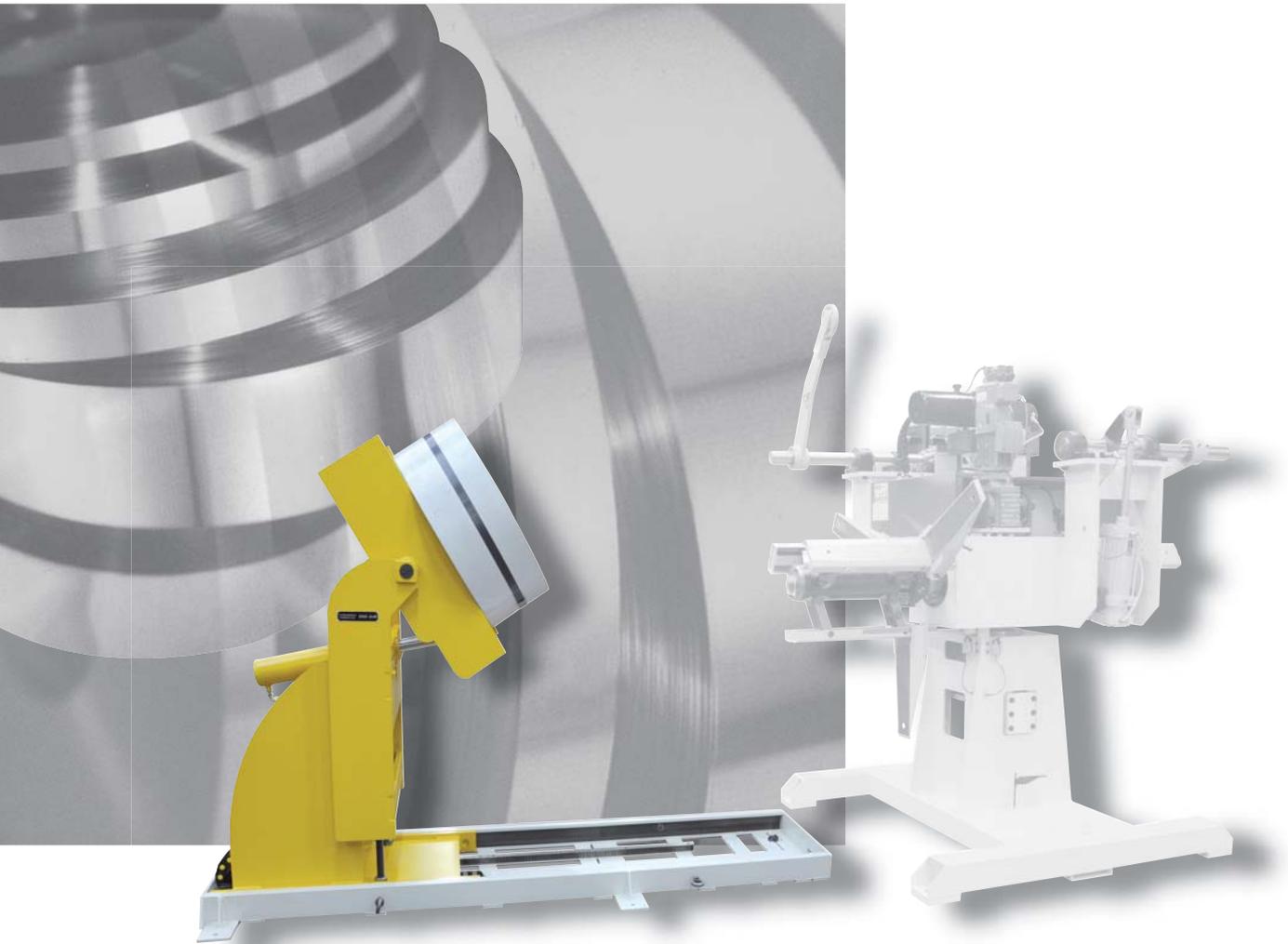


# **QUICK-COIL** SYSTEMS

**COIL CHANGE SYSTEMS FOR LEAN MANUFACTURING PROCESS**



 **DIMECO**

**QUICK CHANGEOVER FOR DIES, MOLDS AND COILS**

**[www.dimeco.com](http://www.dimeco.com)**

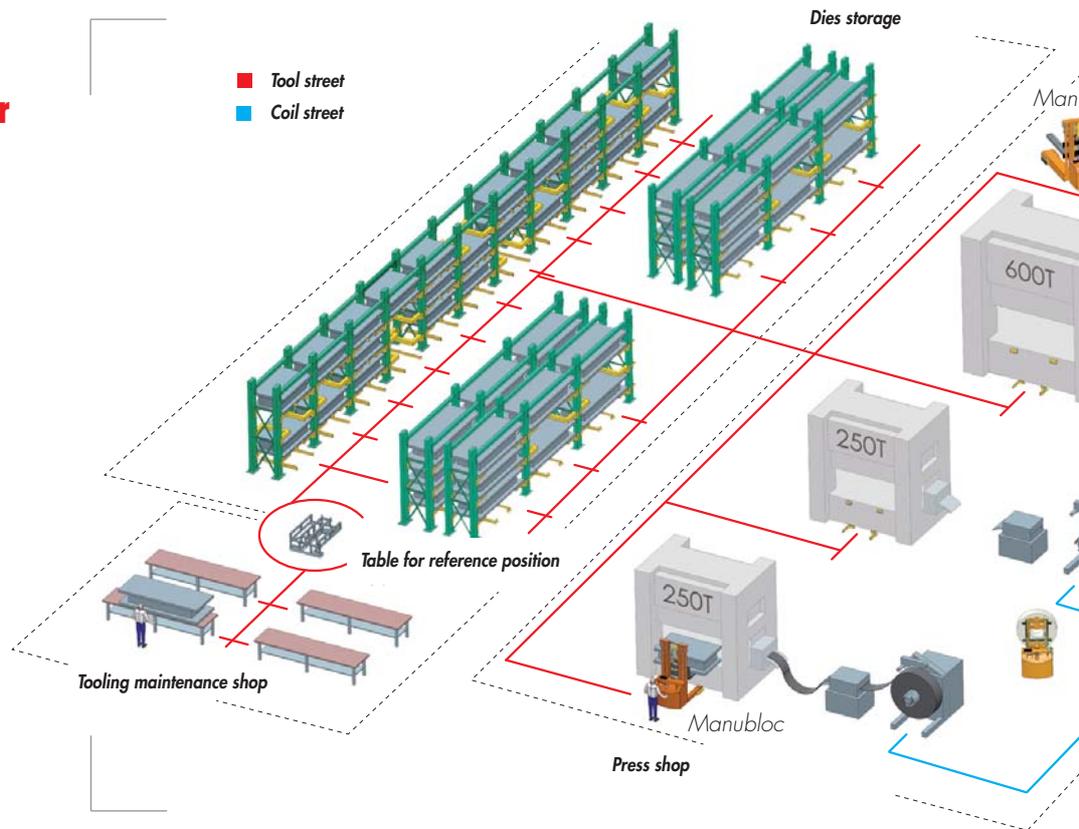
# SOLUTIONS FOR "LEAN MANUFACTURING"

