

TYPE DA-100

DIMENSIONS IN INCHES

DEAD FRONT ELECTRICALLY OPERATED

4000 TO 10000 AMPERES D.C.

4000 TO 6000 AMPERES A.C.

2 POLE

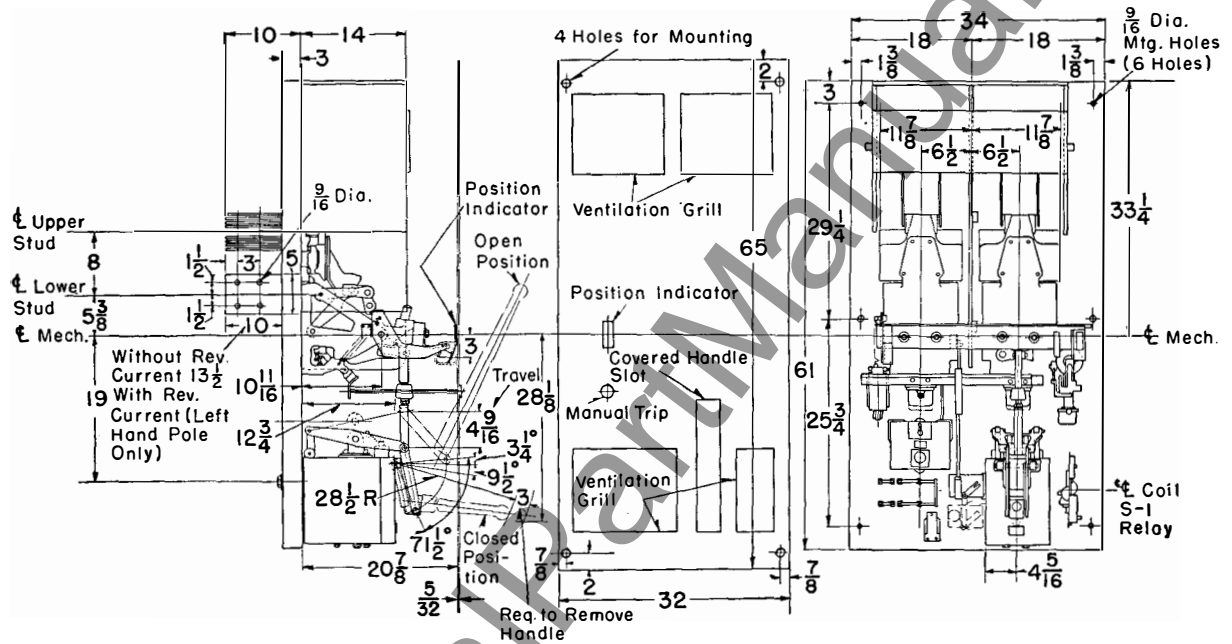


FIG. 1

3 POLE

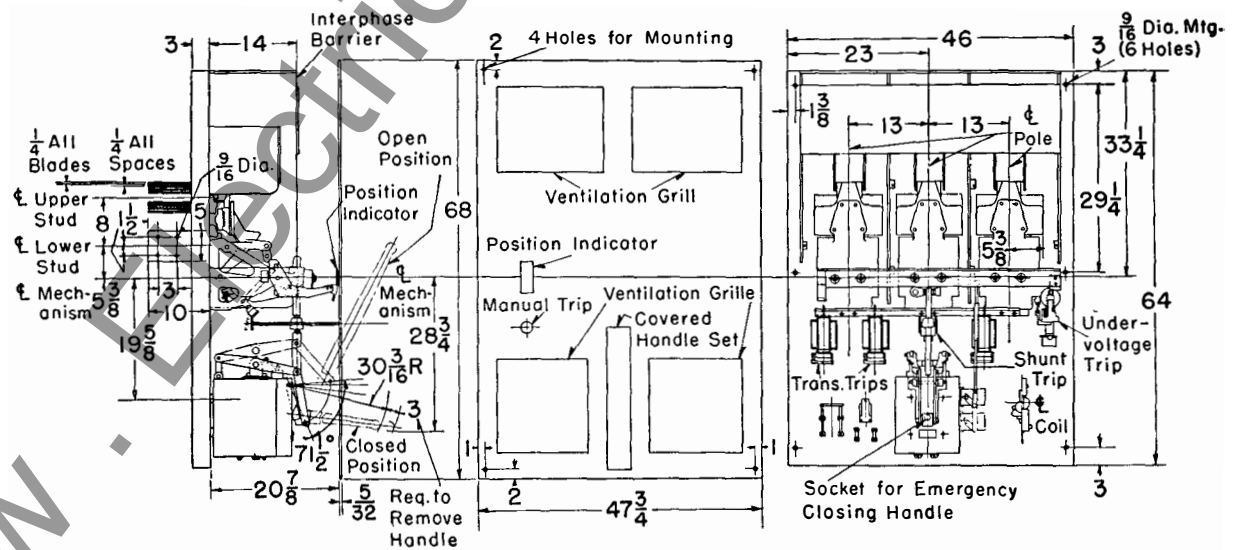


FIG. 2

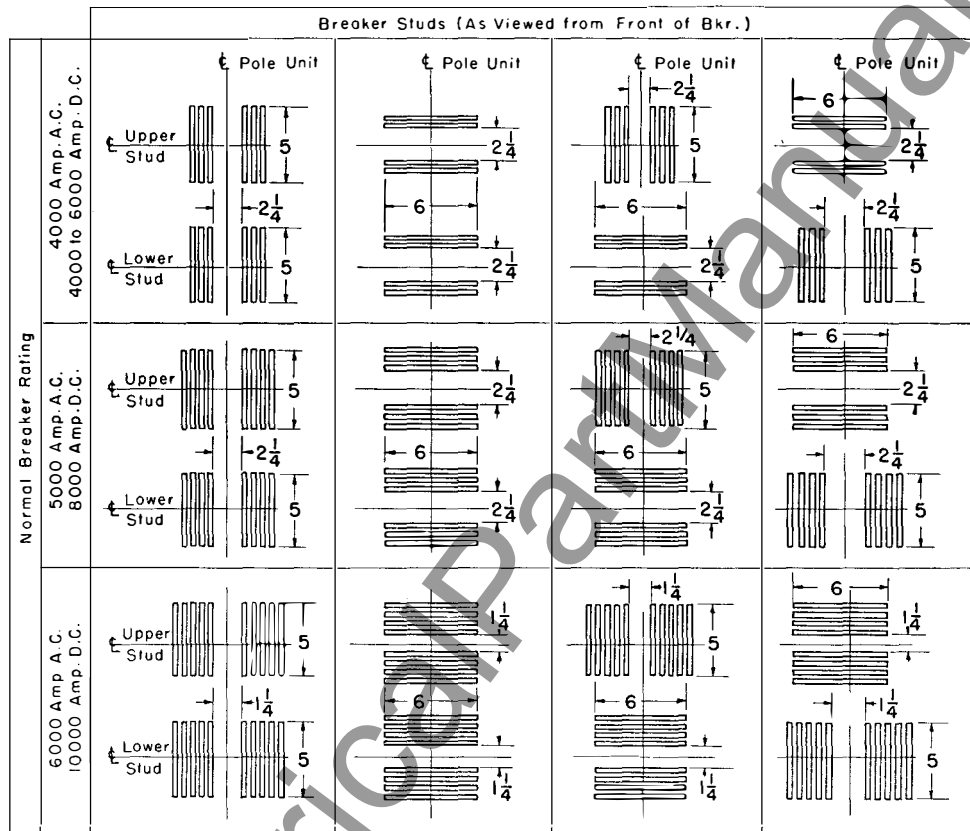
See Fig. 3, page 4, for Stud Laminations and Arrangements.

TYPE DA-100

ALL POLES

STUD LAMINATIONS AND ARRANGEMENTS

(Sectional View as seen from FRONT of Breaker)



TERMINAL STUDS FOR TYPE DA-100 AIR CIRCUIT BREAKERS CAN BE FURNISHED WITH EITHER VERTICAL OR HORIZONTAL LAMINATIONS. THIS APPLIES TO BOTH UPPER AND LOWER STUDS. BE SURE TO SPECIFY THE ARRANGEMENT REQUIRED.

