



 **combirex**

PNEUMATIC TENSION BRAKE





CX250

Combirex CX 250 pneumatic brake has been the reference brake in the converting industry and it is still widely used on unwinders and various applications.

The CX 250 is the most copied pneumatic brake in the world, but you should know that it has been designed by Giampiero Re in the '80s, the same person who founded Renova in 2005.

Mr Re then applied an innovative axial fan ventilation on the CX mono disc brakes, which increased the cooling speed, reducing pad wear and improving web tension quality, compared to previous brakes with no cooling fan.

Today, the Renova's CX pneumatic brake is the result of continuous research and improvements.

Great care is taken to select the best materials in order to provide always the highest performance and reduce component's wear.

Use your device camera to capture the QR codes in this catalog and see demonstration videos!



MONODISC BRAKE

The combirex CX250 is a monodisc, multicaliper air cooled brake. It reaches a maximum torque of 960 Nm and a power dissipation of 4,5 kW.

MODULAR CALIPER SYSTEM

on/off distributor for a manual selection of the calipers



LIGHT COMPACT STRUCTURE

aluminium housing of compact size

HIGH POWER DISSIPATION FAN

high RPM fan up to 4,5 kW

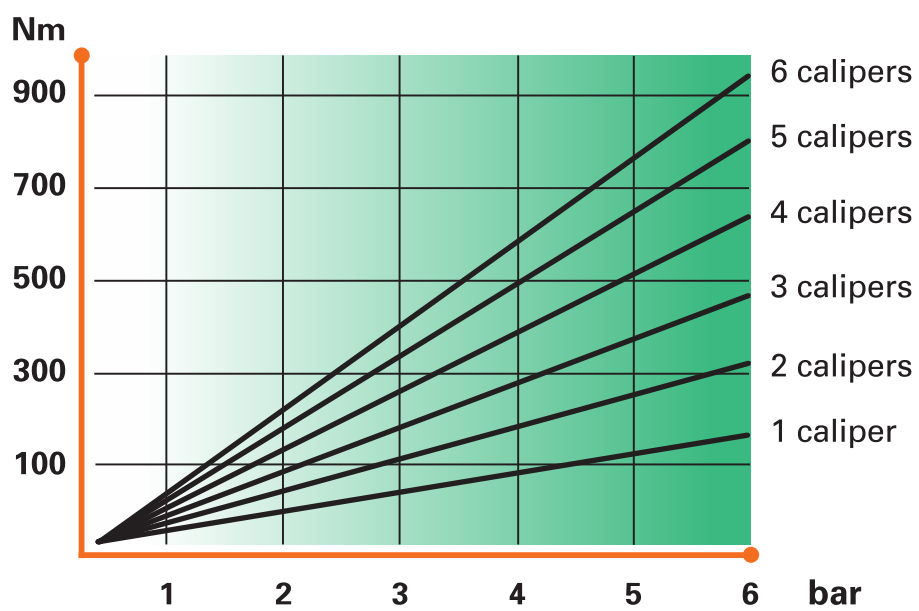
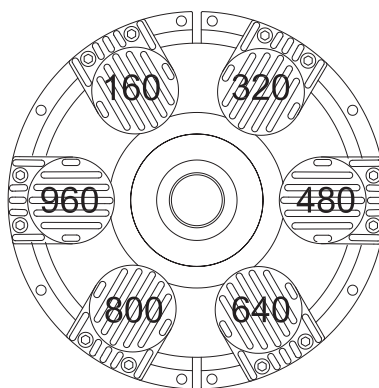
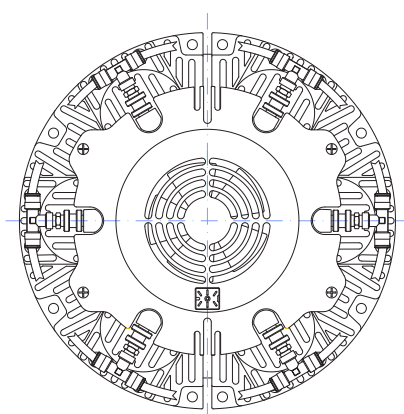
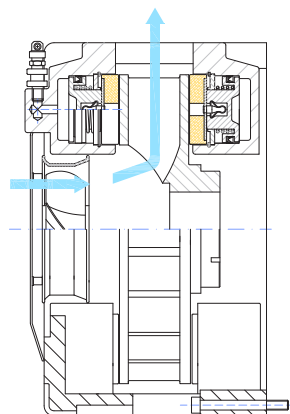
COMBIREX



The combirex CX250 is available with up to 6 calipers according to the torque needed. Moreover a selection of diverse HP fan models is available in order to reach different heat dissipation values.

