renova
WE NEVER LOSE CONTROL

duplex

ROLL EJECTOR CHUCK

duplex

One of a kind

We listen to the market needs and, because of this, we are able to build products that perfectly match our customer's needs and also to continue innovation in the field of industrial web tension control systems.

- How to have always a perfect grip on any material core?
- How to eliminate the paper waste problem?
- How to eliminate blocked rolls on roll stands and ensure the highest safety level for the operator and the machine during the roll change?

It is from customers feedback and collaboration with world known machine builders and end users that we designed the Duplex, a roll ejetor chuck for roll stands.

Duplex obtained the international patent for its unique and revolutionary technology.

Duplex reduces risks for the operator according to the Technical Standards ISO 11228 Ergonomics - Manual Handling, "Lifting and Carrying" and "Handling of low loads at high frequency".

Click on the “play” icons in this catalog and see demonstration videos!

MOST COMMON ROLL STAND PROBLEMS

SLIP-GRIP

Customers report cases of damaged cores when low quality material cores and reduced core thickness make cores fragile and sensitive to surface damages.
This leads to slip-grip.

Slip-grip means paper waste

PAPER WASTE

Paper waste most often occurs:

- during splicing
- because of an incomplete unwinding of the roll
- due to core damage (cores can’t be reused)
- due to damaged residual meters of paper on the core (paper can't be used)

Paper waste means money waste

STUCK ROLLS ON ROLL STAND

Mechanical chucks technologies can incur in the incomplete ejection of cores or rolls from the roll stand.

Stuck rolls on roll stand means low safety level for the operator and possible damage to the machine.

LOW SAFETY LEVEL DURING THE ROLL CHANGE

The incomplete ejection of cores or rolls during the roll change involves the manual intervention with levers or other tools for the discharge of blocked rolls from the roll stands.

The use of levers and the manual intervention may imply high probability of operator injuries or machine damages and it is not compliant with the Technical Standards ISO 11228 Ergonomic - "Lifting & Carrying’’ and ‘’Handling of loads at high frequency’’.

DUPLEX SOLUTION

Duplex combines the high quality of Renova's mechanical torque chuck with a pneumatic telescopic piston.

CORE CHUCK

NO MORE SLIP-GRIP ON ANY CORE

Perfect grip always ensured to every material core from first phase of work. Duplex does not damage cores (cores can be reused).

ZERO END-OF-ROLL WASTE

By avoiding the core slippage problem and preventing the lateral damage of the roll, duplex eliminates the paper waste.