FIG. 3

TYPE DA-100 Δ
2-3-4 POLES
ELECTRICALLY OPERATED

RATINGS:

- VOLTAGE 600 A.C.—250 D.C.
- CURRENT { 4000 to 6000 Amperes A.C.
4000 to 10000 Amperes D.C.
- INTERRUPTING CAPACITY—100,000 RMS Amperes

Type DA-100 air circuit breakers are trip free and include barriers and arc quenchers. D.C. breakers have over current trip coils with inverse limit attachments (I.T.L.) on each pole specified. A.C. breakers have transformer* trip. Breakers are furnished standard on black lacquered ebony asbestos panels, but when specified, slate panels can be furnished at no extra cost.

Electrically Operated breakers include a d.c. (125 or 250 volts standard) solenoid, closing relay, emergency closing handle, shunt trip and necessary auxiliary switch wired to a terminal block. A Rectox is furnished for a.c. applications.

Terminals—For dead front breakers, laminated terminals without connectors are standard.

Studs—For arrangements and laminations see Fig. 3, page 4.

Dimensions—For panels, breakers and accessories, see page 3.

Modifications are made by addition or omission of attachments as noted in list prices below.

LIST PRICES

Ampere Rating	Range of Trip Adjustment†	FIXED DEAD FRONT‡			ENCLOSED WITH PULL BOX		
		2 Pole	3 Pole	4 Pole	2 Pole	3 Pole	4 Pole
*A.C. { 4000 5000 6000	4000– 8000 A.	\$3100	\$3600	\$5050	\$3980	\$4480	....
	5000–10000 A.	4200	4900	6650	5520	6220	....
	6000–12000 A.	5000	5800	....	6320	7120	....
D.C. { 4000 5000 6000 8000 10000	4000– 8000 A.	3100	3600	....	3980	4480	....
	5000–10000 A.	3100	3600	....	3980	4480	....
	6000–12000 A.	3100	3600	....	3980	4480	....
	8000–16000 A.	4200	4900	....	5520	6220	....
	10000–20000 A.	5000	5800	....	6320	7120	....

ADDITIONAL ATTACHMENTS∅

- Undervoltage Release, self resetting
 - Instantaneous..... \$ 80.00
 - Time Delay..... 105.00
- †Reverse Current Attachment { 4000 Amp..... 225.00
(for d.c.) { 5000 and above..... 335.00
- Auxiliary Switch
 - For 4 additional circuits..... 30.00
- Overcurrent Bell-Alarm Attachment
 - (Hand reset)..... 55.00

- *Dead Front Mounting includes position indicator, barriers, trip button, emergency closing handle, without steel front plate.
 - With steel cover plate..... add \$ 90.00
 - With formed front door..... add 180.00
- Neutral Stud for Enclosed Breakers { 4000 Amp.. 150.00
5000 Amp.. 250.00
6000 Amp.. 300.00

* Price includes necessary current transformers.
 † Current coil connected in series with left hand pole facing front of breaker unless otherwise specified on the order.
 ‡ Special calibrations require an addition. Refer to headquarters.
 Δ See page 1 for Information Required on Orders and for Explanatory Information.
 ∅ For use only when sold with complete breaker.

TYPE DA-100 LARGE "DE-ION" AIR CIRCUIT BREAKERS

AVAILABLE RATINGS AND ARRANGEMENTS

TWO—THREE OR FOUR POLES

Type	Amperes		Voltage (Max.)		Interrupting Rating (Amps.)	Arrangements
	D.C.	A.C.	D.C.	A.C.		
DA-100	4000-10000	4000-6000	250	600	100,000	Electrically Operated Dead Front Enclosed

INFORMATION REQUIRED ON ORDERS

- Type—DA-100.
- Number of Poles—Two—three—four.
- Type of Mounting—Dead front.
- Method of Operation — Electrical (Specify d.c. or a.c. control voltage).
- Ampere Rating—4000, 5000, 6000 a.c.; 4000, 5000, 6000, 8000, 10,000 d.c.
- Type of Overcurrent Attachment †—Instantaneous or Time Delay.
- Number of Overload Attachments—One per pole.
- Type of Circuit—d.c. or a.c. (25, 50 or 60 cycles) and line voltage.
- Upper Studs—Vertically or Horizontally laminated.
- Lower Studs—Vertically or Horizontally laminated.

