DB De-ion circuit breakers
15-4000 amperes, a-c or d-c

dimensions, wiring data

type breaker	approximate overall dimensions, inches▲ A	B	C	conduit entrance	cable size range for clamp-type connectors
fixed mounting for switchboard • figure 1					
DB-15	17	16⅝	12	unit is unenclosed	studs only supplied: 1¼ x 1¼", 2¼" long; two 13/32" dia. connecting holes
DB-25	20	18¾	13	unit is unenclosed	studs only supplied: 1½ x ½", 2¼" long; two 17/32" dia. connecting holes
DB-50	27	23 7/16	19½	unit is unenclosed	studs only supplied: 3½ x ¾", 2⅞" long; two 21/32" dia. connecting holes
DB-75	31½	20½	24½	unit is unenclosed	3½" x ¾" x 2½" long
DB-100	31½	20½	29	unit is unenclosed	4½" x ¾" x 2½" long
ventilated or semi-dust-tight enclosure • figure 2					
DB-15	27½	25¼	16⅝	13⅝ x 7¾ drill plate	two #6 to 500 MCM conductors
DB-25	27½	25¼	16⅝	13⅝ x 7¾ drill plate	
DB-50 DB-75 DB-100	44 46½ 46½	30½ 38⅛ 38⅛	23⅜ 34 34	removable entrance plate top and bottom for drilling to accommodate desired conduit sizes: 19¼ x 7½"	from one #3 to four 500 MCM cables or any combination of four between three sizesI Buswork to be ordered separately.
dust-tight or weather-proof enclosure • figure 2					
DB-15 DB-25 DB-50 DB-75 DB-100	27½ 27½ 44 53 53	27⅜ 27⅜ 32¼ 43⅛ 43⅛	16⅝ 16⅝ 23⅜ 34⅜ 34⅜	20 5/16 x 7¾ drill plate	same as for ventilated enclosureI
single-unit wall mounted • figure 3					
DB-15	42	33	18	16¼ x 10 plate	2 per stud, 4/0 to 500 MCM—in top—out bottom
DB-25	42	33	18	16¼ x 10 plate	2 per stud—4/0 to 750 MCM—in top—out bottom
DB-50	56	39	26	23 x 9 plate	4 per stud—4/0 to 1000 MCM—in top—out bottom
explosion-proof enclosure • figure 4					
DB-25	37	29¼	25 7/16	non-removable entrance plate top and bottom drilled for conduits up to 4½" (specify number, size and location)	same as for ventilated enclosure
DB-50	49⅛	36¼	36⅛	removable entrance plate top and bottom for drilling to conduit sizes up to 6¾" each	same as for ventilated enclosureI
submersible enclosure • figure 5					
DB-25	37½	25⅞	22¼	one porcelain bushing per pole top and bottom with threaded terminal studs, ¾"—16 threads, 1½" long and pipe plug outlet top and bottom, 1"—11½, for control wiring. Alternate arrangements available. Check factory.	same as for ventilated enclosure
DB-50	54½	33 1/16	30⅜	1½" x 12"	

I For cases where cables must by-pass, four 500 MCM cables per stud is maximum arrangement.
▲ For stack-up units refer to Headquarters.

figure 1

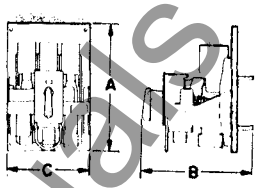


figure 2

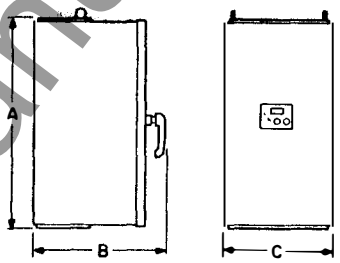


figure 3

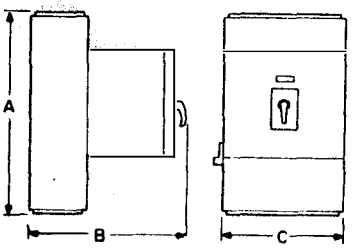


figure 4

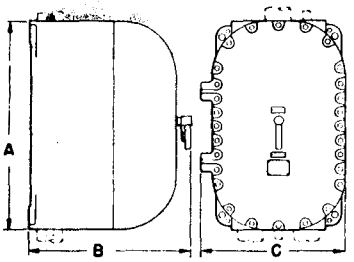
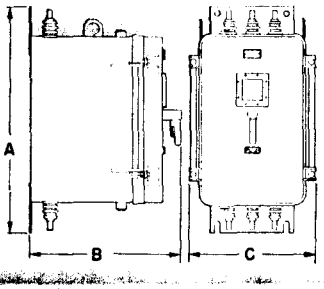


figure 5



further information

prices	price lists 33-820 and 33-821
instructions, official dimensions	DB-15, DB-25: instruction book 33-850—1 and 2E DB-50: instruction book 33-850—3C DB-75, DB-100: instruction book 33-850—4 and 5C

Westinghouse Electric Corporation
Switchgear Division • East Pittsburgh, Pa.
printed in U.S.A.