PNEUMATIC PISTON

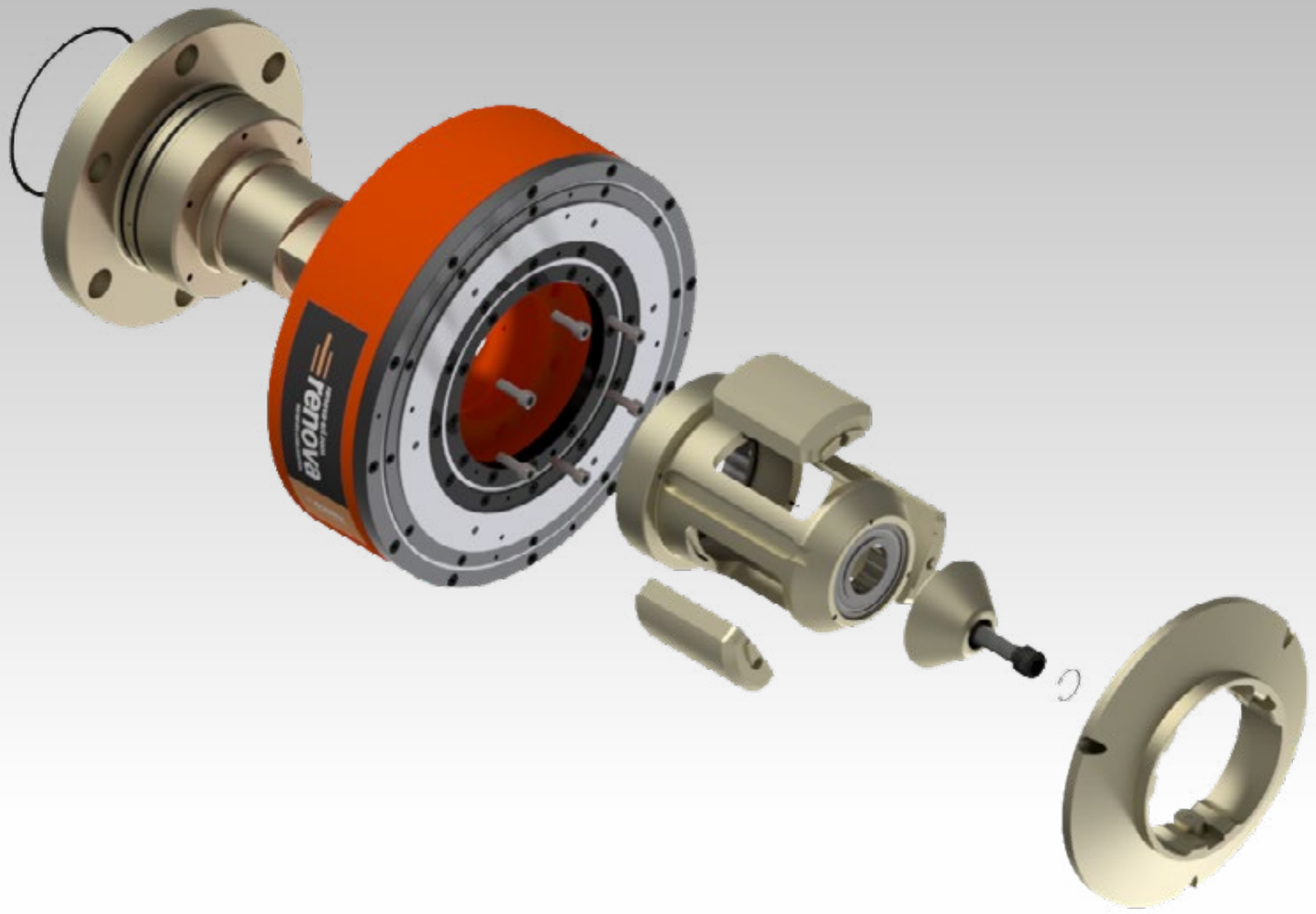
NO MORE JAMMED ROLLS

Automated ejection of every dimension roll always ensured even in the case of damaged cores.

HIGHER SAFETY LEVEL

Duplex prevents injuries as it eliminates the manual intervention with levers or other tools for the discharge of blocked rolls.

REVOLUTIONARY PATENTED TECHNOLOGY



CORE CHUCK

uses the movement of the reel to expand the jaws and automatically block and center the reel core

ROTARY CYLINDER

rotary cylinder with pneumatic telescopic piston which is concentric to the chuck

IMPRESSIVE EJECTION FORCE

piston's coaxial thrust force of 2000 kg (first stage) + 1000 kg (second and final stage) at 6 bar, applied directly to the roll

NO-FALL-DOWN SYSTEM

eliminates the dropping of the jaws while removing the chuck cage for cleaning purposes

ANTI-UNSCREW CAP

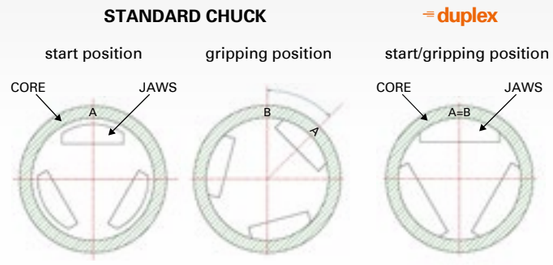
the new system doesn't need Loctite glue for the cap installation which remains screwed on despite continuous vibrations

EJECTION FLANGE

new design carefully studied to avoid any core and roll damages

FASTEST GRIP EVER

fastest core engagement in the industry: the tight clearance between core and chuck reduces engagement time



ZERO PAPER WASTE

Optimizing paper production processes and reducing waste is fundamental for safeguarding the plant's economy as well as for pursuing ecological purposes.

DUPLEX SAVINGS CALCULATOR

Are you aware of how much paper your factory wastes every day, month and year?
How much could you save by eliminating the waste of paper on your reel holder?

Click and get to the Duplex savings free calculator

HIGHER SAFETY LEVEL

Duplex always ensures the automated ejection of rolls of any size and prevents injuries by eliminating the manual intervention with levers or other tools for the discharge of blocked rolls.

SAFETY STANDARDS COMPLIANT

Duplex reduces risks for the operator according to the Technical Standards ISO 11228 “Ergonomics Lifting & Carrying” and “Handling of low loads at high frequency’’.

NO MORE RESIDUAL PAPER
NO MORE DAMAGED CORES

NO MORE JAMMED ROLLS
ON ROLL STAND

100% FITS ALL ROLL STANDS

Duplex is ideal for roll stands without an existing core ejector system or with automatic OEM original ejector system.