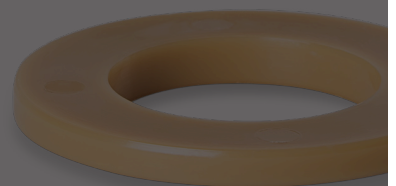
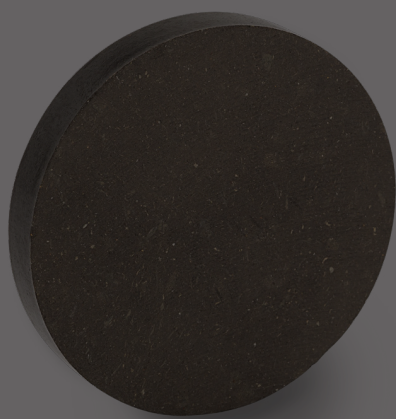
	CX 250.1	CX 250.2	CX 250.3	CX 250.4	CX 250.5	CX 250.6
number of calipers	1	2	3	4	5	6
torque Nm (0.2 bar)	1.5	3	4.5	6	7.5	9
torque Nm (6 bar)	160	320	480	640	800	960
heat dissipation (fan 24 VdC HP1)	3,5 kW	3,5 kW	3,5 kW	3,5 kW	3,5 kW	3,5 kW
heat dissipation (fan 24 VdC HP2)	4 kW	4 kW	4 kW	4 kW	4 kW	4 kW
heat dissipation (fan 24 VdC HP3)	4,5 kW	4,5 kW	4,5 kW	4,5 kW	4,5 kW	4,5 kW

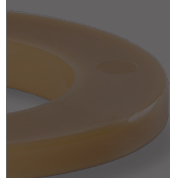
TECHNICAL DATA





COMBIREX SPARE PARTS





100% INTERCHANGEABLE

A wide range of original spare parts for combirex CX 250 that are also 100% interchangeable and suitable for all the brakes series CX 250 available on the market.

— PADS

Thanks to the new compounds formula, Renova's pads guarantee a longer life and therefore a reduced need for spare parts and reduced dust emissions in the workplace.

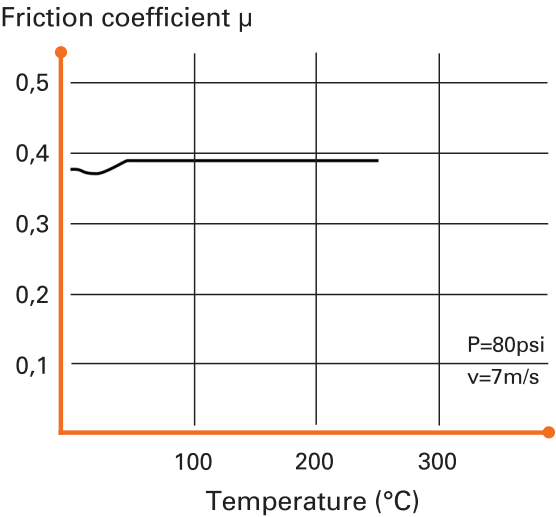


RoHS compliant: all pads are asbestos, hexavalent chromium, mercury, cadmium, antimony and lead FREE!

SMT



description	code
smooth pads	KPCXSMT
smooth pads with anti-vibration ring	KPCXSMTA

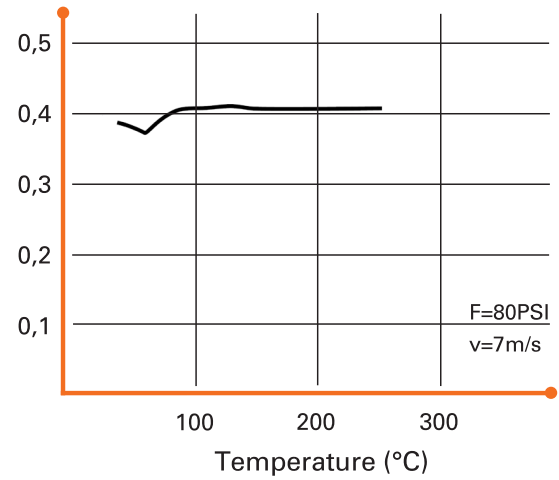


AR15



description	code
anti-rotation pads	KPCXAR15
anti-rotation pads with anti-vibration ring	KPCXAR15A