dies flow management

**Thanks to our 20 years of experience in changeover optimization, we can bring you the optimal solution to your process**



the above catalogue shows our equipment dedicated to die change process for LEAN MANUFACTURING



## APPLICATION FIELD

The Dimeco equipment are well suited to O.E.M. and job-shops wishing to enhance the efficiency of their production units by applying the LEAN principles. They are mainly designed to load and unload dies on stamping press, but can also be suitable for applications in other similar activity. Our wide range of equipment allows us to offer competitive solutions to customers with several presses as well as to customers with only 1 or 2 machines. We offer solutions up to 20 tons For Dies handling, and up to 35 tons for coils handling

## WHAT IS LEAN MANUFACTURING?

LEAN MANUFACTURING is a trend to produce without waste. It uses several approach such as 5S, VSM, Takttime et SMED.

## WHY TO APPLY LEAN MANUFACTURING METHODOLOGY ?

The aim of the LEAN methodology is to maximize added value and to eliminate wastes. Direct gains are immediately made by using simple methods such as SMED.

Indeed SMED optimizes change-over time and thus improve productivity.

By example our equipment allow changing a press die or a coil in less than 6 minutes!

## OPERATOR SAFETY AND MEANS :

Our equipment makes handling safe for machines and operators as no manual action is required. The machine safety is also improved as all movements of truck are controlled through a PLC dictating movements in regards to the situation of the truck. Coil tilting is achieved without damaging the inside or outside of coils : Coil quality is fully preserved.

## PROFITABILITY

In addition to productivity and safety benefits, the saving becomes higher when handling noble materials. The material saving issued by a respectful handling makes the equipment payback very quick.

## FLEXIBILITY

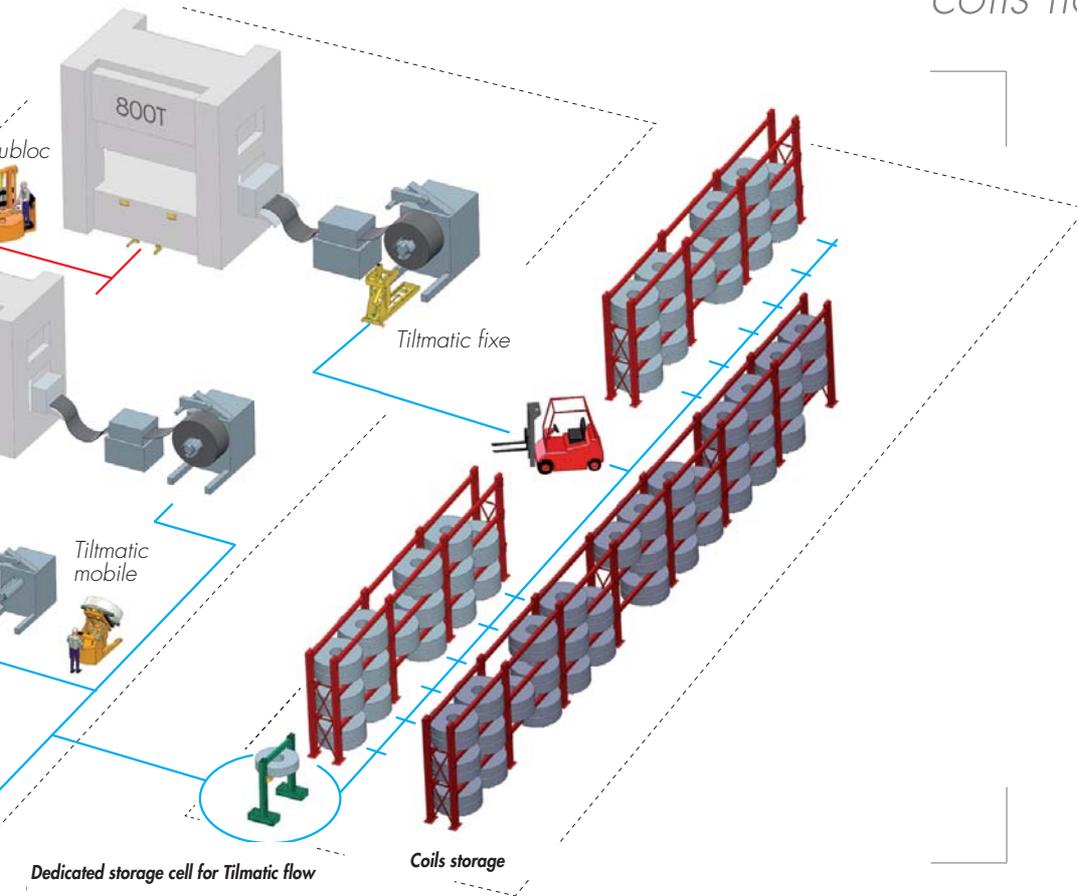
One die handling truck, allows to replace a 10 tons die-set in less than 6 minutes without manual action. This truck can be used for the whole workshop.