EXPULSION TECHNOLOGIES COMPARED

Expulsion technologies currently available on the market

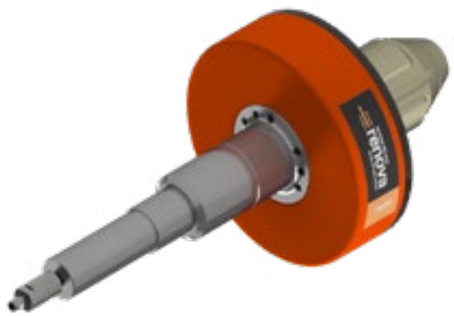
	roll stand without ejector	mechanical chuck with spring	pneumatic ejector with fork	mechanical chuck with spring ejection cylinder	duplex
reel core ejection	X	✓	✓	✓	✓
ejection of 1000 mm diameter roll	X	X	✓	X	✓
ejection of 1600 mm diameter roll	X	X	X	X	✓
coaxial thrust force of the ejector	X	✓	X	✓	✓
roll ejection 100% ensured	X	X	X	X	✓
ejector free of dust and debris always working	X	✓	X	X	✓
absence of axial counter thrust during the loading phase	X	X	X	X	✓
automatic re-enter of the ejector	X	X	X	X	✓
complete visibility and safety during loading	✓	✓	X	X	✓
no maintenance	X	✓	X	X	✓
total safety of the operations always ensured	X	X	X	X	✓

CONFIGURATIONS

MOUNTING CONFIGURATIONS

MOUNTING FLANGE (+ rotary joint)

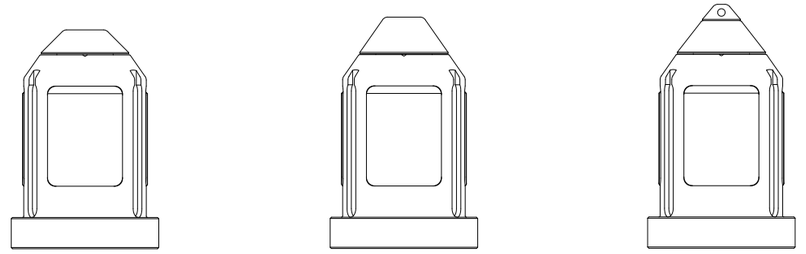
- Customizable mounting flange that interfaces with the customer existing shaft. The shaft allows the air passage to the pneumatic cylinder.
- Easy and fast installation
- Compact cylinder
- Ideal for unwinders and rewinder



ROLL STAND ARM SHAFT (+ rotary joint)

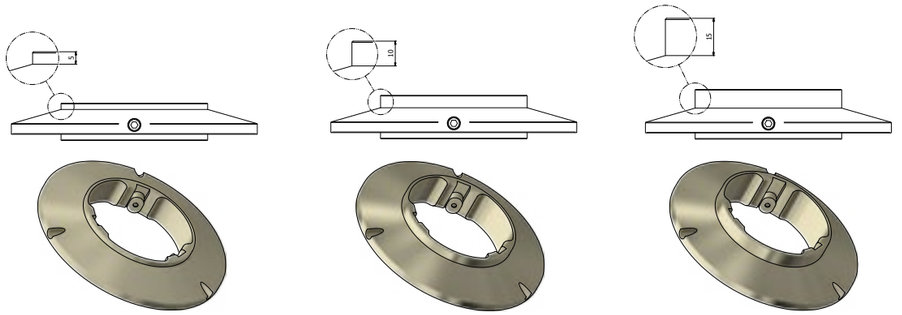
- A reproduction of the customer rollstand arm shaft which interfaces with the Duplex. The shaft allows the air passage to the pneumatic cylinder.
- 100% Plug&Play
- No changes to the machine needed