ATTACHMENTS

- Shunt Trip—Specify a.c. or d.c. control voltage.
- Undervoltage Release—(Instantaneous or Time Delay). Specify normal line voltage.
- *Reverse Current Trip—Specify control voltage.
- Auxiliary Switch—Specify number of circuits required.
- Overcurrent Bell Alarm.

EXPLANATORY INFORMATION

Electrically Operated—A standard electrically operated breaker includes the breaker—solenoid closing mechanism—Rectox device if control sources is a.c.—cutoff switch—shunt trip—control relay—necessary rotary type auxiliary switch—and a removable emergency operating handle. No position indicating lamps or control switches are included. See table of additions.

Dead Front—Includes the breaker on its final base ready for mounting in purchasers supporting frame work with barriers, mechanical trip button and position indicator. The front steel coverplate with ventilating grille and covered slot for emergency hand operation is included only when specified on the order.

Enclosed—Includes the breaker assembled in a floor mounted cabinet, with or without pull-box, with barriers, mechanical trip button, position indicator and hinged front door with covered slot for emergency operation. Pull-box has removable side plates for access in making connections.

Ampere Ratings—The ampere ratings given are standard.

Calibration—The standard overload calibration is 100 to 200 per cent of the full load rating of the breaker. Special calibration ranges are sometimes possible—check Headquarters.

Terminals—When specified give size and number of cables per stud. They must be specified as extras on all orders where required.

Studs—Round studs are not available. Unless otherwise specified the top studs of a breaker will be supplied laminated horizontally and the lower studs laminated vertically. On special order, however, any combination can be supplied—for example—on a three pole breaker the outside poles can be laminated horizontally and the center pole vertically, etc. See Fig. 3, page 4.

Undervoltage Release—The standard attachment is automatically reset—that is—after it has dropped out and tripped the breaker on reduced voltage, it will be reset by the breaker operation. The standard dropout is 40 to 60% of the line voltage. Special settings can sometimes be supplied—check Headquarters.

Auxiliary Switch—A circuit or stage is interpreted as facilities for opening and closing one auxiliary circuit. An "A" stage is closed when the associated breaker is closed. A "B" stage is open when the associated breaker is closed. Standard switches are:

2 circuits	1A and 1B
3 circuits	2A and 1B
5 circuits	3A and 2B
7 circuits	4A and 3B

Overcurrent Bell Alarm—This attachment provides a contact that closes to initiate any type of alarm when the breaker is tripped by action of one or more of its automatic tripping devices.

† If one of the listed types of overload tripping devices is not specified—the breaker will be furnished with a non-adjustable short circuit trip device.
* Current coil connected in series with left hand pole facing front of breaker unless otherwise specified on the order.

Westinghouse Electric Corporation

Mailed to: E42-1.2N; D64-1.2D; C28-1.2B Switchgear Division, East Pittsburgh, Pa.

Prices are effective June 15, 1953, and are subject to change without notice; this confirms and modifies the 10% price increase effective May 18, 1953.

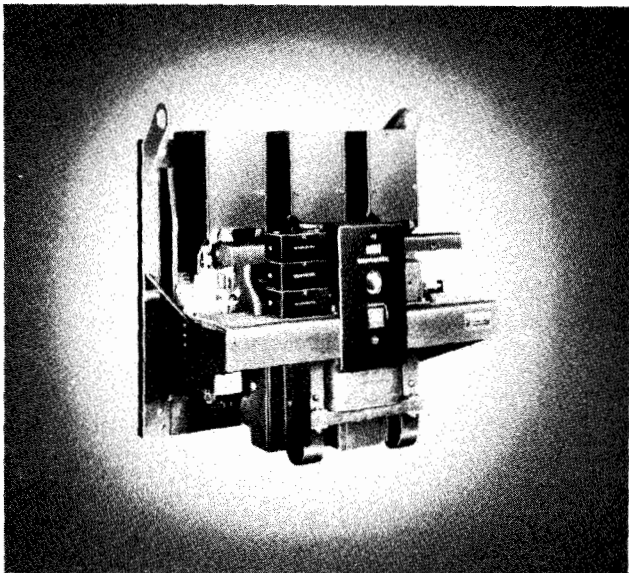
Refer to Selling Policy 35-000 for Standard Terms and Conditions of Sale.