## FINANCING SOLUTION : TO RENT SOME OF OUR EQUIPMENT SUCH AS MOBILE

Tiltmatic® are classified as handling machines. Therefore, they are available for purchase but also for rent.

The lease can be supported by the company that currently maintains your handling equipment.

# coils flow management



Find out in the above catalog our products for systems change coils for LEAN MANUFACTURING

## SAFETY AND DIRECTION OF DELIVERY

Most of "narrow" coils (strip width < 500mm) are delivered on flat that is to say with coil axis in a vertical position. The "large" coils are delivered with coil axis in a horizontal position. Most of those coils are used on decoilers with horizontal axis. For narrow coils, it is absolutely necessary to tilt them before loading on the decoiler. This operation must be achieved using suitable means. For the large coils of several tons weight, the handling is a dangerous and long operation that must be achieved with specific means.

## "VSM" : VALUE STREAM MAPPING :

The application of the VSM method to the coil delivery mode highlights several considerations. By example we should select a very common flow in workshop i.e. :

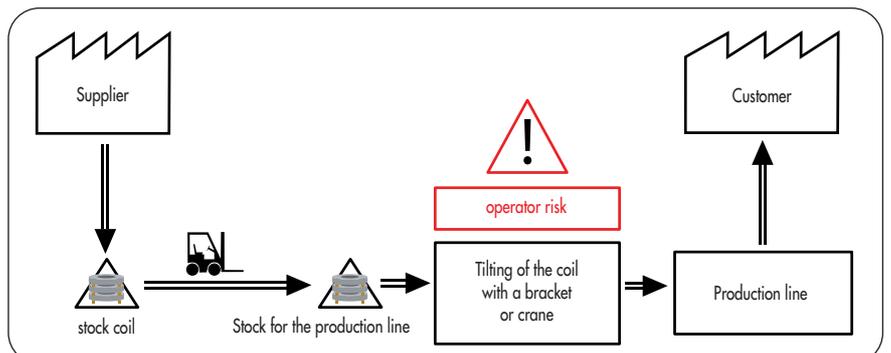
- Step 1** : coils delivery in the press workshop with a forklift truck.
  - Step 2** : Tilting and loading coil on the decoiler with a jib crane or a travelling crane.
- In this flow 2 problems are highlighted
- It is necessary to have 2 equipment available forklift truck and crane.
  - Coil tilting operation with a crane is VERY DANGEROUS.



Narrow coils delivered with vertical axis



Large coils delivered with horizontal axis



VSM analysis of a conventional flow of narrow coils supply

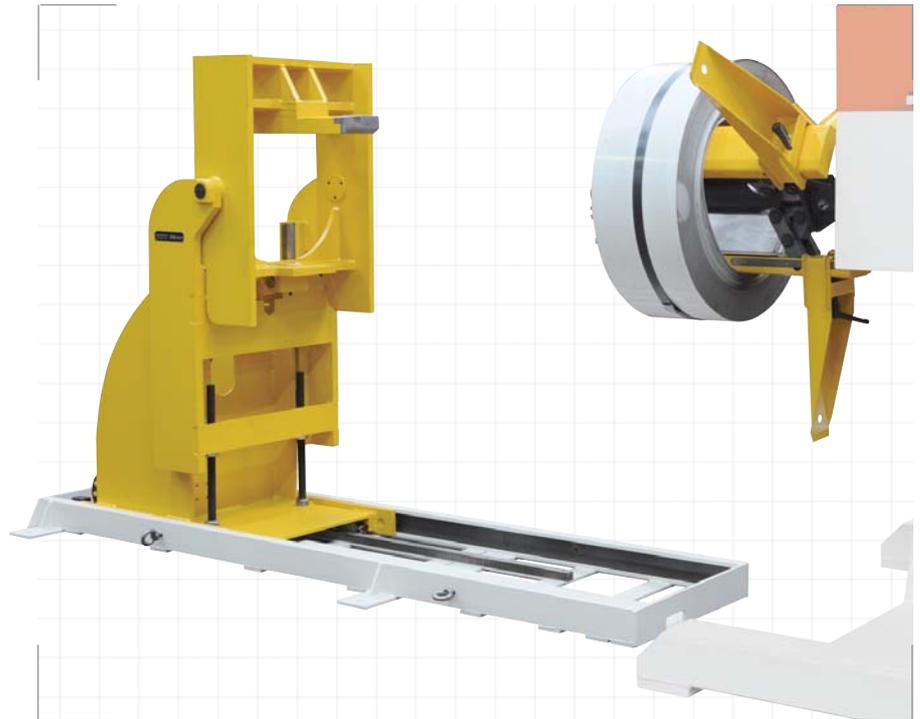
# COILS TILTER-LOADER

Tiltmatic® fixe

**100% safety : no more manual intervention for handling/unloading coil delivered on vertical axis**

## ADVANTAGES OF THE SOLUTION :

- the coil is Pre-load while the press line runs
  - Coil tilting is fully controlled : safety is improved
  - Coil tilting is achieved without damaging the inside or outside of coils : coil quality is fully preserved
  - The Tiltmatic® can raise or lay down coils so unfinished coils are stored the same as new coils.
  - The coil is held by a spur in-between the mandrel jaws : only 2 electrical movement are required within Tiltmatic® : translation and rotation.
- The mandrel expansion allows to collect or to drop the coil.



