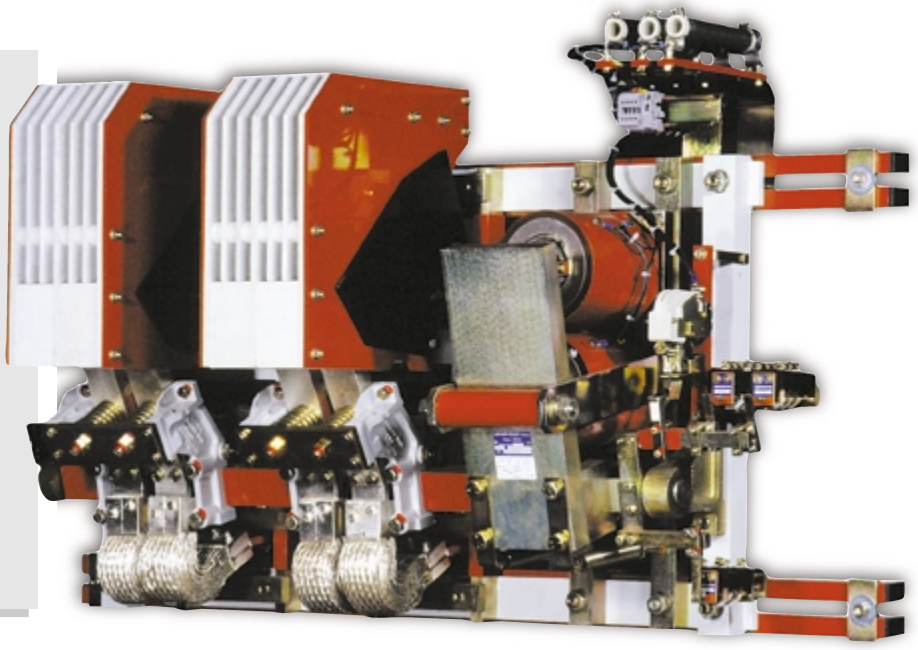
CBC 98 2560 to 5000 A and more

CB 2500 to 5000 A and more

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.

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Ferraz Shawmut

CBC 98 2560 to 5000 A and more

Technical features CBA - CBC 2500 to 6200 A

CBA: AC contactors
CBC: DC contactors

				CBA						CBC			
				2500			4000			3000	5000	5500(2)	6200(2)
Thermal nominal current(1) AC_1 - DC_1			A	2500			4000			3000	5000	5500	6200
connecting section			mm²	2000			5000			2000	5000	6000	7000
Nominal operating voltage													
AC 40 to 60 Hz			V	660			660						
DC			V							600/1000(1)	600/1000(1)	600/1000(1)	600/1000(1)
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			3000	5000	5500(2)	6200(2)
short-time service with t ⩽ 40°C													
	1 s		kA	30			45			36	56	61	69
	5 s		kA	14			20.5			16	25	27	31
	10 s		kA	9.7			16.2			11.5	20	22	24.5
	15 s		kA	8			12			9.5	15	16.5	18.5
	30 s		kA	5.95			9			7	11	12	13.5
	1 min		kA	4.5			7			5.4	8.5	9	10.5
	3 min		kA	3.3			5.2			4	6.5	7	8
	10 min		kA	2.8			4.5			3.3	5.6	6	6.9
Allowable overcurrent / time													
AC			kA eff/s	30/1			45/1						
DC			kA/s							36/1	56/1	61/1	69/1
Current swith-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							250	500	1000(1)	250	500	1000(1)	250	500	1000(1)	250	500	1000(1)
	L/R = 15 ms		kA							55	35	35	55	35	35	55	35	35	55	35	35
Current swith-on rating													
AC cos φ = 0.3			kA eff	132	70	55	132	70	55				
DC L/R = 15 ms			kA							55	35	35	55	35	35	55	35	35	55	35	35
CBA poles inductance			H	4.48 10-7			2.24 10-7						
Poles resitance	cold		Ω	1.68 10-5			0.838 10-5						
	hot		Ω										
Number of openings under load at nominal current				50000			50000			50000	50000	50000	50000
Mechanical endurance millions of operations				1			1			1	1	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			760/75	750/75	750/75	750/75
		2P	VA	760/75			1950/127			760/75	1950/127	1950/127	1950/127
		3P	VA	1440/127			5250/220			1440/127	5250/220	5250/220	5250/220
		4P	VA	1950/127						1950/127			
DC		1P	W	610/35			610/46			610/35	610/46	610/46	610/46
		2P	W	610/35			960/72			610/35	960/72	960/72	960/72
		3P	W	1000/66			2600/145			1000/66	2600/145	2600/145	2600/145
		4P	W	1100/72						1100/72			
Constant L/R rate of electromagnet open/closed ms													
Closing time	at Un		ms	350			350			350	350	350	350
	at 0.85 Un		ms										
Opening time	at Un		ms										
between command and													
- separation of contacts			ms	60			60			60	60	60	60
- total opening of electromagnet			ms	85			85			85	85	85	85
- complete opening			ms	300			300			300	300	300	300
				CBA						CBC			

(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:
Equipments 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.

CBC 98 2560 to 5000 A and more

Technical features CBA - CBC 98 2560 to 5000 A

NEW PERFORMANCES

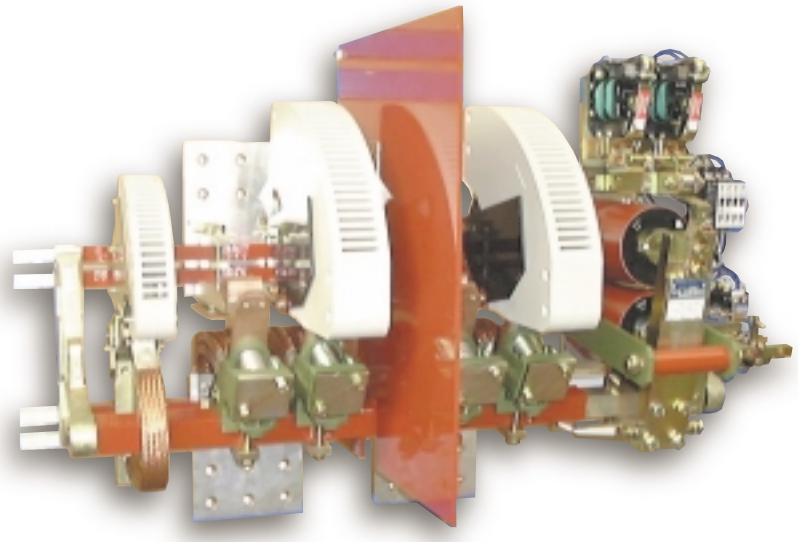
CBC : DC contactor
CBA : AC contactor (consult us)

DC current

			2560				3200				5000(8)			
Generation			98				98				98			
Thermal nominal current(1)		A	2560				3200				5000			
connecting section		mm²	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	voltage	V	**1000**				**1000**				**1000**			
L/R = 5 ms	single pole	kA	10				10				10			
Current switch-off rating	voltage	V	550	700	**1000**	**1500**	550	700	**1000**	**1500**	550	700	**1000**	**1500**
L/R = 15 ms	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	



CBC 98 3200 2.1, 1000 V⎓

(1) in open air.
(2) for applications under voltages > 600 Vdc, please consult our technical departement.
(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 currrent 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	I.th 1 pole x 2 x 0,8	I.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.