Friction coefficient μ

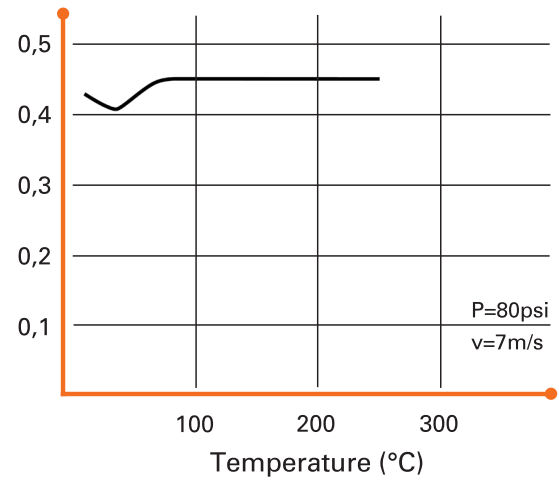


AR15K



description	code
anti-rotation pads in kevlar material	KPCXAR15K
anti-rotation pads in kevlar material with anti-vibration ring	KPCXAR15KA

Friction coefficient μ

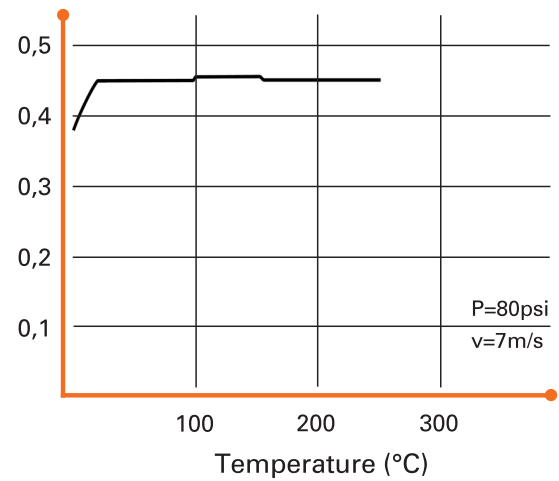


HP



description	code
anti-rotation pads high performance	KPCXR15KHP
anti-rotation pads high performance with anti-vibration ring	KPCXR15KHPA

Friction coefficient μ



DISCS



SELF-VENTILATING STURDY DISC

the self ventilating cast iron 250 mm diameter disc improves the cooling capacity by rapidly conveying outwards the heat generated by the brake

CONSTANT TENSION CONTROL

high sensitivity throughout the whole process

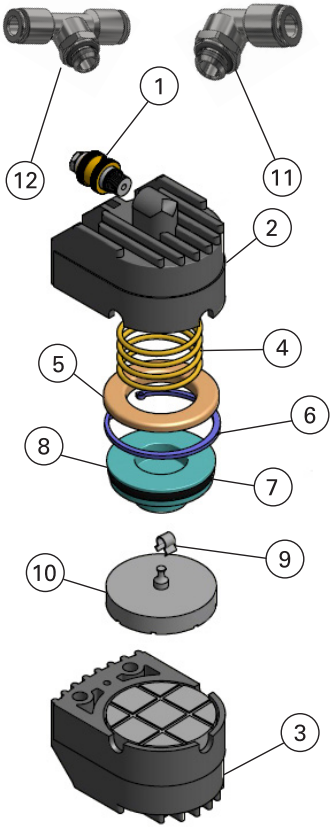
description	code	hole diameter	fixing type	notches
standard (hole diameter Ø30mm)	CXD250	000	0	0
modular code	CXD250	DXX	X	X
	CXD250	D28	C (with taper locks)	0-24
		D30		
		D35		
		D40		
		D45		
		D35	Z (with keyway and set screw*)	
		D40		
		D45		
		D50		
		D55		
		D60		
		D65		
		D70		

*standard screw is M10, other dimensions on request

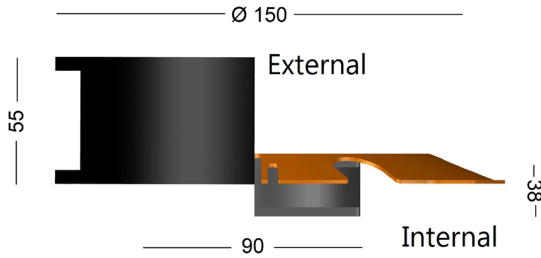
CALIPERS

number	description	code
1-9	complete caliper without pads	CXC0000
1	air distributor (1/8" GAS)	00CXDIS610-G18-R20
2	front caliper frame (1/8" GAS)	CXP0002
3	back caliper frame	CXP0003
4	spring	CXP0004
5	teflon ring	CXP0005
6	seeger ring	CXP0006
7	viton seal dem 63	CXP0007
8	piston	CXP0019
9	pad seal spring	CXP0009
10	pad	SMT / AR15 / AR15K / HP
11	rapid fitting elbow	I40-0048
12	rapid fitting tee	I40-0049