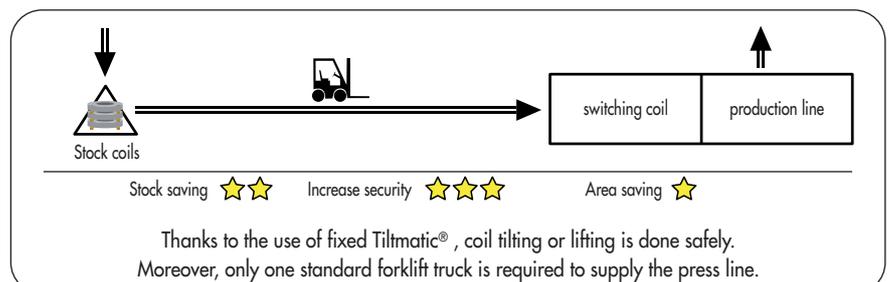
**Step N°1**  
coil loading on the Tiltmatic® by a forklift truck.



**Step N°2**  
coil revolution by hydraulic cylinder.

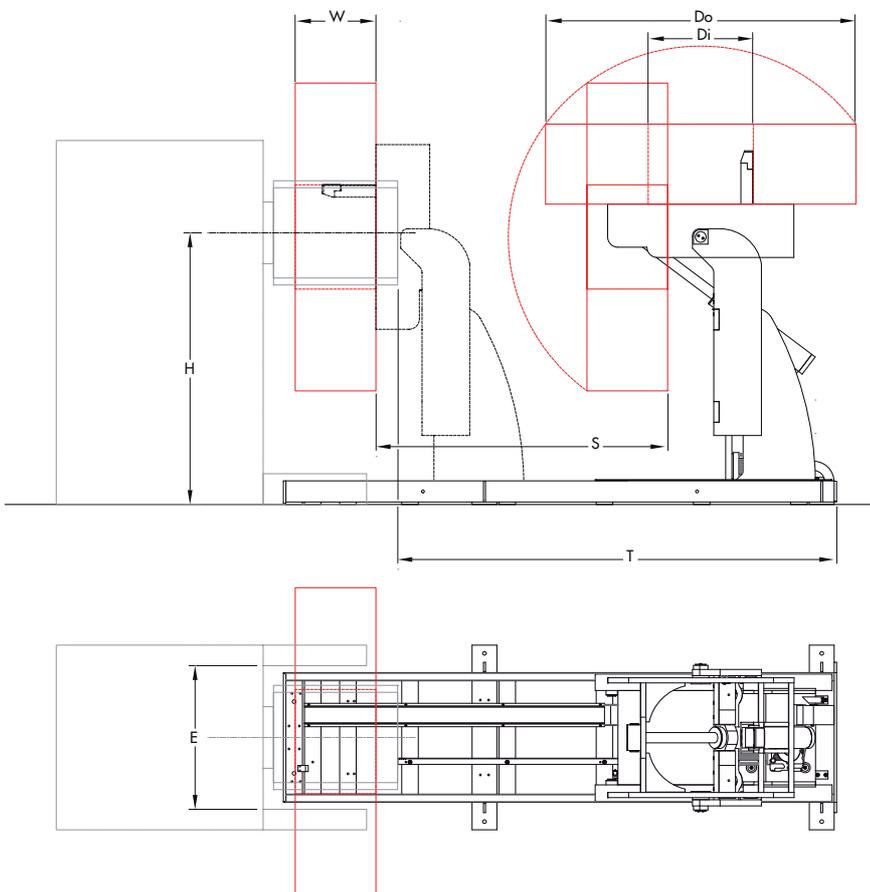


**Step N°3**  
Translation of Tiltmatic® and mandrel expansion. Once the mandrel is expanded, the Tiltmatic® can be moved back in order to be released from the coil.





Positioning of the coil in the core axis



#### ADAPTABLE TO YOUR DECOILERS

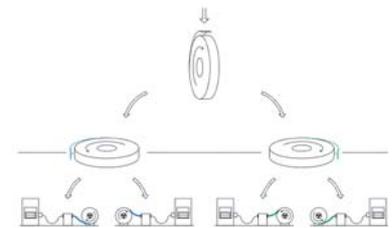
The Tiltmatic® is compatible with most of the decoilers available on the market. In case of incompatibility, we can adapt the Tiltmatic® to your decoiler sizes.

#### NARROW COILS LOADING

When the decoiler must be loaded with both large and narrow coils, it may be necessary to load narrow coils in 2 steps. This operation is not harmful as it takes less than one minute.

#### DIRECTION OF UNWINDING

during coil packaging operation, your supplier chooses to deliver coil to clockwise or anti-clockwise orientation.



The fixed Tiltmatic® cannot reverse the coil, it is then necessary to work with your supplier so that the coils are delivered with the right orientation.

Model	Coil			Decoiler		Tiltmatic®		
	weight max (kg)	W max (mm)	Do* max (mm)	Di (mm)	H (mm)	E (mm)	S (mm)	T mini ** (mm)
TILT FIX 30.500	3 000	500	1900 --> 2500	508	1100 --> 1500	640	1450	1855
TILT FIX 45.500	4 500	500	1900 --> 2500	508	1100 --> 1500	640	1450	1855
TILT FIX 65.500	6 500	500	1850 --> 2450	508	1100 --> 1500	660	1650	2050
TILT FIX 80.500	8 000	500	1800 --> 2400	508	1100 --> 1500	660	1650	2050
TILT FIX 100.500	10 000	500	1800 --> 2400	508	1100 --> 1500	700	1750	2150

Do\* max : is dedicated by the height of the axis of the reel mandrel "H"

T mini \*\* : for coil outer diameter (Do) 1800 mm and coil width (W) 500 mm.

# MOBILE COILS TILTER-LOADER

Tiltmatic® mobile

**Only one equipment  
to load & unload  
all the coils in a workshop  
without manual action**

## ADVANTAGES OF THE SOLUTION

- Coil tilting is fully controlled : safety is improved
- The mobile Tiltmatic® can be used for all the press lines in a workshop : only 1 device is required so space.
- The Tiltmatic® can raise or lay down coils so unfinished coils are stored the same as new coils.
- Coil tilting is achieved without damaging the inside l or outside of coils : coil quality is fully preserved.
- The Tiltmatic® requires a qualification to be driven (pedestrian operator).
- The lifting cylinders allows to drop the coil on the mandrel jaws and also allow to load decoilers with different heights.



