



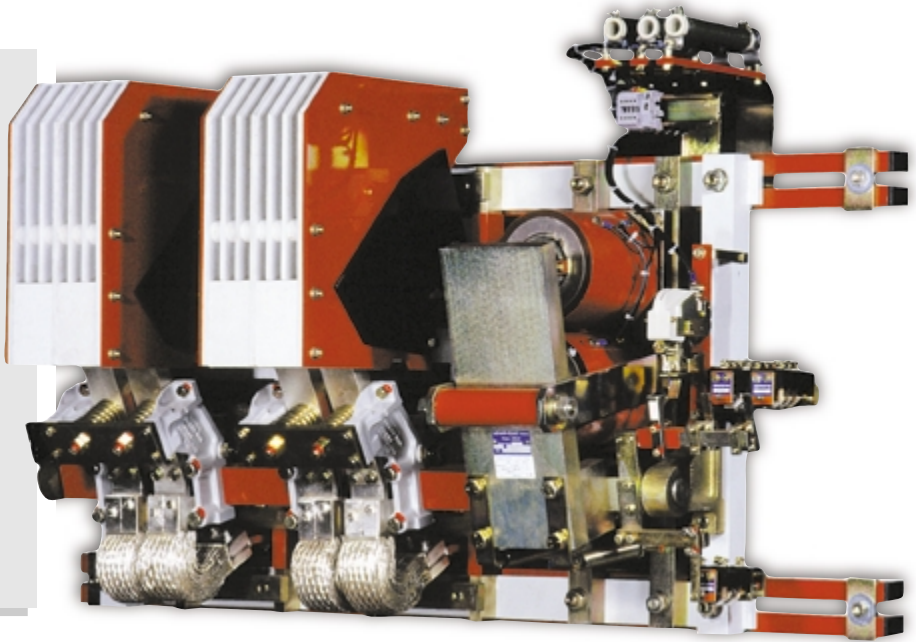
2 types for each calibre:

AC Poles

CBA 54 2500,
CBA 60 4000.

DC Poles

CBC 54 3000,
CBC 60 5000,
CBC 60 5500,
CBC 60 6200,
CBC 60 8000.



CBC 60 5000 2.0

Standard versions

- 1 to 4 single pin main poles (2 pins for calibres 4000 and 5000) with copper contact (silver pad contact on request or for specific applications).
Arc-blowout coil operates only during opening.
- Closing electromagnet mounted on the right side of the poles (on request, it can be mounted on the left), solid iron magnetic circuit with 2 coils.
 - control circuit supplied from an AC source via a rectifier and power-saved coils (device mounted and cabled on the contactor).
 - control circuit supplied from a DC source with power-saved coils (device mounted and cabled on the contactor).

Auxiliary contacts

- Two type M contact blocks with 3 contacts 3 NO + 3 NC, instant contacts or form to be specified when you order.
- Number of M type contact blocks can be increased to reach 6 blocks.

Mechanical locking

- vertical type.

Options

- Silver pad contact pins.
- NO or NC delayed block TP 86 type (this one also includes 4 free instant contacts, i.e. 3 NO + 1 NC).
- More than 6 M type contact blocks can be mounted on the contactor by mounting them below the contactor to reduce its total dimensions.
- Device to hold the contactor closed in case of untimely micro-cuts for contactors that are not equipped with a mechanical latching.
- Mechanical latching with single or double electrical release (does not change the total dimensions of the contactor).
- Self-protective device for the release coil(s).
- Metallic support for «Ronis type» lock (lock not supplied).
- Horizontal or back-to-back mechanical locking.
- Poles of different calibres and supplied with different currents.
- Poles without magnetic blowout.
- Reinforced insulation.
- Double insulation for specific applications.
- Tropical treatment n° 2.



