

# CB 80 to 200 A, multipolar versions

## 4 types for each calibre:

### AC poles and control circuit

CBA 55 80,  
CBA 55 150,  
CBA 55 200.

### DC poles and AC control circuit

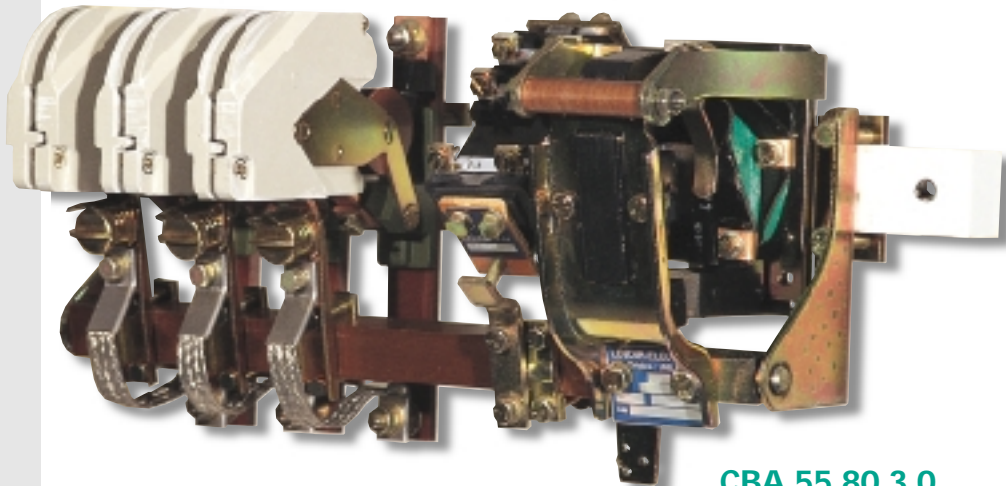
CBFC 55 80,  
CBFC 55 150,  
CBFC 55 200.

### AC poles and DC control circuit

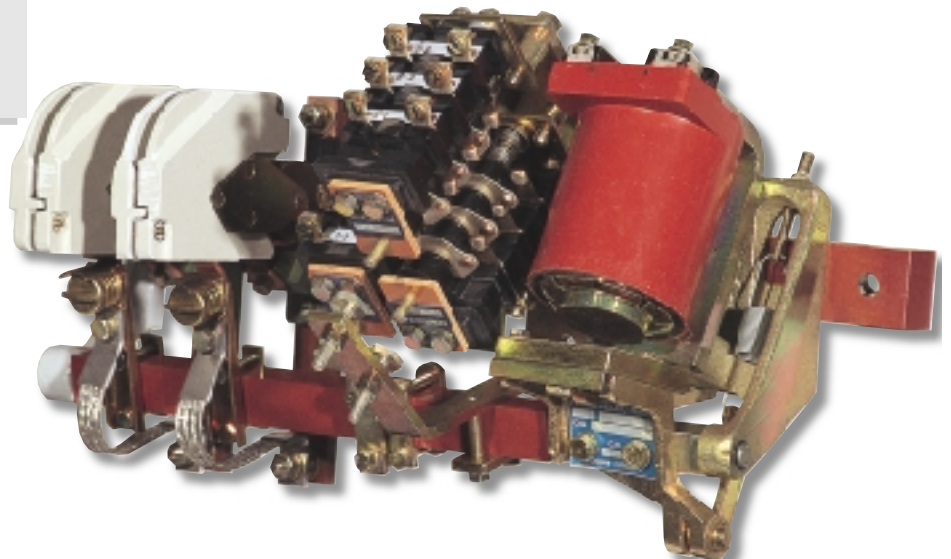
CBPA 57 80,  
CBPA 57 150,  
CBPA 57 200.

### DC poles and DC control circuit

CBC 57B 80,  
CBC 57B 150,  
CBC 57B 200.



CBA 55 80 3.0



CBC 57 B 80 2.0

## Calibres 80, 150 and 200 A

Single pin main poles and copper contacts (C) for current use, semi-intensive and intensive duties (AC\_2-AC'2-AC\_3-AC\_4-DC\_2-DC\_3-DC\_4-DC\_5).