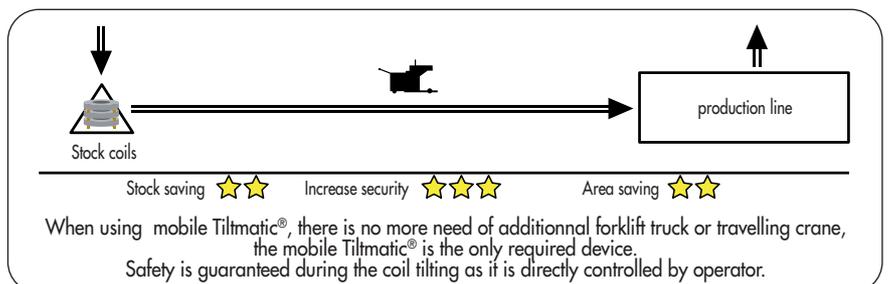
**Step N°1**  
coil pick-up by the mobile Tiltmatic® on the storage rack.



**Step N°2**  
coil rotation on the mobile Tiltmatic®.

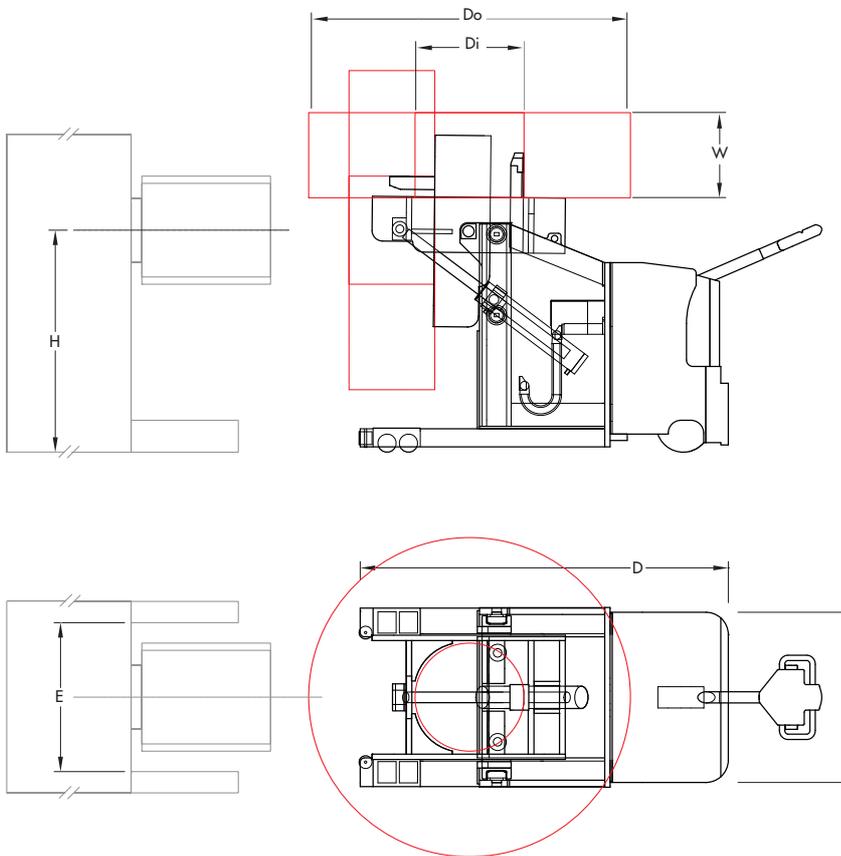


**Step N°3**  
Then the operator can place the coil on the decoiler as simply as it puts a pallet on a pallet rack.





Before production change, the warehouse prepares the coil for next production by locating it into a specific cell in the storage rack.



#### DRIVING

The basic version is for pedestrian driver, but we can offer alternatives for standing or sitting drivers.

#### SECURITY

The Tiltmatic® mobile is controlled by PLC dictating all movements in regards the truck situation

#### DIRECTION OF UNWINDING

The mobile Tiltmatic® cannot reverse the coil, it is then necessary to work with your supplier so that the coils are delivered with the right orientation.

Model	Coil				Decoiler H (mm)	Tiltmatic®	
	weight max (kg)	W max (mm)	Do* max (mm)	Di (mm)		E (mm)	D (mm)
TILT MOB 15.300	1 500	300	1300	508	1100 --> 1500	850	1715
TILT MOB 30.500	3 000	500	1300	508	1100 --> 1500	1050	2020
TILT MOB 45.500	4 500	500	1400	508	1100 --> 1500	1050	2020
TILT MOB 65.500	6 500	500	1500	508	1100 --> 1500	1050	2250
TILT MOB 80.500	8 000	500	1700	508	1100 --> 1500	1050	2250
TILT MOB 100.500	10 000	500	1800	508	1100 --> 1500	1400	2400

\* Do Max depends on the height of the axis of the reel mandrel "H"



PRSV 30.450

# COIL TILTING STATION

coil tilter<sup>®</sup>

**Stand alone station  
to perform safe tilting  
operation.**

## BENEFITS OF THE SOLUTION

- Coil tilting is fully controlled : safety is improved.
- Coil tilting is achieved without damaging the inside and outside of coils : coil quality is fully preserved.

## TECHNICAL DATA

- Integrated hydraulic power pack.
- Coil holder/support designed for loading by a forklift and unloading by a crane.
- Mobile part equip with safety edge system to avoid the risk of the operator being crushed.



Crane hook with end stop helps driver for coil positioning align with center of gravity.

coil tilter® & crane hook



On specific customer requirement,  
we are able to design customized solution.