pad	complete caliper with pad	complete caliper with antiivibration pad
AR15	CXC0010	CXC001A
HP	CXC0020	CXC002A
SMT	CXC0030	CXC003A
AR15K	CXC0040	CXC004A



FANS



Upgrade kit fan cover plus fan:

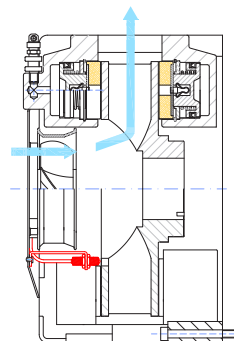
description	code
KIT HP1 (fan cover + internal 24 VdC HP1)	CXK0001-A
KIT HP2 (fan cover + internal 24 VdC HP2)	CXK0002-A
KIT HP3 (fan cover + internal 24 VdC HP3)	CXK0003-A

A photograph of industrial machinery, likely a textile or paper mill, featuring large white rolls of material being processed. The machinery is white and blue, with various pipes and mechanical components visible. The scene is dimly lit, with a semi-transparent dark overlay on the right side. The text "OPTIONALS AND ACCESSORIES" is centered in white, bold, sans-serif font. A small orange horizontal line is positioned above the text.

OPTIONALS AND ACCESSORIES

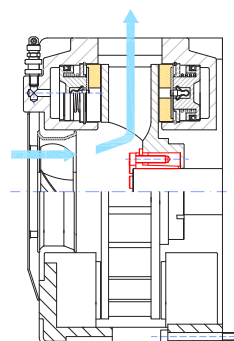
RPM COUNTER (PROXIMITY)

It counts the revolutions per minute to identify the diameter of the roll.



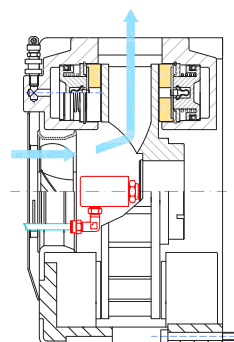
TAPER LOCKS

Wide range of taper locks available for a rapid fixing to the hub.



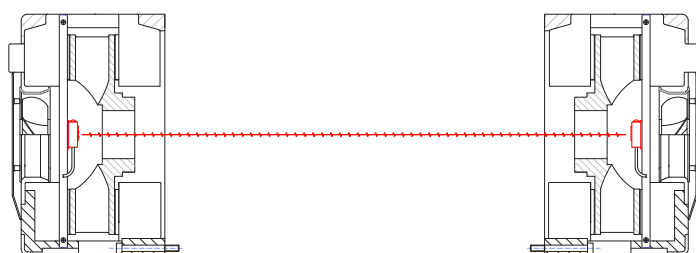
ROTARY JOINT

In case of application with expanding shaft or pneumatic core chucks. It allows the transit of the air supply to the shaft or the chuck.



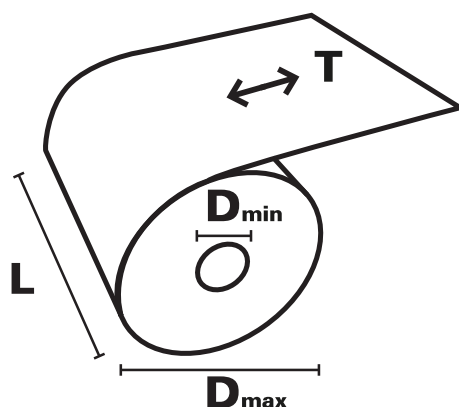
PHOTOCELL SUPPORT

Photocell set up for roll stand arm alignment.