- Calibre 80 and 150: 1 to 4 poles for each type.
  - Calibre 200: 1 to 2 poles for CBC and CBPA contactors, 1 to 4 poles for CBA and CBFC contactors.
- On request, contactors can be equipped with:
- silver or silver alloy contacts (M) for continuous, semi-intensive and intensive duties, especially recommended for low voltages and corrosive atmospheres (AC\_1-AC\_2-AC'2-AC\_3-DC\_1-DC\_2-DC\_3-DC\_4-DC\_5 duties).
  - closing electromagnet is located at the right side of the poles:
  - supply from an AC source: laminated magnetic circuit;
  - supply from a DC source: solid magnetic circuit, without power-saving device up to contactors 150 A, 3 poles, with power-saving device for contactors 150 A, 4 poles; and contactors 200 A, 2 poles.

## Options

- For currents 50 % lower than the nominal thermal DC current, adaptation of the arc-blowout coil to the current of use.
- Mechanical latching with single or double electrical release.
- Metallic support for «Ronis type» lock (lock not supplied).
- Opening poles without mechanical overlapping with the closing poles.
- Adaptation for mechanical locking facility for contactors of different ranges.
- Poles with different calibres and supplied with different currents.
- Closing electromagnet mounted on the left side of the poles.
- Longer attachment bars.

## AC contactors

U<sub>e</sub> up to 660 V, 50/60 Hz

Standards IEC 947-4-1		80*			150*			200*		
<b>Thermal nominal current<sup>(1)</sup> AC_1</b>	A	100			250			320		
connecting section	mm <sup>2</sup>	35			70			95		
<b>Nominal insulation voltage</b>	V	1000			1000			1000		
<b>Nominal operating voltage</b>										
AC, 40 to 60 Hz	V	660			660			660		
<b>Maximum controlled powers</b>										
AC voltage	V	220	380	500/660	220	380	500/660	220	380	500/660
(2) AC_2 - AC_3 duties	kW	22	45	60	65	110	145	80	132	160
AC_23 duties	kVA	33	55	70	80	132	160	100	170	220
<b>Maximum currents of use</b>										
continuous duty	A	100			250			320		
<b>Short-time current, t ≤ 40°C</b>										
1 s	kA	1			1.75			2.5		
5 s	kA	0.5			0.8			1.15		
10 s	kA	0.35			0.57			0.81		
15 s	kA	0.3			0.51			0.7		
30 s	kA	0.23			0.42			0.56		
1 min	kA	0.19			0.31			0.43		
3 min	kA	0.14			0.3			0.4		
10 min	kA	0.12			0.26			0.35		
<b>Nominal thermal current under 400 Hz</b>	A	60			113			150		
<b>Allowable overcurrent/time</b>										
AC	kA eff/s	1/1			1.75/1 <sup>(3)</sup>			2.5/1 <sup>(3)</sup>		
<b>Current switch-off rating</b>										
AC voltage	V	500			500			500		
cos φ = 0.3	kA eff	1.3 <sup>(4)</sup>			1.85 <sup>(4)</sup>			2.75 <sup>(4)</sup>		
<b>Current switch-on rating</b>										
AC cos φ = 0.3	kA eff	1.3 <sup>(4)</sup>			1.85 <sup>(4)</sup>			2.75 <sup>(4)</sup>		
<b>Mechanical endurance</b>	millions of operations	3.5/10 <sup>(5)</sup>			3.5/10 <sup>(5)</sup>			3.5/10 <sup>(5)</sup>		

## Control circuit

<b>Nominal voltages</b>	AC, 50 Hz	V	24 - 48 - 110 - 127 - 220 - 380 - 500				
	DC	V	12 - 24 - 48 - 115 - 220				
<b>Maximum consumptions</b>			inrush/hold				
AC	1P	VA	900/120		900/120	1500/175	
		VA	900/120		1500/175	2000/127	
		VA	900/120		1500/175	2000/127	
		VA	1500/175		2000/127	2000/127	
DC	1P	W	36		36	36	
		W	36		36	43	
		W	36		36		
		W	36		43		
<b>L/R constant of electromagnet</b>	open/closed	ms					
<b>Closing time</b>	at U <sub>n</sub>	ms	25/45		35/60		65/60
	at 0.85 U <sub>n</sub>	ms					
<b>Opening time</b>	at U <sub>n</sub>	ms					
	between command and - separation of contacts	ms	45		45		45
	- total opening of electromagnet	ms					
	- complete opening	ms	300		300		300

(1) in open air.