MODEL dimension of other models on request	Maximum coil			Tilter	
	Weight kg	Outer ø mm	Height mm	Length mm	Width mm
VIR L 30 150x100	3000	1500	1000	2580	1200
VIR L 50 180x100	5000	1800	1000	2780	1200
VIR L 80 180x100	8000	1800	1000	2780	1200
VIR L 100 180x100	10000	1800	1000	2780	1200

# LOADING "V" FOR COIL

Coil-Car® & Coil-Lifter®

**Prepare your coils while the line runs and ease the loading on the decoiler !**

## ADVANTAGES OF THE SOLUTION

- providing coil to the line often use a travelling crane or a forklift. The loading "V" allows to do this operation while the line works.
- Thanks to the hydraulic elevation, the loading "V" facilitates the coil insertion on the decoiler mandrel.
- Its big elevation stroke allows loading/unloading coils of large and small diameter in one go.
- Operator does not need any driving license.



**Step N°1**

Coil drop by travelling crane or forklift while the line operates.



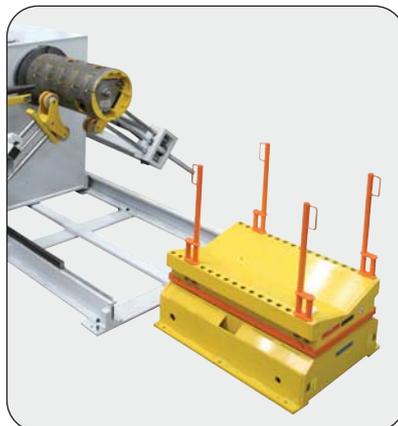
**Step N°2**

Coil translation and level adjustment.



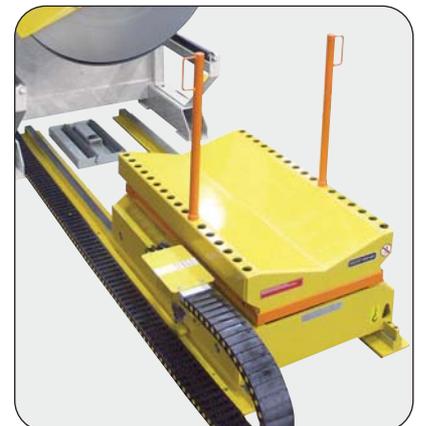
**Step N°3**

loading coil on the decoiler mandrel.



**Coil-Car® CCS**

Fixed loading "V" for mobile decoiler.



**Coil-Lifter® CLF**

Mobile loading "V" for fixed decoiler.

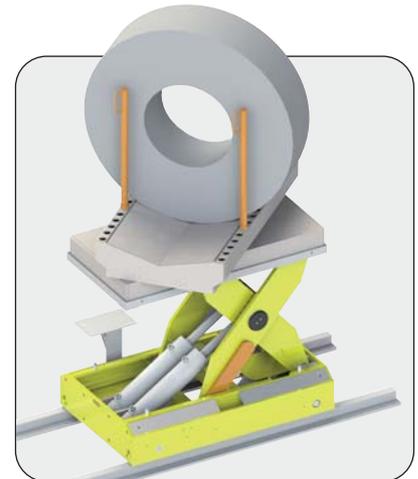
## Different versions of "V"



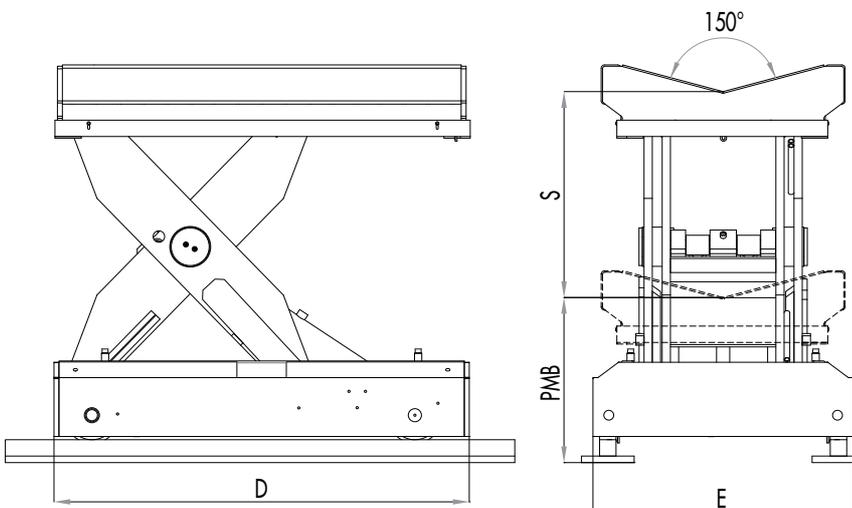
Simple "V"  
CCS 8T SV ELEC



Version RM : powered rolls  
For unpowered decoiler.



Rotating cap, for version  
- R90 : rotation at 90° for removing the coil on the "V" perpendicularly on the line.  
- R180 : rotation at 180° allows choosing the direction of unwinding without the need of a travelling crane or a forklift truck.



### WEIGHT MONITORING OPTION

In option, we can integrate a system to measure coil weight.

### ANCILLARIES

- For coil-car version, we offer the rails for translation (price per meter).
- For narrow coils, safety bars to prevent coil tilting are offered: simple model BCME and heavy duty model for difficult applications (BCMD).
- Support (BCMS) is used to store the safety bars when not in use.

### CONTROL AND POWER SUPPLY

As basic version, our Coil-Cars® are delivered without hydraulic powerpack and control box. We offer them as options.

### MOTORIZATION

As basic version the Coil-Cars®, translation is performed by hydraulic motor (TH version). As option, we can offer an electrical translation (TE version).

