOREA | PORTUGAL | | | |
| PHILIPPINES | SWEDEN | | | |
| INDIA | NETHERLAND | | | |
| VIETNAM | BELGIUM | | | |
| MALAYSIA | UNITED KINGDOM | | | |
| THAILAND | SWITZERLAND | | | |
| SINGAPORE | POLAND | | | |
| INDONESIA | SLOVAKIA | | | |
| CAMBODIA | CZECH REPUBLIC | | | |
| | RUSSIA | | | |
| | TURKEY | | | |

Various kinds of delicate surface coils are processed by the belt-type tension device as follows :



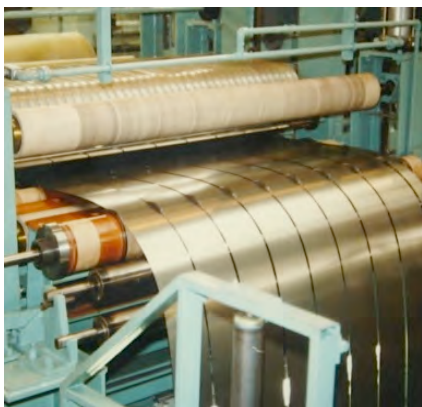
Bright-finished stainless



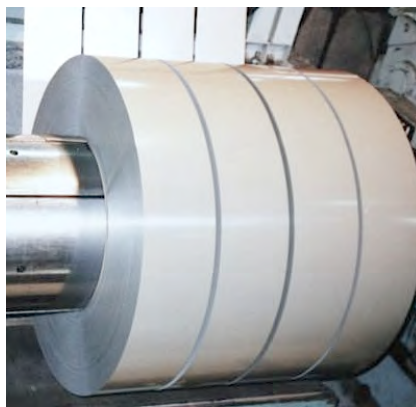
Tin-plated steel



Galvanized steel



Silicon steel



Pre-coated steel



Rubber-coated steel



Embossed steel



Bright Aluminium



Color Aluminium



Plastic-film covered Aluminium



Bright-finished Brass



Bright-finished Copper



For enquiries or if you wish to receive a quotation for one of our machines, please state the data below:

| ENQUIRY DATA SHEET | | |
|---|--------|--|
| Purpose : slitter – trimming – recoiling – coating – annealing or other purpose | | |
| Kind of coils (material) | | |
| Dry or wet coils | | |
| Line flow direction (from left to right or from right to left | | |
| Coil width | mm | |
| Coil thickness range | mm | |
| Minimum slit width | mm | |
| Maximum number of strips | pcs | |
| Maximum operating speed | mt/min | |
| Depth of looping-pit | mt | |

CONTACT

JDC, inc.

President : Mr. Yoshito Hashikawa

Head Office :

5-29 Hizukushi-cho, Sasebo-city, Nagasaki-ken
857-0852, Japan

Telephone: 0956-34-7500 Fax : 0956-34-7501

mail : business@jdc-inc.co.jp web site : www.jdc-inc.co.jp

JDC, inc.

Europe Liaison Office

managed by Mr. Saverio Adamo and Ms. Hisako Hashikawa

Via Ombrosa 2, Ponte Capriasca (TI),
Switzerland

Tel : +41-91-911-6420 Fax : +41-91-922-2928

mail : saverio.adamo@jdc-europe.com - hisako.hashikawa@jdc-europe.com

sale agents

China : Jinan Tri-Tiger Technology Development Co.,Ltd

Taiwan : Harvard Enterprises Corp.

Taiwan : Chen Kong Trading Co., LTD.

Korea : Nana Trading Corp.