CBA: AC contactors

CBC: DC contactors

		CBA			
		2500		4000	
Thermal nominal current ⁽¹⁾ AC_1 - DC_1	A	2500		4000	
	connecting section	mm ² 2000		5000	
Nominal operating voltage					
AC 40 to 60 Hz		V 660		660	
DC		V			
Maximum controlled powers					
AC	voltage	V 220 380 500/660		220 380 500/660	
	AC_2 - AC_3 duty cycles	kW 750 1250 1250		1150 2000 2000	
	AC_23 duty cycles	kVA 1600 1875		2600 3000	
DC	voltage	V			
	DC_2 - DC_4 duty cycles	kW			
Maximum operating current					
permanent service		A 2500		4000	
short-time service with t ≤ 40°C					
	1 s	kA 30		45	
	5 s	kA 14		20.5	
	10 s	kA 9.7		16.2	
	15 s	kA 8		12	
	30 s	kA 5.95		9	
	1 min	kA 4.5		7	
	3 min	kA 3.3		5.2	
	10 min	kA 2.8		4.5	
Allowable overcurrent / time					
AC		kA eff/s 30/1		45/1	
DC		kA/s			
Current switch-off rating					
AC	voltage	V 220 380 500		220 380 500	
	cos φ = 0.3	kA eff 93 50 37		93 50 37	
DC	voltage	V			
	L/R = 15 ms	kA			
Current switch-on rating					
AC cos φ = 0.3		kA eff 132 70 55		132 70 55	
DC L/R = 15 ms		kA			
CBA poles inductance					
cold		H 4.48 · 10 ⁻⁷		2.24 · 10 ⁻⁷	
Poles resistance					
cold		Ω 1.68 · 10 ⁻⁵		0.838 · 10 ⁻⁵	
hot		Ω			
Number of openings under load at nominal current					
		50000		50000	
Mechanical endurance millions of operations					
		1		1	

		CBC			
		3000	5000	5500 ⁽²⁾	6200 ⁽²⁾
Thermal nominal current ⁽¹⁾ AC_1 - DC_1	A	3000	5000	5500	6200
	connecting section	2000	5000	6000	7000
Nominal operating voltage					
AC 40 to 60 Hz		V 660		660	
DC		V			
Maximum controlled powers					
AC	voltage	V 220 380 500/660		220 380 500/660	
	AC_2 - AC_3 duty cycles	kW 750 1250 1250		1150 2000 2000	
	AC_23 duty cycles	kVA 1600 1875		2600 3000	
DC	voltage	V			
	DC_2 - DC_4 duty cycles	kW			
Maximum operating current					
permanent service		A 3000		5000	
short-time service with t ≤ 40°C					
	1 s	kA 36		56	
	5 s	kA 16		25	
	10 s	kA 11.5		20	
	15 s	kA 9.5		15	
	30 s	kA 7		11	
	1 min	kA 5.4		8.5	
	3 min	kA 4		6.5	
	10 min	kA 3.3		5.6	
Allowable overcurrent / time					
AC		kA eff/s 36/1		56/1	
DC		kA/s		61/1	
Current switch-off rating					
AC	voltage	V 250 500 1000 ⁽¹⁾		250 500 1000 ⁽¹⁾	
	cos φ = 0.3	kA eff 55 35 35		55 35 35	
DC	voltage	V			
	L/R = 15 ms	kA			
Current switch-on rating					
AC cos φ = 0.3		kA eff 55 35 35		55 35 35	
DC L/R = 15 ms		kA			
CBA poles inductance					
cold		H 55 35 35		55 35 35	
Poles resistance					
cold		Ω 55 35 35		55 35 35	
hot		Ω			
Number of openings under load at nominal current					
		50000		50000	
Mechanical endurance millions of operations					
		1		1	