CAP CONFIGURATIONS



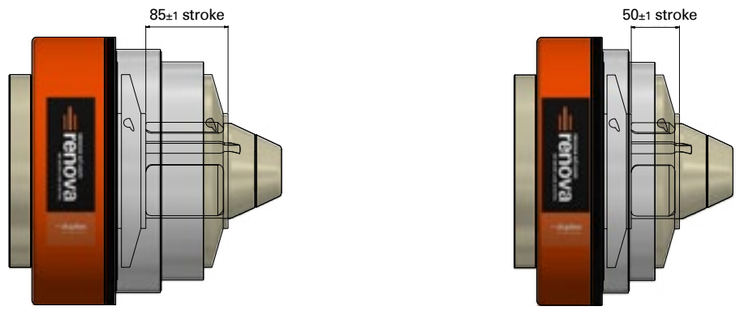
S M L

EJECTION FLANGE THICKNESS CONFIGURATIONS



5 mm 10 mm 15 mm

CYLINDER CONFIGURATIONS



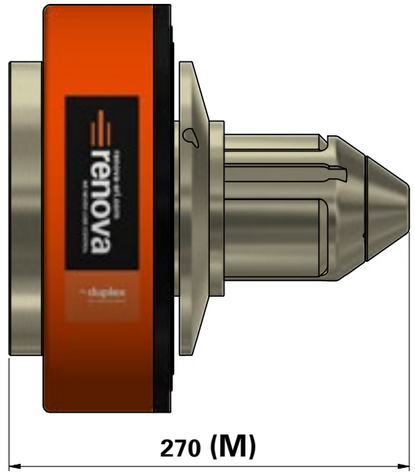
standard compact

DUPLEX RANGE CONFIGURATIONS

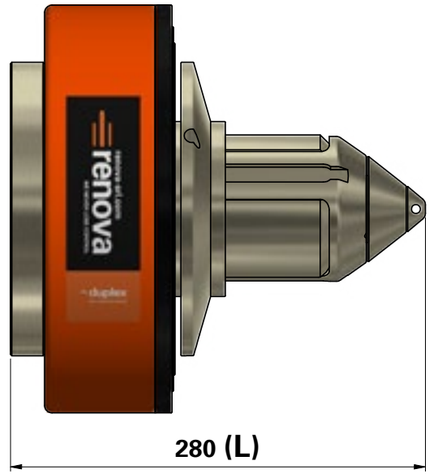
STANDARD CYLINDER

"S" TYPE

"M" TYPE



"L" TYPE



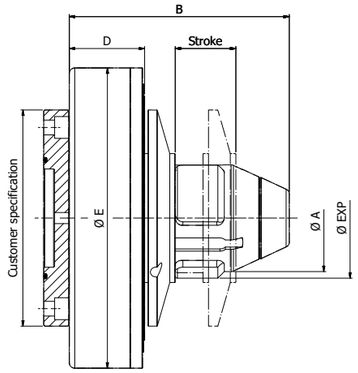
COMPACT CYLINDER

DUPLEX MODELS

CK-XC

SINGLE DIAMETER ROLL EJECTOR CHUCK WITH MOUNTING FLANGE

Duplex CK-XC with single diameter chuck, available for single core diameters.
Equipped with mounting flange and provided with rotary joint.



CHUCK PERFORMANCE		
chuck diameter	load capacity [N]	torque [Nm]
70 mm	18000	1150
75 mm		
3''		
100 mm	45000	2500
4''		
120 mm		
5''		

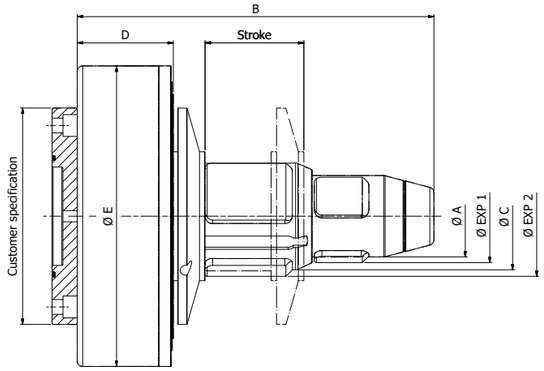
	CHUCK DIMENSIONS						
core diameter	70 mm	75 mm	3''	100 mm	4''	120 mm	5''
A [mm]	69,5	74,5	74,5	98	98	118	125
Ø EXP	70÷79	75÷85	76,2÷86,2	100÷110	101,6÷111,6	119÷129	126÷136
B [mm]	min 190 - max 280						
D [mm]	69 - 88						
E [mm]	275						

	PNEUMATIC CYLINDER
air supply	6 bar
first piston thrust force	20000 N
second piston thrust force	10000 N
stroke	50 - 85 mm

CK-XC/SDD

DOUBLE DIAMETER ROLL EJECTOR CHUCK WITH MOUNTING FLANGE

Duplex CK-XC/SDD with stepped chuck that allows to run multiple core sizes.
Equipped with mounting flange and provided with rotary joint.



CHUCK PERFORMANCE		
chuck diameter	load capacity [N]	torque [Nm]
70 - 100 mm	18000 - 45000	1150 - 2500
75 - 100 mm		
3"-100 mm		
70 mm - 4"		
75 mm - 4"		
3"- 4"		
70 - 120 mm		
75 - 120 mm		
3"- 120 mm		
70 mm - 5"		
75 mm - 5"		
3"- 5''		

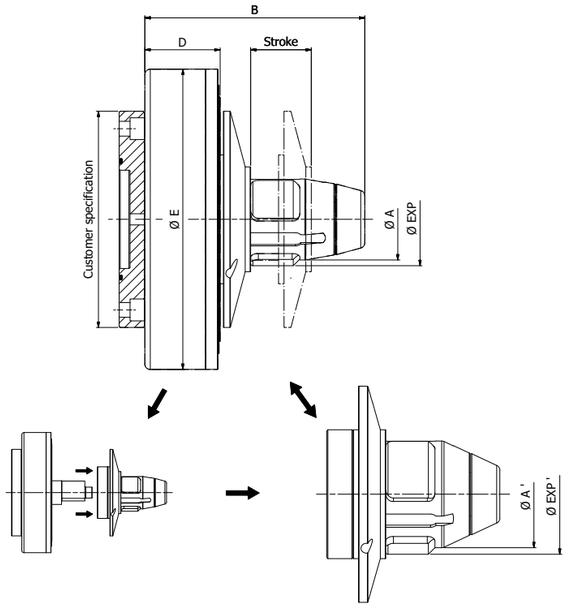
	CHUCK DIMENSIONS						
core diameter	70 mm	75 mm	3''	100 mm	4''	120 mm	5''
A [mm]	69,5	74,5	74,5	98	98	118	125
Ø EXP 1	70÷79	75÷85	76,2÷86,2	100÷110	101,6÷111,6	119÷129	126÷136
Ø EXP 2	-	-	-	100÷110	101,6÷111,6	119÷129	126÷136
B [mm]	min 255 - max 360						
D [mm]	69 - 88						
E [mm]	275						