SWITCHGEAR DEVICES
LOW VOLTAGE AIR CIRCUIT BREAKERS
 TYPE DB-75 • DE-ION® • ELECTRICALLY OPERATED

PRICE LIST
35-240

2000 TO 3000 AMPS A-C OR D-C • 600 VOLTS A-C, 250 VOLTS D-C • 75,000 AMPS INTERRUPTING • 2 OR 3-POLE



**WESTINGHOUSE
 SPECIAL FEATURES**

- AIR DELAYED TRIPPING DEVICE** offers new flexibility and extra dependability in circuit breaker operation.
- ALL-METAL MOUNTING BASE** provides strong, rigid foundation for all parts.
- ATTACHMENTS AND PARTS EASILY REMOVABLE** as a unit, and may be added to any breaker at any time.
- DE-ION ARC INTERRUPTION** provides quick arc extinction and longer contact life.
- COMPLETE SHIELDING OF LIVE PARTS** assures safety for operating personnel.
- LONGER OPERATING LIFE**-All pins and bearings subjected to high bearing pressures are made of hardened stainless steel to minimize wear and corrosion.

DE-ION AIR CIRCUIT BREAKERS-TYPE DB-75 afford low-voltage system protection benefits heretofore unattainable in any single low-voltage interrupting device. Designed around a new air delayed tripping device, they provide greater flexibility, unusual reliability, and greater service continuity. Their applications are for low-voltage power distribution in industrial plants and central station auxiliaries, Type DB-75 air circuit breakers are available in the following ratings:

- VOLTAGE**-600 volts a-c, 250 volts d-c.
- CURRENT**-2000 to 3000 amperes.
- INTERRUPTING RATING**-75,000 amperes.

Voltage		Interrupter Rating
d-c	a-c	
250	240	100,000
250	480	75,000
250	600	75,000

ELECTRICALLY OPERATED--A standard electrically operated breaker as listed, includes: removable operating handle, provision for padlocking, position indicator, one dual overcurrent trip unit for each pole, plus electrically operating features for A-C or D-C control as follows:

D-C Control	A-C Control
D-c closing solenoid	A-c closing solenoid
D-c shunt trip	A-c shunt trip
D-c control relay	A-c control relay
8-point terminal block	8-point terminal block
8-circuit auxiliary switch	8-circuit auxiliary switch

Position indicating lamps or control switch are not included.

Supersedes Price List and Dimension Section 35-240, dated June 15, 1953
 Mailed to: E42-IN; D64-ID; C28-1B

SWBD. MTG.-Includes breaker electrically operated suitable for mounting on customer's framework behind the plane of the switchboard.

ENCLOSURES-Individual mounting enclosures available include:

Ventilated. A dead front electrically operated breaker, mounted in a ventilated sheet-steel enclosure.

AMPERE RATING-The continuous current rating of the breaker is 2000, 2500 or 3000 amperes.

CALIBRATION-See ordering information.

TERMINALS-Cable terminals not included, they must be specified as extras on breakers. Refer to Westinghouse for prices.

STUDS-Studs on this breaker are horizontal bars. Round terminal studs or vertical bars are not available.

UNDERVOLTAGE TRIP-The standard attachment is automatically reset; that is, after it has dropped out and tripped the breaker on reduced voltage, it will be reset by the breaker action. The standard dropout is 30 to 60 per cent of the potential coil voltage rating. Standard voltage ratings are 125 or 250 d-c and 115, 230, or 460 a-c.

AUXILIARY SWITCH-A circuit or stage is interpreted as facilities for opening or closing one auxiliary circuit. An "a" stage is closed when the associated breaker is closed. A "b" stage is closed when the associated breaker is open. Standard switches are: 8 circuits.....4a and 4b.

ALARM SWITCH-This attachment provides a contact that closes to initiate an alarm when the breaker is tripped by action of one or more of its automatic tripping devices.