Control circuit

Nominal voltage		AC 50 Hz		V 110 - 127 - 220 - 380 - 500	
		DC		V 110 - 220 - 400 - 500	
Maximum consumptions inrush/hold					
AC*	1P	VA 760/75	750/75		
	2P	VA 760/75	1950/127		
	3P	VA 1440/127	5250/220		
	4P	VA 1950/127			
DC	1P	W 610/35	610/46		
	2P	W 610/35	960/72		
	3P	W 1000/66	2600/145		
	4P	W 1100/72			
Constant L/R rate of electromagnet open/closed ms					
Closing time		at Un		ms 350	
		at 0.85 Un		ms	
Opening time		at Un		ms	
		between command and			
		- separation of contacts		ms 60	
		- total opening of electromagnet		ms 85	
		- complete opening		ms 300	

		CBC			
		3000	5000	5500 ⁽²⁾	6200 ⁽²⁾
Maximum consumptions inrush/hold					
AC*	1P	VA 760/75	750/75		
	2P	VA 760/75	1950/127		
	3P	VA 1440/127	5250/220		
	4P	VA 1950/127			
DC	1P	W 610/35	610/46		
	2P	W 610/35	960/72		
	3P	W 1000/66	2600/145		
	4P	W 1100/72			
Constant L/R rate of electromagnet open/closed ms					
Closing time		at Un		ms 350	
		at 0.85 Un		ms	
Opening time		at Un		ms	
		between command and			
		- separation of contacts		ms 60	
		- total opening of electromagnet		ms 85	
		- complete opening		ms 300	

(1) in open air

(2) CBC 5000 A: direct current:
to reach 5500 A: usual connecting section + 20 %
to reach 6200 A: usual connecting section + 40 %

(3) diodes are warranted up to an overload of 3 Un efficient.

* control circuit:

Equipment controlled with alternating current are rectified and power-saved.

(4) for two-pole break, please consult us.

*Factor to be applied to the contactor in case of poles connected in parallel (this factor already includes a safety margin).

	2 poles in parallel	3 poles in parallel
AC	I.th x 0.7	I.th x 0.66
DC	I.th x 0.8	I.th x 0.75

*The current switch-off rating of poles connected in parallel remains the same as the one for a single pole.

For technical features of opening poles, see CEX.



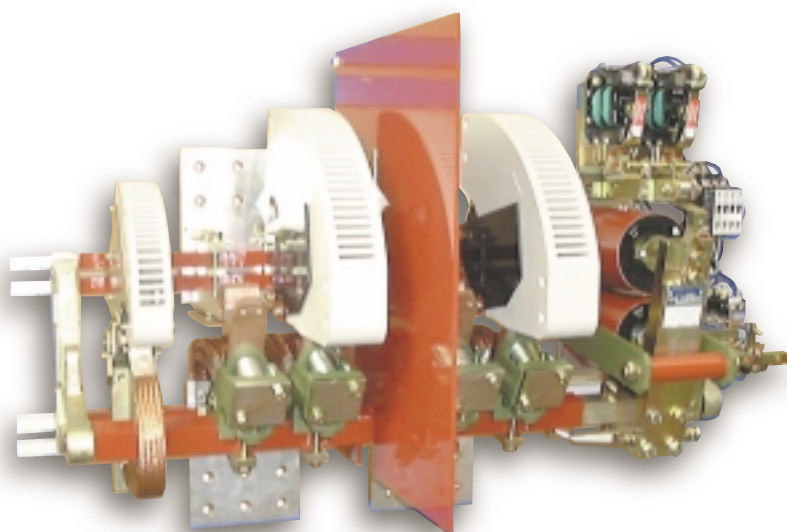
**NEW
PERFORMANCES**

CBC : DC contactor
CBA : AC contactor (consult us)