BRAKE SELECTION GUIDE

	unit of measurement		tensioning
t	braking time [s]	$T_{max} = T_s \cdot L_{max}$	maximum web tension
v	web speed [m/min]	$T_{min} = T_s \cdot L_{min}$	minimum web tension
T_{max/min}	max/min web tension [N]	$Cf_{max} = \frac{D_{max} \cdot T_{max}}{2}$	maximum torque
D_{max/min}	max/min roll diameter [m]	$Cf_{min} = \frac{D_{min} \cdot T_{min}}{2}$	minimum torque
P	heat dissipated [kW]	$P = \frac{T_{max} \cdot v}{60 \cdot 10^3}$	heat dissipated
m	roll maximum weight [kg]		
T_s	web tension per centimeter [N/cm]		
L_{max/min}	max/min web width [cm]		
		$Cf_{max} = \frac{m \cdot D_{max} \cdot v}{240 \cdot t}$	emergency stop torque



SPECIFIC TENSION VALUES FOR MATERIALS

	paper			board		
weight [g/m²]	10 - 15	30 - 60	100 - 200	100 - 150	200 - 300	400 - 700
web tension [N] per centimeter T_s	0.3 - 0.4	1 - 2.5	3.5 - 7	5 - 7.5	10 - 11.5	16 - 18
	cellophane	polythylene	polypropylene	aluminum		
N/cm per μ of thickness	0.042	0.01- 0.02	0.015 - 0.025	0.035 - 0.105		

QUESTIONNAIRE



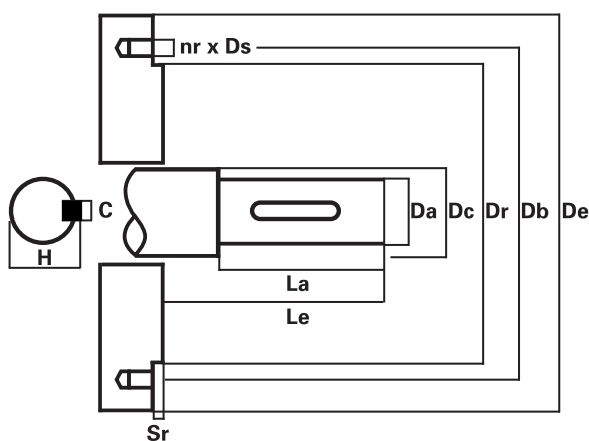
Please fill out the questionnaire, take a picture and send it via email to info@renova-srl.com

CUSTOMER

complete name	<input type="text"/>
position	<input type="text"/>
company	<input type="text"/>
plant	<input type="text"/>
country	<input type="text"/>
tel	<input type="text"/>
email	<input type="text"/>

APPLICATION DATA

machine type	<input type="text"/>
application	<input type="text"/>
n° brakes per roll	<input type="checkbox"/> 1 <input type="checkbox"/> 2
fans voltage	<input type="checkbox"/> 110 AC <input type="checkbox"/> 220 AC <input type="checkbox"/> 24 VDC
line air pressure	<input type="text"/> bar
roll diameter	min <input type="text"/> mm max <input type="text"/> mm
roll width	min <input type="text"/> mm max <input type="text"/> mm
roll weight	min <input type="text"/> kg max <input type="text"/> kg
speed	min <input type="text"/> m/min max <input type="text"/> m/min
type of material	<input type="text"/> gr/m ²
emergency stop	<input type="text"/> sec



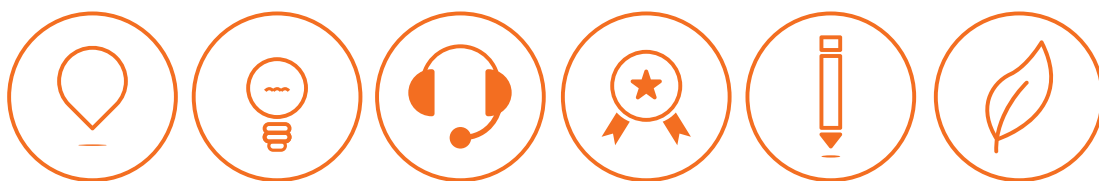
FLANGE DIMENSION

external diameter (De)	<input type="text"/> mm
centering diameter (Dr)	<input type="text"/> mm
centering thickness (Sr)	<input type="text"/> mm
holes position diameter (Db)	<input type="text"/> mm
nr per Ø of holes (nr x DS)	<input type="text"/>
angles between holes (b°)	<input type="text"/>

SHAFT DIMENSION

shaft diameter (Da)	<input type="text"/> mm
shaft length (La)	<input type="text"/> mm
shaft diameter (Dc)	<input type="text"/> mm
total length (Le)	<input type="text"/> mm
key dimensions (C x H)	<input type="text"/> mm
blocking system	<input type="checkbox"/> seeger <input type="checkbox"/> bolt <input type="checkbox"/> threaded ring





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
WE NEVER LOSE CONTROL



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