	PNEUMATIC CYLINDER
air supply	6 bar
first piston thrust force	20000 N
second piston thrust force	10000 N
stroke	50 - 85 mm

CK-XC/SM

MODULAR ROLL EJECTOR CHUCK WITH MOUNTING FLANGE

Duplex CK-XC/SM presents a quick-change system of the cage that allows to run any core size. Equipped with mounting flange and provided with rotary joint.



CHUCK PERFORMANCE		
chuck diameter	load capacity [N]	torque [Nm]
70 mm	18000	1150
75 mm		
3''		
100 mm		
4''		
120 mm		
5''		
100 mm	45000	2500
4''		
120 mm		
5''		

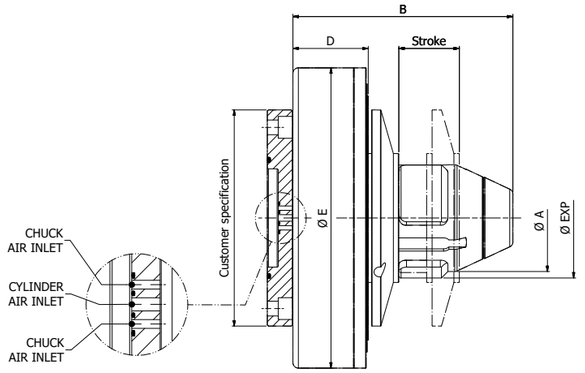
	CHUCK DIMENSIONS						
core diameter	70 mm	75 mm	3''	100 mm	4''	120 mm	5''
A [mm]	69,5	74,5	74,5	98	98	118	125
Ø EXP	70÷79	75÷85	76,2÷86,2	100÷110	101,6÷111,6	119÷129	126÷136
B [mm]	min 190 - max 280						
D [mm]	69 - 88						
E [mm]	275						

	PNEUMATIC CYLINDER
air supply	6 bar
first piston thrust force	20000 N
second piston thrust force	10000 N
stroke	50 - 85 mm

CK-XC/PM

PNEUMOMECHANIC ROLL EJECTOR CHUCK WITH MOUNTING FLANGE

Duplex CK-XC/PM presents a quick-change system of the cage that allows to run any core size. Equipped with mounting flange and provided with rotary joint.



CHUCK PERFORMANCE		
chuck diameter	load capacity [N]	torque [Nm]
70 mm	18000	1150
75 mm		
3''		
100 mm	45000	2500
4''		
120 mm		
5''		

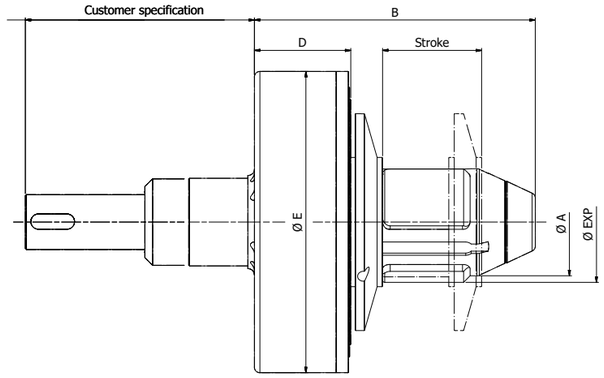
	CHUCK DIMENSIONS						
core diameter	70 mm	75 mm	3''	100 mm	4''	120 mm	5''
A [mm]	69,5	74,5	74,5	98	98	118	125
Ø EXP	70÷79	75÷85	76,2÷86,2	100÷110	101,6÷111,6	119÷129	126÷136
B [mm]	min 190 - max 280						
D [mm]	69 - 88						
E [mm]	275						

	PNEUMATIC CYLINDER
air supply	6 bar
first piston thrust force	20000 N
second piston thrust force	10000 N
stroke	50 - 85 mm

CK-X

SINGLE DIAMETER ROLL EJECTOR CHUCK WITH MOUNTING SHAFT

Duplex CK-X with single diameter chuck, available for single core diameters. Equipped with mounting shaft and provided with rotary joint.