Modèle	S	PMB* (mm) Coil-Car CCS		PMB* (mm) Coil-Lifter CLF		D*	E
		CCS SV	CCS RM	CLF SV	CLF RM		
(kg)	(mm)					(mm)	(mm)
3 000	615	473	615	413	555	1074	710
4 500	615	473	615	413	555	1074	710
6 500	625	483	625	423	565	1260	790
8 000	625	483	625	423	565	1260	790
12 500	706	550	706	490	646	1290	890
15 000	706	550	706	490	646	1290	890
20 000	756	600	756	540	696	1330	1030
25 000	800	610	-	680	-	1630	1250
35 000	-	-	-	-	-	-	-

\*BDP : Bottom Dead Point : only for simple "V" model  
Dimensions of other models on request.

\*D : only for hydraulic translation model

# COILS STORE MULTI-COIL®

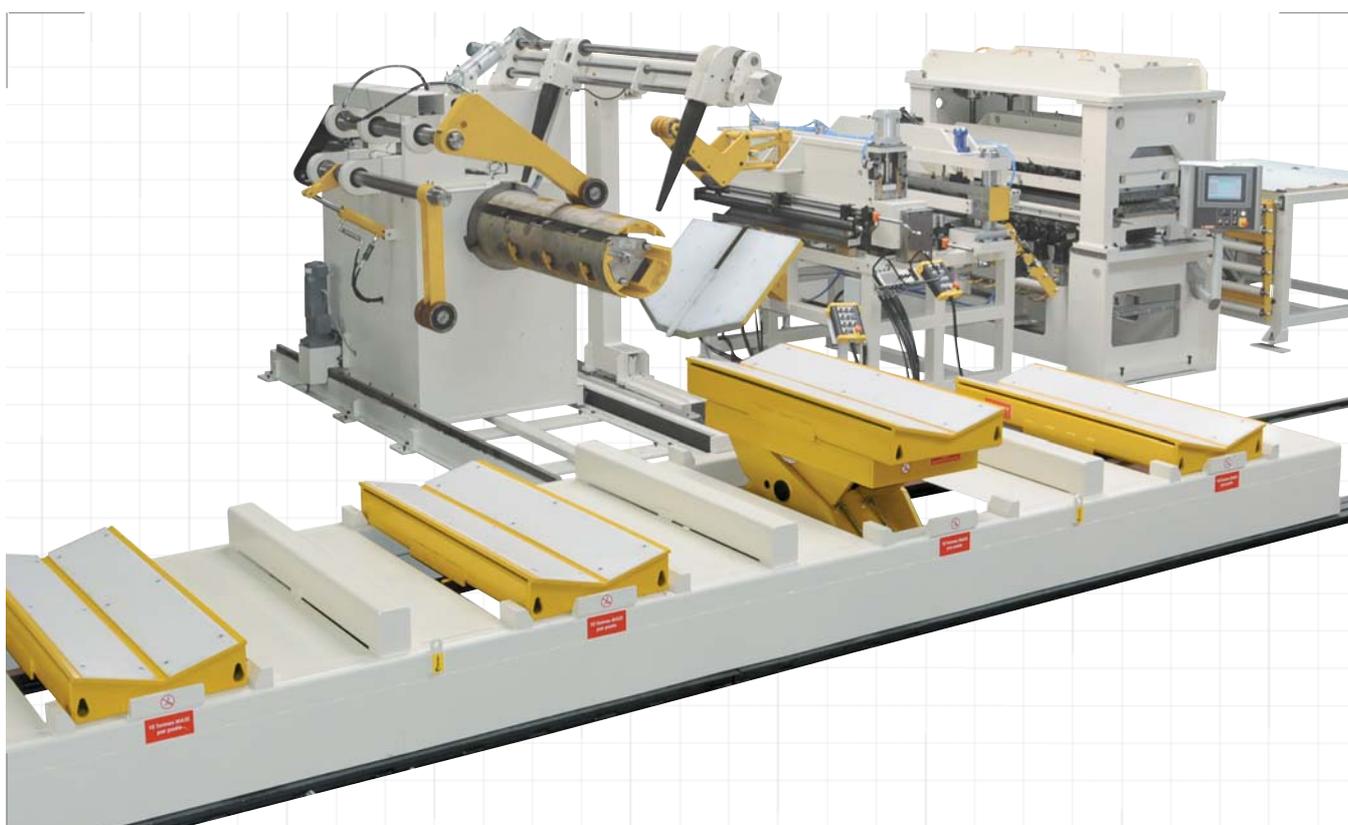
Multi-Coil® for moveable uncoilers

**several coils are permanently available for the production line**

## ADVANTAGES

several coils are permanently available for the production line.

Coils can be loaded on the Multi-Coil® store while the line works. The store can move long distance to be loaded with coils directly in the coils storage area.



## ONLY ONE COIL-LIFTER

The store is moving above the Coil-lifter. The store locates the selected coil + "V" support over the the Coil-lifter.