(2) motor 1500 rpm:

30 operations/h: long start-up,

120 operations/h: short start-up.

(3) for C type contacts; for M type contacts values are as follows:

Calibres	kA eff
80	1
150	1.75
200	2.75

(4) for M and C type contacts, consult us.

(5) 1st figure: CBA contactor,

2nd figure: CBPA contactor.

\* possible blowout calibration:

CB 80 A: 1-2-3-4-6-10-16-25-40 A.

CB 150 A: 1-2-3-4-6-10-16-25-40-80 A.

CB 200 A: 1-2-3-4-6-10-16-25-40-80-150 A.

• 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
AC	I.th 1 pole x 2 x 0.7	I.th 1 pole x 3 x 0.66

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

DC contactors  
Ue up to 500 V $\overline{\text{---}}$

Standards IEC 947-4-1		80*	150*	200*			
<b>Thermal nominal current<sup>(1)</sup> DC_1</b>	A	100	250	320			
connecting section	mm <sup>2</sup>	35	70	95			
<b>Nominal insulation voltage</b>	V	1000	1000	1000			
<b>Nominal operating voltage</b>							
DC	V	500 <sup>(2)</sup>	500 <sup>(2)</sup>	500 <sup>(2)</sup>			
<b>Maximum controlled powers</b>							
DC voltage	V	220/250	440/500	220/250	440/500	220/250	440/500
DC_2 - DC_4 duties	kW	22	44	45	90	66	132
<b>Maximum currents of use</b>							
continuous duty	A	100	250	320			
<b>Short-time current, t ≤ 40°C</b>							
1 s	kA	1	1.75	2.5			
5 s	kA	0.5	0.8	1.15			
10 s	kA	0.35	0.57	0.81			
15 s	kA	0.3	0.51	0.7			
30 s	kA	0.23	0.42	0.56			
1 min	kA	0.19	0.31	0.43			
3 min	kA	0.14	0.3	0.4			
10 min	kA	0.12	0.26	0.35			
<b>Allowable overcurrent/time</b>							
DC	kA/s	1/1	1.75/1	2.5/1 <sup>(3)</sup>			
<b>Current switch-off rating</b>							
DC voltage	V	500	500	500			
L/R = 15 ms	kA	0.7 <sup>(4)</sup>	0.8 <sup>(4)</sup>	3.5 <sup>(4)</sup>			
<b>Current switch-on rating</b>							
DC L/R = 15 ms	kA	0.7 <sup>(4)</sup>	0.8 <sup>(4)</sup>	3.5 <sup>(4)</sup>			
<b>Mechanical endurance</b>	millions of operations	3.5/10 <sup>(5)</sup>	3.5/10 <sup>(5)</sup>	3.5/10 <sup>(5)</sup>			

Control circuit

<b>Nominal voltages</b>	AC, 50 Hz	V			
	DC	V			
<b>Maximum consumptions</b>	inrush/hold				
AC	1P	VA	900/120	900/120	1500/175
	2P	VA	900/120	1500/175	2000/127
	3P	VA	900/120	1500/175	2000/127
	4P	VA	1500/175	2000/127	2000/127
DC	1P	W	36	36	36
	2P	W	36	36	43
	3P	W	36	36	
	4P	W	36	43	
<b>L/R constant of electromagnet</b>	open/closed	ms			
<b>Closing time</b>	at Un	ms	25/45	35/60	35/60
	at 0.85 Un	ms			
<b>Opening time</b>	at Un	ms			
	between command and				
	- separation of contacts	ms	45	45	45
	- total opening of electromagnet	ms			
	- complete opening	ms	300	300	300

- (1) in open air.  
(2) for voltage of use greater than 500 V, consult us.  
(3) for C contacts; for M type contacts values are as follows:

Calibres	kA eff
80	1
150	1.75
200	2.75

- (4) for M and C type contacts, consult us.  
(5) 1st figure: CBA contactor,  
2nd figure: CBPA contactor.

\* possible blowout calibration:  
CB 80 A: 1-2-3-4-6-10-16-25-40 A,  
CB 150 A: 1-2-3-4-6-10-16-25-40-80 A,  
•CB 200 A: 1-2-3-4-6-10-16-25-40-80-150 A.

- 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

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