DB De-ion® circuit breakers
15-4000 amperes, a-c or d-c

manually or electrically operated • 2 or 3-pole
15,000 to 100,000 amp interrupting capacity

specification guide

for prices, refer to price lists 33-820 and 33-821

item	choice or specification
when ordering circuit breakers, specify:	
type	DB-15, DB-25, DB-50, DB-75 or DB-100
number poles	2 or 3
type of mounting	fixed (switchboard) ventilated enclosure weather-proof enclosure dust-tight enclosure semi-dust-tight enclosure explosion-proof enclosure submersible (watertight) enclosure single unit—one high
method of operation	manual, manual spring, or electric If electrical, specify control voltage, a-c or d-c, and frequency (see page 6)
circuit or service	voltage, a-c or d-c, and frequency (25-50 or 60 cycles)
ampere rating	(from table on page 6)
type of series trip attachment	one supplied per pole, choose and specify type: standard tripping device: long delay and instantaneous selective tripping device: long delay and short delay instantaneous tripping unit only.
when ordering attachments, specify:	
shunt trip (on manually operated breaker)	specify control voltage, d-c or a-c, and frequency (see page 6)
undervoltage trip	instantaneous or delayed specify control voltage, d-c or a-c and frequency (see page 6)
reverse current trip	specify voltage of potential coil (see page 6)
additional auxiliary switch	specify number of "a" and "b" circuits a: closed when breaker is closed b: open when breaker is closed **note:** All electrically operated breakers are supplied with one 4-circuit auxiliary switch (with two "a" and two "b" circuits).
alarm switch	manually or electrically reset
electrical lockout	specify voltage of potential coil (see page 6)
key interlock	specify ultimate user and destination

net weights in pounds

type	DB-15				DB-25				DB-50				DB-75		DB-100	
	manual		electrical		manual		electrical		manual		electrical		electrical		electrical	
	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole
switchboard (fixed)	60	70	75	85	80	90	100	110	220	280	295	355	415	475	445	525
ventilated enclosure	135	165	150	170	170	180	190	200	430	490	505	565	665	725	695	775
weather-proof enclosure	145	165	160	180	170	180	190	200	430	490	505	565	665	725	695	775
semi-dust-tight enclosure	135	155	150	170	170	180	190	200	430	490	505	565	...	...	...	...
dust-tight enclosure	145	165	160	180	170	180	190	200	430	490	505	565	...	...	...	...
explosion-proof enclosure	...	...	...	...	1480	1490	1500	1510	2440	2500	2515	2575	...	...	...	...

standard ratings

continuous current ratings • *standard ratings are calibrated 80 to 160% ratings*

rating range, amperes	breaker type	standard ratings, amperes
15-225	DB-15	15, 20, 30, 40, 50, 70, 90, 100, 125, 150, 175, 200 or 225
40-600	DB-25	40, 50, 70, 90, 100, 125, 150, 175, 200, 225, 250, 300, 350, 400, 500 or 600
200-1600	DB-50	200, 225, 250, 300, 350, 400, 500, 600, 800, 1000, 1200 or 1600*
2000-3000	DB-75	2000, 2500, 3000
4000	DB-100	4000
6000 d-c	DB-100	6000 d-c

* 1600 ampere rating not available on non-ventilated enclosures

interrupting ratings

a-c or d-c service	line voltage	type breaker	minimum continuous current rating amperes	interrupting rating		maximum short circuit current at which breaker can be applied			
				asymmetrical amperes	symmetrical amperes	selective system		cascade system	
						asymmetrical amperes	symmetrical amperes	asymmetrical amperes	symmetrical amperes
a-c all values are 60 cycles (rms)	240 and below	DB-15	30	30,000	25,000	15,000	14,000	60,000	50,000
		DB-25	150	50,000	42,000	25,000	22,000	100,000	85,000
		DB-50	600	75,000	65,000	50,000	42,000	120,000	100,000
		DB-75	2000	100,000	85,000	75,000	65,000	150,000	130,000
		DB-100	4000	150,000	130,000	100,000	85,000	150,000	130,000
	241-480	DB-15	20	25,000	22,000	15,000	14,000	50,000	42,000
		DB-25	100	35,000	30,000	25,000	22,000	70,000	60,000
		DB-50	400	60,000	50,000	50,000	42,000	100,000	85,000
		DB-75	2000	75,000	65,000	75,000	65,000	100,000	85,000
		DB-100	4000	100,000	85,000	100,000	85,000	100,000	85,000
	481-600	DB-15	15	15,000	14,000	15,000	14,000	30,000	25,000
		DB-25	40	25,000	22,000	25,000	22,000	50,000	42,000
		DB-50	200	50,000	42,000	50,000	42,000	100,000	85,000
		DB-75	2000	75,000	65,000	75,000	65,000	100,000	85,000
		DB-100	4000	100,000	85,000	100,000	85,000	100,000	85,000
d-c	250 and below	DB-15	15	15,000	.....	.....	.....	.....	.....
		DB-25	40	25,000	.....	.....	.....	.....	.....
		DB-50	200	50,000	.....	.....	.....	.....	.....
		DB-75	2000	75,000	.....	.....	.....	.....	.....
		DB-100	4000	100,000	.....	.....	.....	.....	.....