CHUCK PERFORMANCE		
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75 mm		
3''		
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120 mm		
5''		

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core diameter	70 mm	75 mm	3''	100 mm	4''	120 mm	5''
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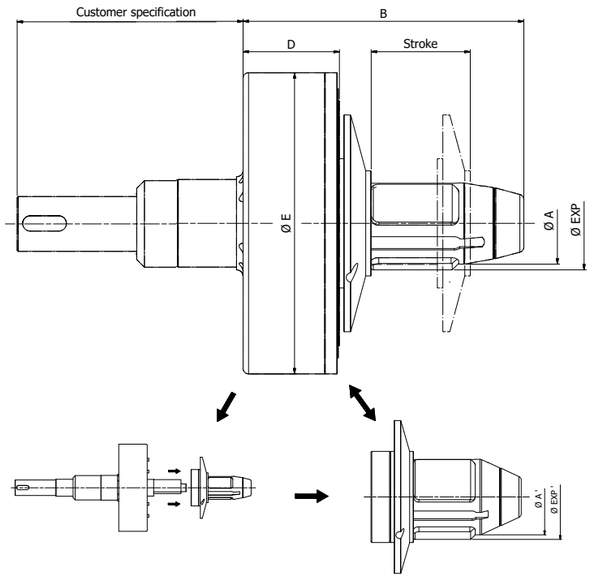
B [mm]	min 245 - max 280						
D [mm]	69 - 88						
E [mm]	275						

PNEUMATIC CYLINDER	
air supply	6 bar
first piston thrust force	20000 N
second piston thrust force	10000 N
stroke	85 mm

CK-X/SM

MODULAR ROLL EJECTOR CHUCK WITH MOUNTING SHAFT

Duplex CK-X/SM presents a quick-change system of the cage that allows to run any core size. Equipped with mounting shaft and provided with rotary joint.



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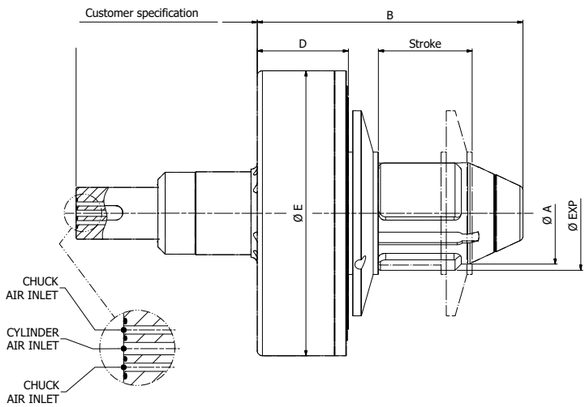
B [mm]	min 245 - max 280						
D [mm]	88						
E [mm]	275						

PNEUMATIC CYLINDER	
air supply	6 bar
first piston thrust force	20000 N
second piston thrust force	10000 N
stroke	85 mm

CK-X/PM

PNEUMOMECHANIC ROLL EJECTOR CHUCK WITH MOUNTING SHAFT

Duplex CK-X/PM with single diameter chuck, available for single core diameters. Equipped with mounting shaft and provided with rotary joint.



CHUCK PERFORMANCE		
chuck diameter	**load capacity [N]**	**torque [Nm]**
70 mm	18000	1150
75 mm		
3''		
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CHUCK DIMENSIONS							
core diameter	70 mm	75 mm	3''	100 mm	4''	120 mm	5''
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	PNEUMATIC CYLINDER
air supply	6 bar
first piston thrust force	20000 N
second piston thrust force	10000 N
stroke	85 mm

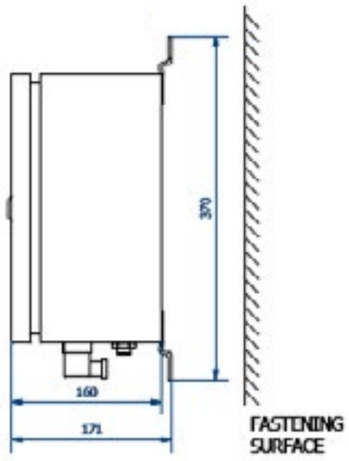
OPTIONALS AND ACCESSORIES

CONTROL PANEL

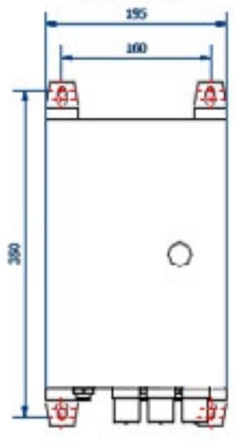
AUTOMATIC RETRACTION OF THE PISTON

The pneumatic activation and retraction of the piston is made possible through the Duplex control panel. This box integrates the original command panel of the machine and allows to command up to 4 Duplex units (2 per roll stand, right side and left side), while the existing management of the roll stand operations remains unchanged.