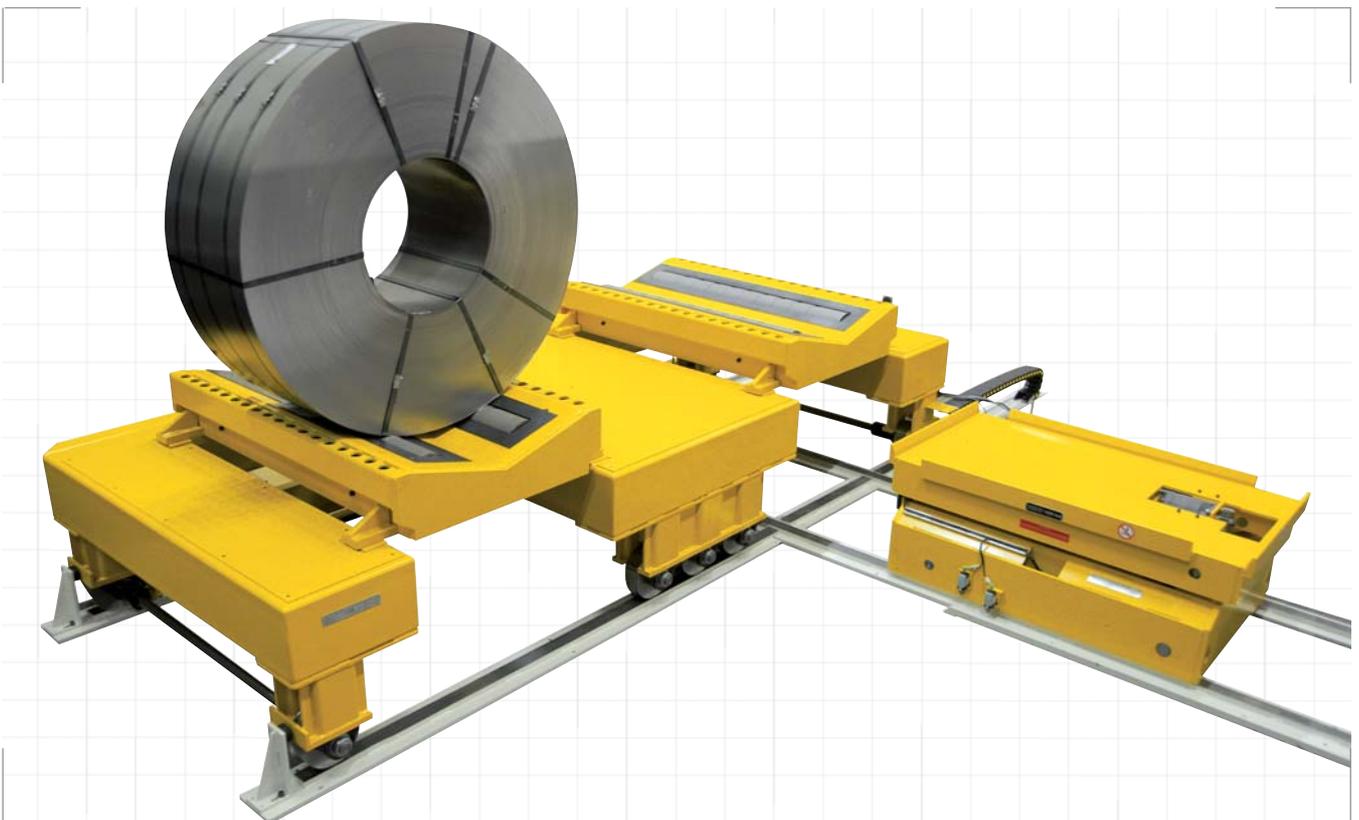
## OPTION

Cover of plastic on loading "V" in order to not damage the first turn of the coils

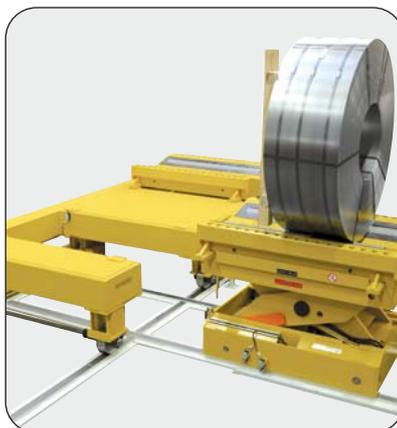


Multi-Coil® 4x10 tons,  
for moveable decoiler

## Multi-Coil® fixed decoiler model



Multi-Coil® 2x15 tons RM  
for fixed decoiler



### CONSTRUCTION

This design is specially suitable for existing installations. The translation of the Coil-Car is used to place the Coil on the mandrel but also to collect the "coil + V support" in the store.

### AS OPTION

Powered rolls are fitted on the Loading "V" to facilitate the insertion of material into the straightener.

# COIL STORAGE –LINE EDGE

Storage on floor

**Ideal way to store coils for current production !**

## COILS CONTAINERS

### ADVANTAGES OF THE SOLUTION

Rotobloc-PSP Containers allows coil stacking up to 3 levels

- Handling is made with a simple forklift.
- Coils are stored safely.
- Standard model for coils.
- Other models on request.

Supplying your workshop with coils becomes as simple as moving a pallet.



Coils containers



**Store safely your coils along your line**

## SUPPORT FOR COILS STORAGE ON FLOOR

### ADVANTAGES OF THE SOLUTION

- No installation, 3 meters module are delivered as one piece.
- Separation bars are adjustable to be located as close as possible to the coil



Storage Module



**Modular storage solution for narrow and wide coil**

## MODULAR STORAGE SYSTEM ON FLOOR FOR COILS

### ADVANTAGES OF THE SOLUTION

- Narrow coil are safely stored lengthwise.
- Large coils can be stacked crosswise.
- Modular construction: the area separators or corners are easily moveable.



Modular storage system on floor

# STORAGE SURFACE IMPROVED

Optimized storage surface



Extra-large coils holder 3x11 tons



Extra-large coils holder 5x10 tons



Extra-large coils holder  
2 cells located back to back



Extra-large coils holder  
anti slippage surface

**Easy access to all your coils and minimum space requirement**

## ADVANTAGES

- Storage up to 6 meters high allows to optimize the storage surface.
- Without suitable means, coils of different references are often stacked on each other. To match with FIFO is not possible as it is necessary to move several coils to get the selected reference. The use of storage racks allows to access easily to any coil.
- Thanks to their rigid construction, our storage racks have a very big capacity : up to 70 tons per side frame.
- Based on our standard modules, we adapt our storage racks to your coils dimensions as well as to your workshop.



**Press shop  
automation**



**Handling  
and storage  
tool and molds**



**Equipment  
for press  
environment**



 **DIMECO**

2, rue du chêne - Z.I. la Louvière - 25480 PIREY - FRANCE

**Tél. +33 (0)3 81 48 38 00**

Fax +33 (0)3 81 48 38 28

[contact@dimeco.com](mailto:contact@dimeco.com) [www.dimeco.com](http://www.dimeco.com)