overcurrent tripping devices

standard long delay and instantaneous device, and selective device		standard long delay and instantaneous device			selective trip device short delay settings			
long delay settings for DB-15, DB-25, DB-50, DB-75, and DB-100		instantaneous pickup in % of trip unit rating			pickup settings in % of trip unit rating			short delay, cycles for
pickup settings % rating	long delay, seconds	DB-15 and DB-25	DB-50	DB-75 and DB-100	DB-15 and DB-25	DB-50	DB-75 and DB-100	DB-15, DB-25 DB-50, DB-75 and DB-100
standard settings for feeder breakers (preferred)								
80-100-120-140-160	20 and 30	800 and 1200	800 and 1200	800 and 1200	500-750-1000	500-750-1000	500-750-1000	6, 14 and 30
standard settings for transformer secondary and main incoming line breakers (preferred)								
80-100-120-140-160	20 and 30	500 and 1000	500 and 1000	500 and 1000	500-750-1000	500-750-1000	500-750-1000	6, 14 and 30
optional settings available when specified (preferred)								
80-100-120-140-160	①25-150	...	200 and 350 or 250 and 400	... ②250 and 400	...	200 and 350 or 250 and 400	③200 and 350 or ③250 and 400	6, 14 and 30
special settings (non-preferred) available on special request only								
80-100-120-140-160	12 and 20	800 and 1200	800 and 1200	800 and 1200	500-750-1000	500-750-1000	500-750-1000	6, 14 and 30
80-100-120-140-160	30 and 40	500 and 1000	800 and 1200	800 and 1200	500-750-1000	500-750-1000	500-750-1000	6, 14 and 30
80-100-120-140-160	40 and 60	500 and 800	500 and 1000	800 and 1200	500-750-1000	500-750-1000	500-750-1000	6, 14 and 30
80-100-120-140-160	①25-150	200 and 350 or 250 and 400	...	...	200 and 350 or 250 and 400	...	...	6, 14 and 30

① One calibrated mark between 25 and 150 seconds (specify mark) at 165% of trip unit rating.

② Lowest calibration must not be less than 5000 amperes.

③ Lowest calibration must not be less than 10000 amperes.

standard control voltages for electrically controlled breakers and shunt trip and undervoltage trip attachments	d-c	a-c
	48, 125, 250	230, 460

standard potential coil voltages for reverse current trip and electrical lockout attachments	d-c
	125, 250

removable arrangements

All breakers except the DB-75 and DB-100 are removable as a unit from all enclosures. Rail extensions as shown are provided.

All breakers are free-standing when removed.

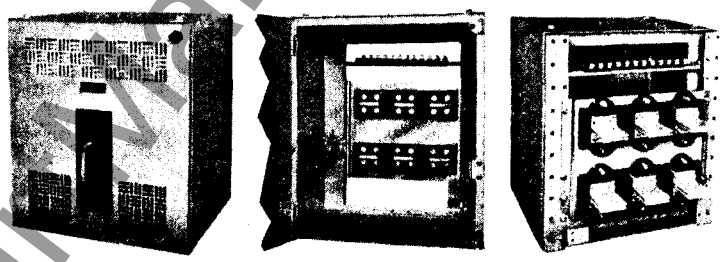
a. Breaker with lifting rings for raising to mounting positions.

b. Breaker rolled forward on rail extension for easy test and inspection.

c. Breaker removed for access to cable connectors.

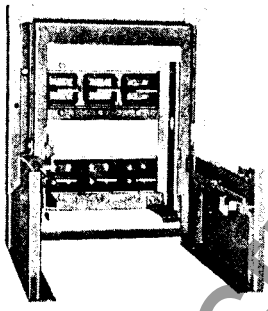
3-position drawout breakers
single unit • one-high

Single unit, one-high drawout stack-up units provide a factory-assembled standardized design for low-voltage metal-enclosed switchgear. In this 3-position arrangement, the door of the breaker compartment can be closed with the breaker in any of its three recognized positions—"connected", "test", "disconnected". The 3-position feature offers a new convenience and safety to operating and maintenance personnel and greater protection for the circuit breakers.

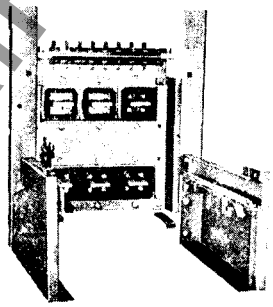


drawout breaker substructure

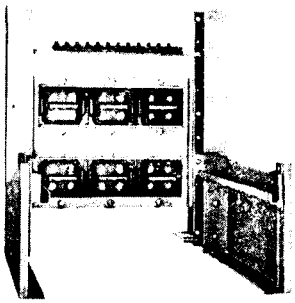
DB-15



DB-25



DB-50



wall mounting units

Large industrial plants having widely separated load locations often require isolated breaker units instead of a central distribution switchboard. Wall-mounted, low-voltage, drawout air circuit breaker units are designed to meet these requirements.

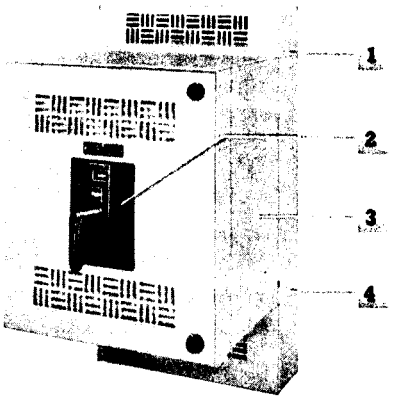
These individual units are available with air circuit breakers having interrupting capacities of 15,000, 25,000 and 50,000 amperes, manually or electrically operated. The housings are designed for cable entrances at either top or bottom. The units include all the safety and interlock features of standard, low-voltage drawout units.