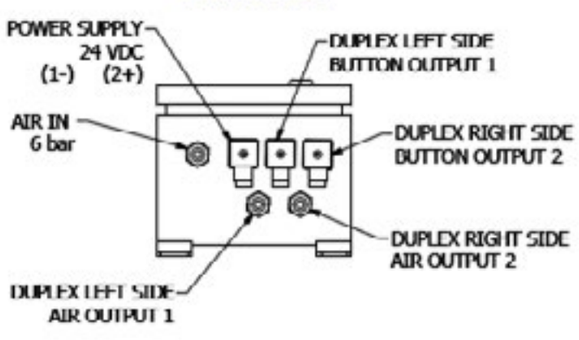
SIDE VIEW



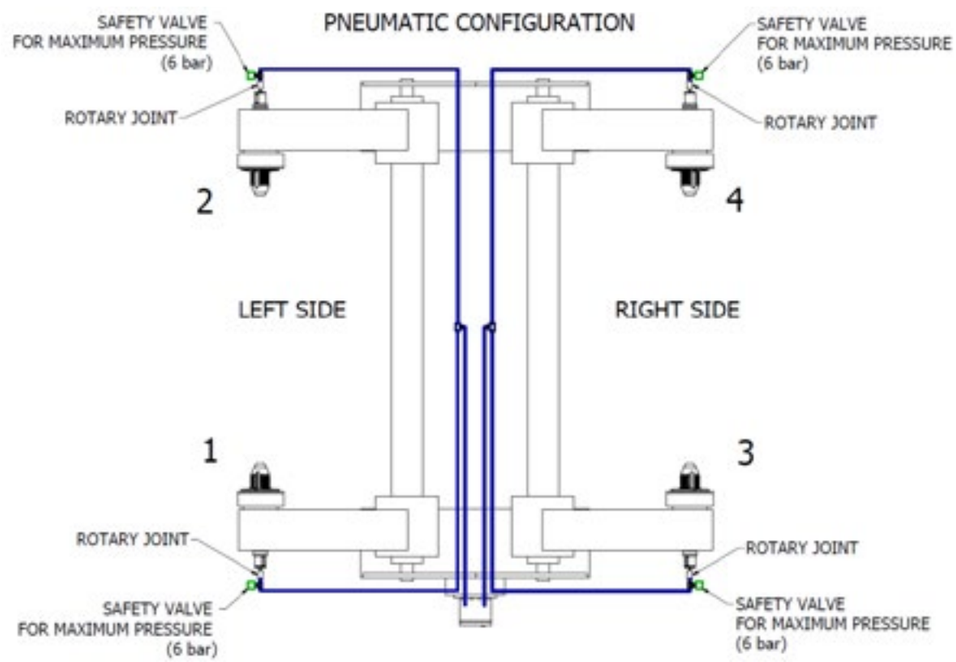
FRONT VIEW



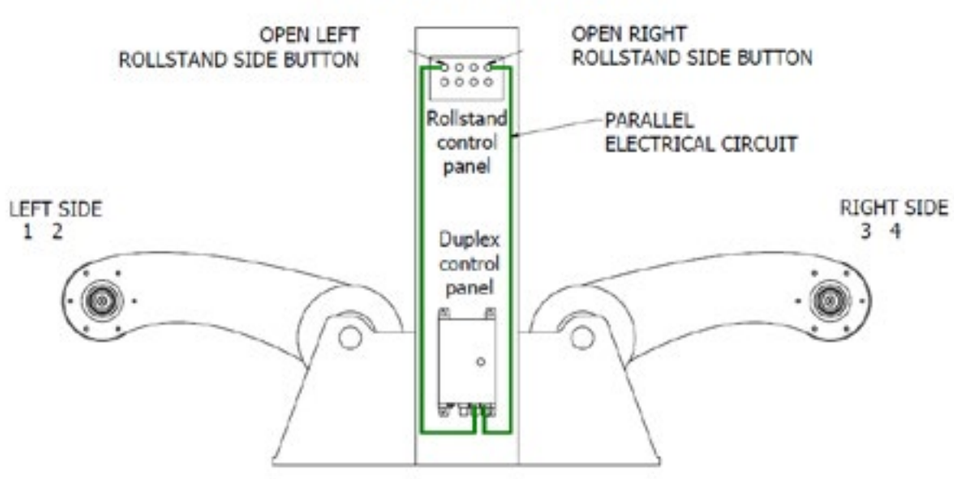
BOTTOM VIEW



TOPOGRAPHY LAYOUT AND PNEUMATIC CONFIGURATION



ELECTRICAL CONFIGURATION



SENSOR RING + PROXIMITY

AUTOMATIC REEL LOADING AND UNLOADING

Duplex is ideal for retrofitting reel stands with manual, semi automatic and automatic loading. Duplex replaces part of the reel stand while ensuring the automatic loading and unloading of the reel 100% of the times.
This is possible thanks to the Duplex sensor ring and a braket with proximity sensor applied to the roll stand.