ELECTRICAL LOCKOUT-Prevents closing of breaker by holding breaker linkage in trip-free position. Energizing lockout coil frees linkage and permits closing of breaker. After breaker is closed, de-energizing coil does not cause tripping. Standard voltages are 48, 125, or 250 d-c and 115, 230, or 460 a-c.

JULY 12, 1955

For Standard Terms and Conditions of Sale Refer to Selling Policy 35-000
 Prices are effective July 12, 1955, and are subject to change without notice

PRICE LIST
35-240

SWITCHGEAR DEVICES
LOW VOLTAGE AIR CIRCUIT BREAKERS



TYPE DB-75 • DE-10N • ELECTRICALLY OPERATED

ORDERING INFORMATION

When ordering circuit breakers, specify:

TYPE-DB-75

NUMBER OF POLES-Two or Three

TYPE OF MOUNTING-Swbd. (Fixed)
Ventilated Enclosure

METHOD OF OPERATION-Electrical. Specify voltage d-c or a-c, and frequency if a-c. Standard control voltages for electrically operated breakers are 125 or 250 volts d-c and 230 or 460 volts a-c, 25 or 60 cycles.

TYPE OF CIRCUIT-D-c or a-c (25-50 or 60-cycle), and service voltage.

AMPERE RATING-2000, 2500 or 3000.

OVERCURRENT TRIP ATTACHMENT-The overcurrent tripping devices are of the following two types ...

1. Dual Overcurrent Series Tripping Device

This unit has an adjustable long delay and an adjustable instantaneous element. The calibration for the various elements:

(a) Long delay pick-up
Adjustable with calibrated marks at 80-100-120-140 and 160 per cent of the breaker rating.

(b) Long delay
The long delay is available with any one of the delay ranges listed below:

Delay Range	Description
60	Adjustable with calibrated marks at 60 and 40 seconds.
40	Adjustable with calibrated marks at 40 and 30 seconds.
(standard) 30	Adjustable with calibrated marks at 30 and 20 seconds.
20	Adjustable with calibrated marks at 20 and 12 seconds.

(c) Instantaneous pick-up
Adjustable with calibrated marks at 800 and at 1200 per cent of breaker rating.

2. Dual Selective Overcurrent Series Tripping Device for Group or Tie Breakers

This selective device is equipped with an adjustable long delay and an adjustable short delay element. The calibration for the various elements:

(a) Long delay pick-up
Adjustable with calibrated marks at 80-100-120-140 and 160 per cent of the breaker rating.

(b) Long delay
The long delay is available with any one of the delay ranges listed below:

Delay Range	Description
60	Adjustable with calibrated marks at 60 and 40 seconds.
40	Adjustable with calibrated marks at 40 and 30 seconds.
30	Adjustable with calibrated marks at 30 and 20 seconds.
20	Adjustable with calibrated marks at 20 and 12 seconds.

(c) Short delay pick-up
Adjustable with calibrated marks at 500-750 and 1000 per cent of breaker rating.

(d) Short delay
Adjustable with calibrated marks at 6-14 and 30 cycles.

NUMBER OF OVERCURRENT TRIP ATTACHMENT-One per pole.

When ordering attachments, specify:

SHUNT TRIP-Specify a-c or d-c control voltage. If a-c, specify frequency. Standard voltages are 48, 125, or 250 d-c and 115, 230, or 460 a-c.

UNDERVOLTAGE TRIP-Specify Instantaneous or Delayed. Specify a-c or d-c control voltage. If a-c, specify frequency.

AUXILIARY SWITCH-Specify number of "a" and "b" circuits if requirements are special.

ALARM SWITCH-Manually or Electrically Reset.

ELECTRICAL LOCKOUT-Specify voltage of potential coil. Standard voltages are 48, 125, or 250 d-c and 115, 230, or 460 a-c.

LIST PRICES—TYPE DB-75 AIR CIRCUIT BREAKERS

Ampere Rating	Mounting or Enclosure			
	Switchboard Fixed		Ventilated Enclosure	
	2 pole	3 pole	2 pole	3 pole
2000	\$2075.00	\$2375.00	\$2735.00	\$3035.00
2500	2480.00	2880.00	3140.00	3540.00
3000	2480.00	2880.00	3140.00	3540.00