1. Main housing for wall mounting with knockouts at top and bottom for conduits. Housing can be mounted in place and all cable connections made before breaker compartment is bolted in place.

2. Manually or electrically operated type DB-15, DB-25 or DB-50 three position drawout breaker element.

3. Breaker compartment includes door interlock, breaker position stops and all safety features of standard units.

4. External ground connection for solidly grounding housing and drawout welded frame.

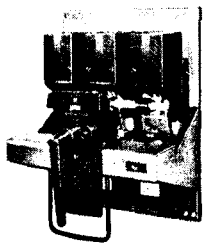
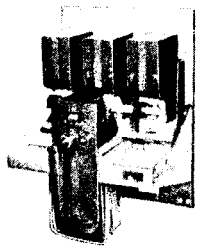
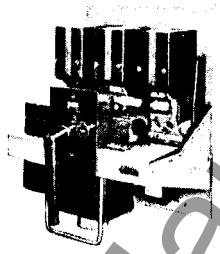
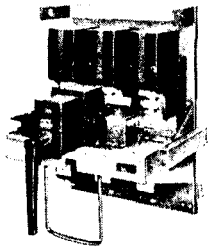
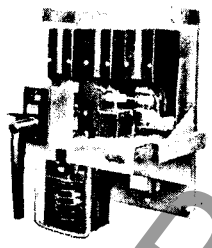
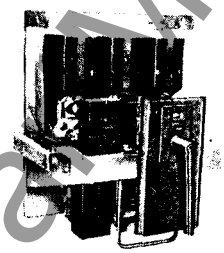


individual unit type **DB** breaker for wall mounting

design features

choice of breaker closing mechanisms

To match application requirements, DB breakers are available with manual, manual-spring or electric solenoid closing mechanisms.

	manual closing	manual-spring closing	electric solenoid closing
for fixed position mounting			
for 3-position drawout mounting			

manual-spring closing mechanism

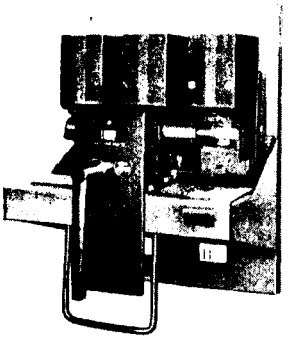
DB breaker with manual-spring closing mechanism

The manual-spring closing mechanism is available for the DB-15, DB-25 and DB-50 breakers. This spring mechanism assures rapid safe closing against all possible fault currents. The closing portion of the mechanism involves no latches or triggers. Simplicity, sturdiness and reliability are distinctive features of this mechanism.

sub-assembly plan • mountings • enclosures

The basic DB breaker and all components are mounted on an all-metal base to form a single compact unit. All parts are accessible for inspection and adjustment. Attachments can be added or removed easily; mounting holes are provided. This sub-assembly plan affords factory-assembled, tested and stocked components for quick assembly or changes of installed breakers—for ease of maintenance and most efficient breaker operation.

The design features illustrated on pages 2 and 3, of nine main components, illustrate the sub-assembly arrangement and its simplicity.

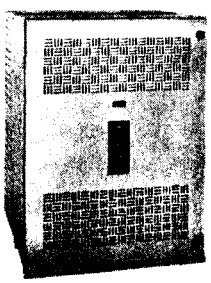


fixed mounting for switchboard use

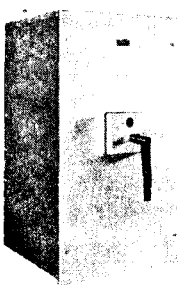
All-steel mounting panel of the basic DB breaker has mounting holes suitable for bolting to framework or switchboard. All breakers for switchboard fixed mounting are furnished with horizontal bar studs (vertical bars or round studs are not available). The breaker is supplied without front panels. Non-flanged front panel or hinged panel can be supplied as addition.

typical enclosures

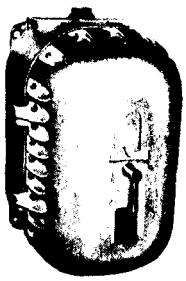
All enclosures, except DB-75 and DB-100, include clamp-type connectors for cables and cover interlocks. Ventilated, weather-proof, dust-tight and semi-dust-tight enclosures have suitable knockouts or entrance plates for conduit entrance. Explosion-proof enclosures have tapped conduit holes or entrance plates. Submersible breakers are supplied complete with external porcelain bushings. (See page 8 for details.)



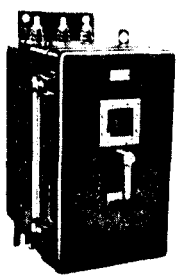
ventilated enclosure



weather-proof, dust-tight or semi-dust-tight enclosure



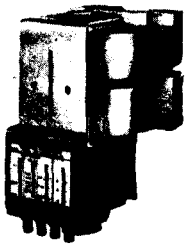
explosion-proof enclosure



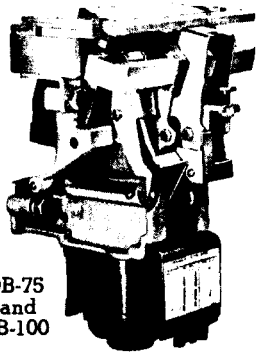
submersible enclosure

overcurrent tripping device
(one dual unit per pole)

DB-15 and DB-25



DB-50



DB-75 and DB-100

motor protection or general duty: Breakers are supplied with tripping devices having long delay and instantaneous tripping characteristics—both independently adjustable.

selective tripping: Selective overcurrent trip devices have long and short delay tripping characteristics—both independently adjustable.