MADE IN ITALY
Our products are 100% designed and made in Italy

INNOVATION
We provide solutions that increase productivity and safety levels while reducing maintenance costs and procedures

SUPPORT
Our staff is always available to answer your questions, also in the after-sales phase

QUALITY
All Renova's products are managed by TUV ISO 9001

CUSTOM PROJECTS
Projects large or small, we work with you to provide the solution that fits

SUSTAINABILITY
Sustainable products, sustainable company.
Renova has joined Erion

renova
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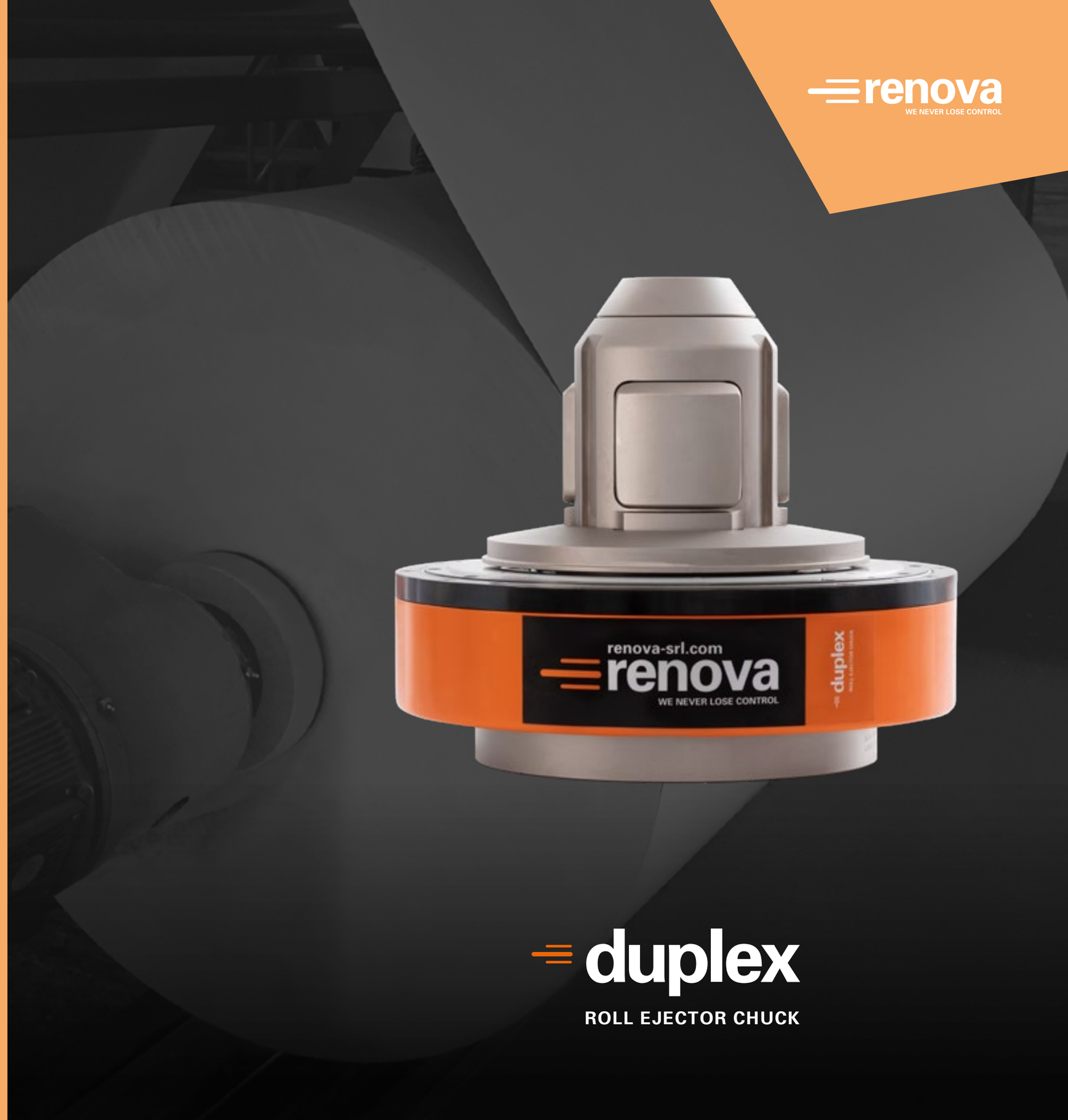

duplex

ROLL EJECTOR CHUCK