DC current		2560				3200				5000 ⁽⁸⁾			
Generation		98				98				98			
Thermal nominal current ⁽¹⁾	A	2560				3200				5000			
connecting section	mm ²	2500				3000				5000			
Nominal insulating voltage ⁽⁷⁾	V	1000				1000				1000			
Nominal operating voltage ⁽⁵⁾	V	600	700 ⁽²⁾	1000 ⁽²⁾		600	700 ⁽²⁾	1000 ⁽²⁾		600	700 ⁽²⁾	1000 ⁽²⁾	
Short-time current													
	1 s	kA 43											
	5 s	kA 21,6				43				50			
	10 s	kA 15,7				30				40			
	15 s	kA 12,5				25,7				36			
	30 s	kA 8,6				17,3				24			
	1 min	kA 6,5				12,2				17			
	3 min	kA 4,3				7,2				10			
	10 min	kA 3,1				4,6				6,5			
Current switch-off rating L/R = 5 ms	voltage	V 1000				1000				1000			
	single pole	kA 10				10				10			
Current switch-off rating L/R = 15 ms	voltage	V 550	700	1000	1500	550	700	1000	1500	550	700	1000	1500
	single pole	kA 23	18			23	18			23	18		
	two pole ⁽²⁾	kA 32	23	19	6,6	32	23	19	6,6	32	23	19	6,6
	voltage	V 1000	1500	1800	2000	1000	1500	1800	2000	1000	1500	1800	2000
	three pole ⁽²⁾	kA 23	19	14	8	23	19	14	8	23	19	14	8
	voltage	V 1000		2000	3000	1000		2000	3000	1000		2000	3000
	Four pole ⁽²⁾	kA 30		19	5	30		19	5	30		19	5
Current switch-on rating L/R = 15 ms	kA	30/550 V				30/550 V				30/550 V			
Mechanical endurance	millions of operations	1				1				1			

Control circuit

Nominal voltages	AC 50 Hz	V	24 - 48 - 110 - 127 - 220 - 380 - 500 ⁽⁴⁾											
	DC	V	24 - 48 - 110 - 127 - 220 - 440 - 500 ⁽⁴⁾											
Maximum consumptions s	inrush/hold													
AC*	1P	VA	380/24				380/24				380/24			
	1P 1500 V ⁽⁸⁾	VA	860/50				860/50				860/50			
	2P	VA	1700/88				1700/88				1700/88			
	2P 3000 V ⁽⁹⁾	VA	3000/180				3000/180				3000/180			
DC	1P	W	360/35				360/35				360/35			
	1P 1500 V ⁽⁸⁾	W	836/55				836/55				836/55			
	2P	W	1600/110				1600/110				1600/110			
	2P 3000 V ⁽⁹⁾	W	2900/250				2900/250				2900/250			
Constant L/R of electromagnet	open/close	ms	118/41				118/41				118/41			
Closing time ⁽⁶⁾	at Un	ms	180				180				180			
	at 0,85 Un	ms	215				215				215			
Opening time at on ⁽⁶⁾	at Un	ms												
	between command and - separation of contact	ms	90				90				90			
	- complete opening	ms	< 300				< 300				< 300			



- (1) in open air.
 (2) for applications under voltages > 600 Vdc, please consult our technical department.
 (3) diodes are warranted up to an overload of 3 Un efficient.
 (4) for other voltages, please consult us.
 (5) if nominal operating voltage > 1000 V, please consult us.
 (6) closing time is measured from the supply of closing until the contact of main poles. Opening time is measured from the supply of the tripping coil until the separation of main poles.
 (7) dielectric testing voltage related to a given insulation voltage can reach 8 kV for specific applications.
 * control circuit :
 Equipements commanded with alternating current are rectified⁽³⁾ and power-saved.

• The current switch-off rating of poles connected in parallel remains the same as for a single pole.

• Temperature factor to be applied to the poles or the current controlled according to the ambient temperature (around the contactor):

1,04	40 < t < 45°C
1,08	45 < t ≤ 50°C
1,12	50 < t ≤ 55°C
1,19	55 < t ≤ 60°C

• Factor to be applied to the contactor for poles connected in parallel, this factor already includes a safety margin:

	2 poles in parallel	3 poles in parallel
DC	1.th 1 pole x 2 x 0,8	1.th 1 pole x 3 x 0,75

- (8) calibre 5500 A : lower section C = 15 mm.
 (9) 2 x 2 blowout poles with separator.

For technical features of opening poles, see CEX.

CBC 98 3200 2.1, 1000 V