Each unit consists of a magnetically operated trip plunger delayed by an air diaphragm. Time delay is adjusted by controlling the size of orifice between chambers of the air unit.

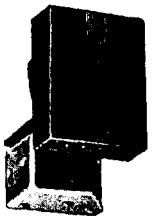
attachments supplied with electrically-operated breakers

shunt trip (optional with manually-operated breakers)

Non-adjustable coil provided for remote tripping; intermittently rated.

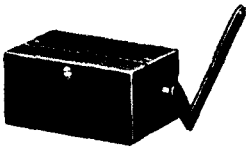
closing solenoid

D-c solenoid for DB-50, 75 and 100 breakers. Use Rectox® for a-c control. A-c solenoid for DB-15 to DB-25 breakers. Used also for d-c control.



control or closing relay

Consists of a cut-off contact and a seal-in contact to operate the closing solenoid.



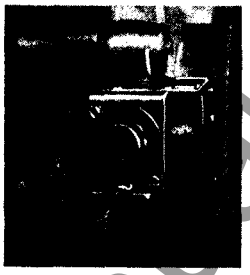
4-circuit auxiliary switch

Rotary switch consisting of two "a" contacts and two "b" contacts ("a" contacts are closed when breaker is closed; "b" contacts are open when breaker is closed).

8-point terminal block

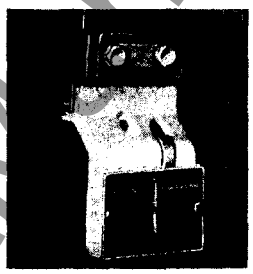
All attachment leads on separately enclosed and non-drawout breakers are connected to terminal block for easy access.

optional attachments



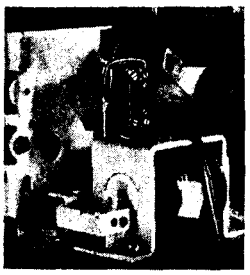
undervoltage trip

Trips breaker on loss of voltage and is automatically reset by breaker action. Attachment is available for instantaneous or time delay tripping.



reverse current trip

Opens breaker upon a reversal of current in the circuit. This direct-current device is adjustable and may be set to trip at 5 to 25% reverse current, based on normal current rating.

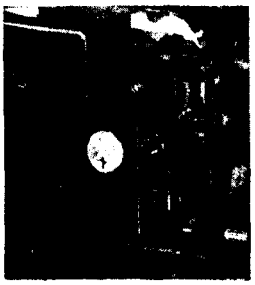


alarm switch

Closes to initiate alarm when breaker is tripped by an automatic tripping device (does not operate when breaker is tripped manually or by shunt trip).

electrical lockout

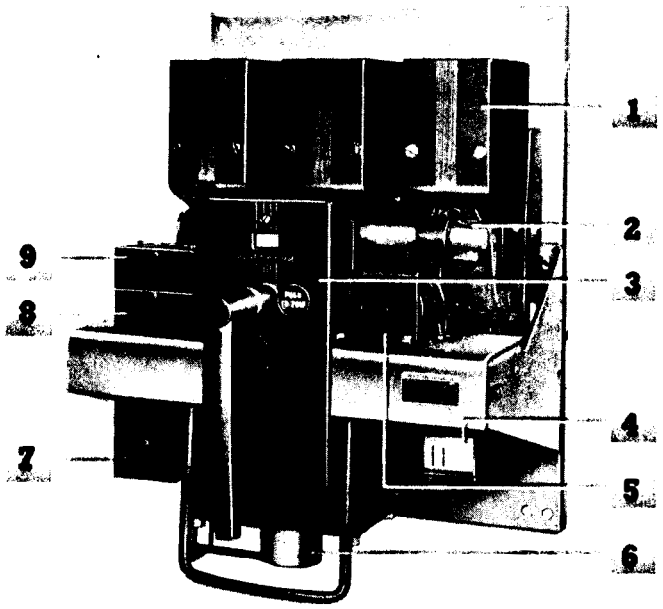
Holds breaker linkage in trip-free position to prevent closing until lockout is energized. After breaker is closed, de-energizing coil will not trip breaker.



key interlock

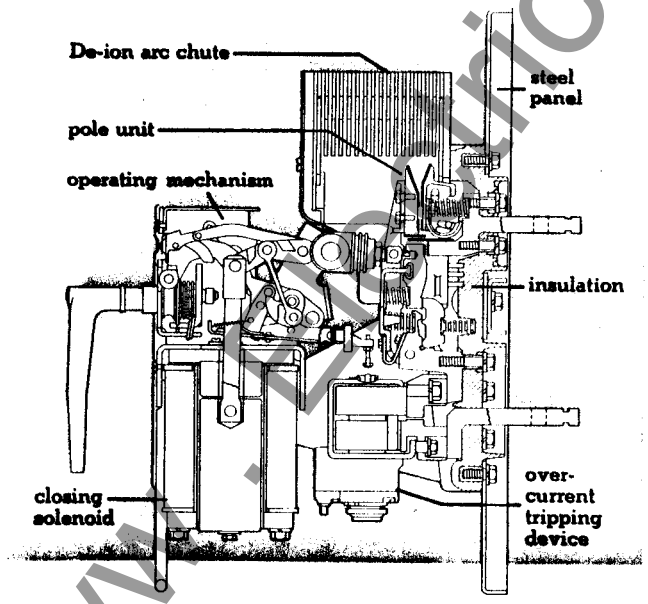
Several designs available for interlocking two or more breakers.

design features

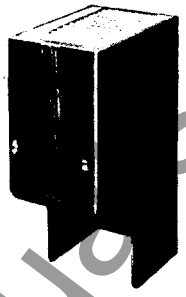


DB-50 breaker

All breakers have similar construction to the DB-50 breaker illustrated here and the same basic design modified to suit their sizes and ratings.

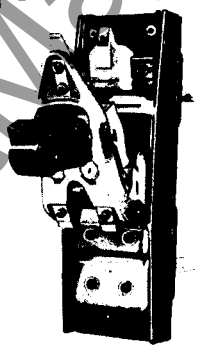


1 De-ion arc chutes (one per pole)

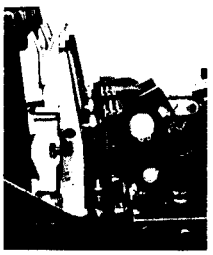


To prevent contact burning, arcs are quickly and positively interrupted. Strong magnetic fields pull the arc upward into the arc chute; rising gas blasts carry conducting particles out of the arc path to break the arc.

2 pole unit (2 or 3 supplied)



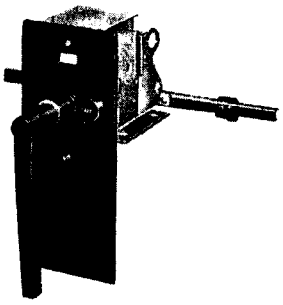
open position



closed position

All breakers have solid-block, silver-inlaid main contacts, insuring lasting current-carrying ability. Main contacts will not arc: When breaker opens, main contacts part first, then secondary contacts and finally arcing tips. When arcing tips break, arc flashes at the point and is blown into De-ion arc chute.

3 operating mechanism



manually-operated breaker: Rotary operating handle operates the breaker directly or through a manual-spring closing mechanism.

electrically-operated breaker: Has solenoid closing, shunt trip, control relay and 4-pole auxiliary switch.

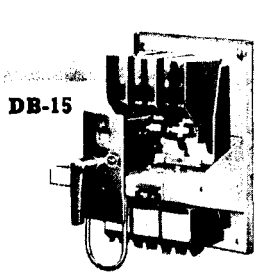
Mechanical indicator shows breaker position at all times.

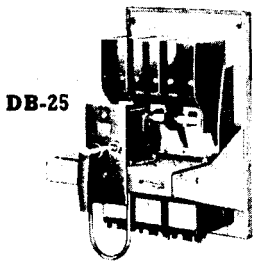
Push to trip button with protective side brackets can be padlocked.

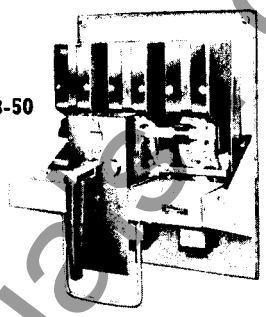
DB De-ion® circuit breakers

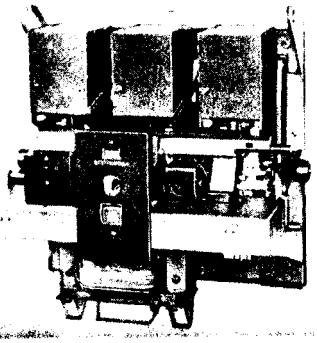
15-4000 amperes, a-c or d-c

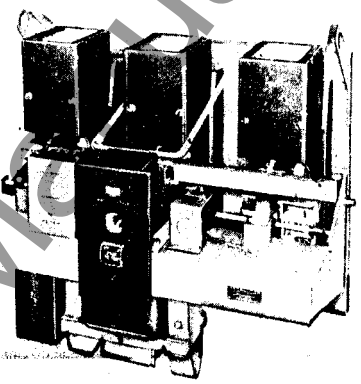
manually or electrically operated • 2 or 3-pole
15,000 to 100,000 amp interrupting capacity


DB-15


DB-25


DB-50


DB-75


DB-100

application

For protection of low-voltage a-c or d-c power distribution systems in industrial plants and electric utility station auxiliaries.

advantages

complete low-voltage air circuit breaker line: DB De-ion breakers are supplied in five basic sizes of two or three-pole design with a range of current ratings from 15 to 4000 amperes a-c or d-c.

application flexibility with choice of operating mechanisms: Standard DB breakers are equipped with either manual, manual-spring or electrical operating mechanisms. Optional attachments provide for modifications to suit any circuit protective scheme.

overcurrent tripping device: Standard tripping devices have long delay and instantaneous tripping characteristics—both independently adjustable. Selective trips have long and short delay characteristics—both independently adjustable.

variety of mountings: DB breakers can be supplied for fixed switchboard mounting or separate enclosures depending on the nature of the installation site, or in single unit one-high drawout assembly.

sub-assembly plan: Provides mounting of basic DB breaker and components on all metal base to form a single compact unit. The plan features factory-assembled, tested and stocked components, for improved service on a variety of DB breaker accessories.

3-position DB drawout breakers: Single unit one-high drawout stack-up units provide a factory-assembled standardized design for the make-up of low-voltage metal-enclosed switchgear.

selector guide

standard circuit breakers are calibrated from 80 to 160% of current rating

range of ratings: amperes, ac/d-c	type breaker	interrupting capacity, amperes at 600 v a-c, 250 v d-c†
15 to 225	DB-15	15,000
40 to 600	DB-25	25,000
200 to 1600	DB-50	50,000
2000 to 3000	DB-75	75,000
4000 a-c	DB-100	100,000
6000 d-c	DB-100	100,000

†For interrupting capacity at reduced voltages, see page 6.

May, 1965
supersedes descriptive bulletin 33-850 dated January, 1960
mailed to: E/1140/DB; D/812/DB; C/336/DB

DB De-ion® circuit breakers

15-4000 amperes, a-c or d-c

manually or electrically operated • 2 or 3-pole
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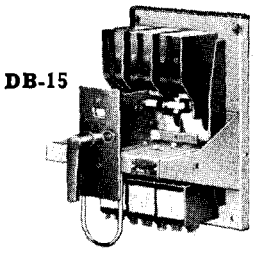
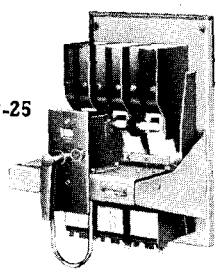
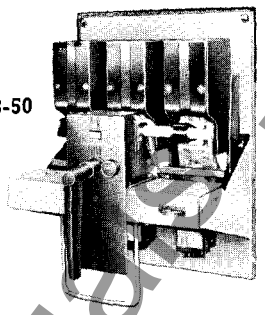
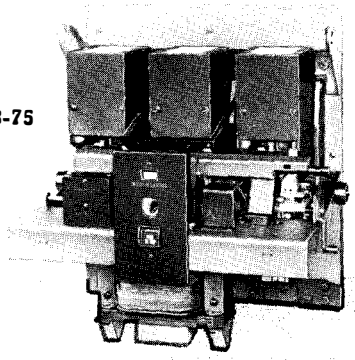
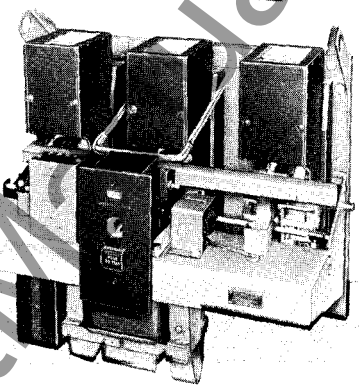

DB-15


DB-25


DB-50


DB-75


DB-100

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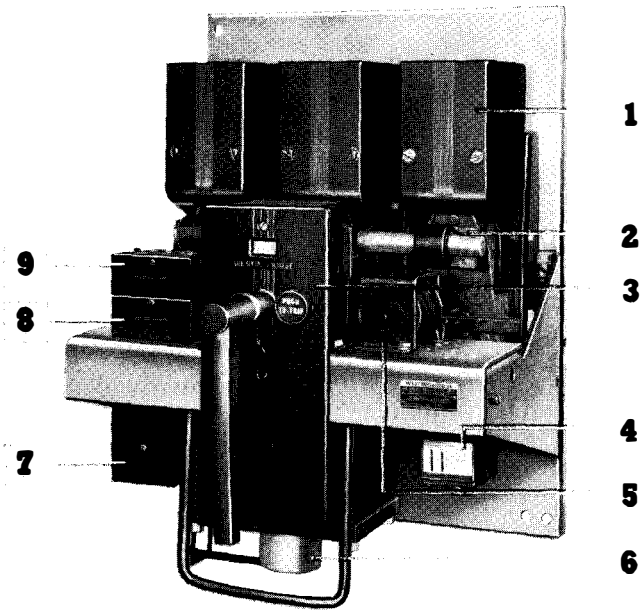
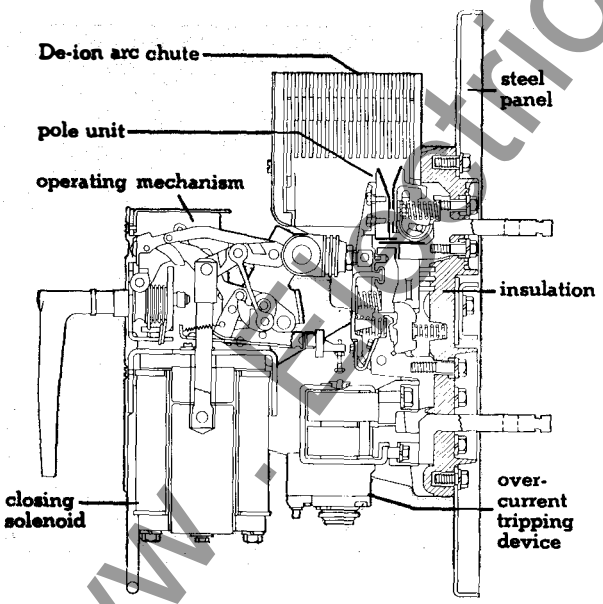
design features

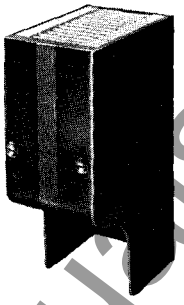


DB-50 breaker

All breakers have similar construction to the DB-50 breaker illustrated here and the same basic design modified to suit their sizes and ratings

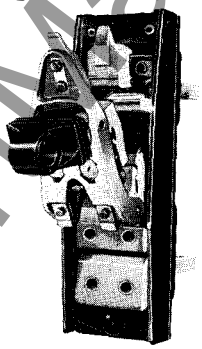


1 De-ion arc chutes (one per pole)

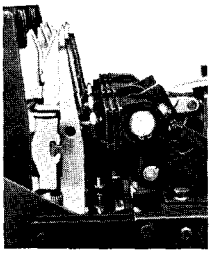


To prevent contact burning, arcs are quickly and positively interrupted. Strong magnetic fields pull the arc upward into the arc chute; rising gas blasts carry conducting particles out of the arc path to break the arc.

2 pole unit (2 or 3 supplied)



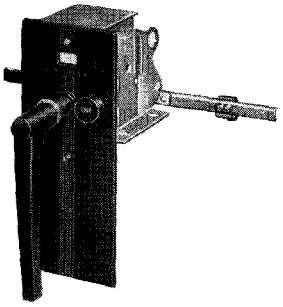
open position



closed position

All breakers have solid-block, silver-inlaid main contacts, insuring lasting current-carrying ability. Main contacts will not arc: When breaker opens, main contacts part first, then secondary contacts and finally arcing tips. When arcing tips break, arc flashes at the point and is blown into De-ion arc chute.

3 operating mechanism



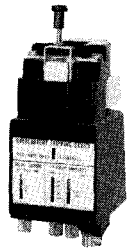
manually-operated breaker: Rotary operating handle operates the breaker directly or through a manual-spring closing mechanism.

electrically-operated breaker: Has solenoid closing, shunt trip, control relay and 4-pole auxiliary switch.

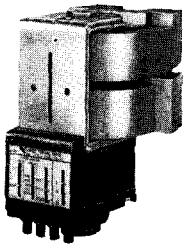
Mechanical indicator shows breaker position at all times.

Push to trip button with protective side brackets can be padlocked.

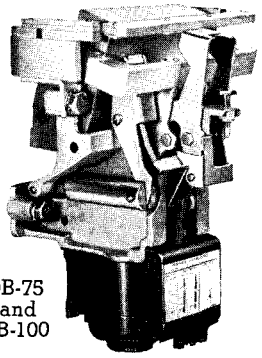
4 overcurrent tripping device
(one dual unit per pole)



DB-15 and DB-25



DB-50



DB-75 and DB-100

motor protection or general duty: Breakers are supplied with tripping devices having long delay and instantaneous tripping characteristics—both independently adjustable.

selective tripping: Selective overcurrent trip devices have long and short delay tripping characteristics—both independently adjustable.

Each unit consists of a magnetically operated trip plunger delayed by an air diaphragm. Time delay is adjusted by controlling the size of orifice between chambers of the air unit.

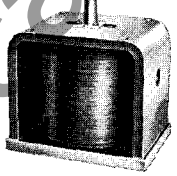
attachments supplied with electrically-operated breakers

5 shunt trip (optional with manually-operated breakers)

Non-adjustable coil provided for remote tripping; intermittently rated.

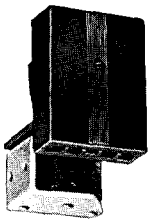
6 closing solenoid

D-c solenoid for DB-50, 75 and 100 breakers. Use Rectox® for a-c control. A-c solenoid for DB-15 to DB-25 breakers. Used also for d-c control.



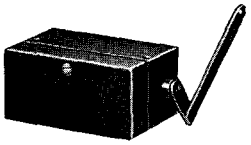
7 control or closing relay

Consists of a cut-off contact and a seal-in contact to operate the closing solenoid.



8 4-circuit auxiliary switch

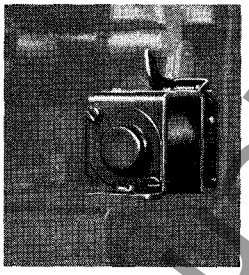
Rotary switch consisting of two "a" contacts and two "b" contacts ("a" contacts are closed when breaker is closed; "b" contacts are open when breaker is closed).



9 8-point terminal block

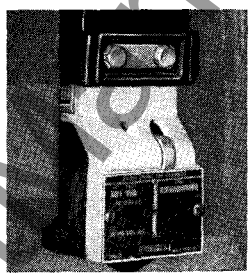
All attachment leads on separately enclosed and non-drawout breakers are connected to terminal block for easy access.

optional attachments



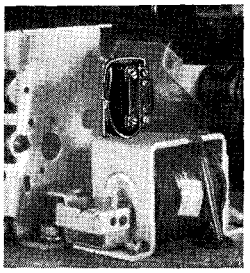
undervoltage trip

Trips breaker on loss of voltage and is automatically reset by breaker action. Attachment is available for instantaneous or time delay tripping.



reverse current trip

Opens breaker upon a reversal of current in the circuit. This direct-current device is adjustable and may be set to trip at 5 to 25% reverse current, based on normal current rating.

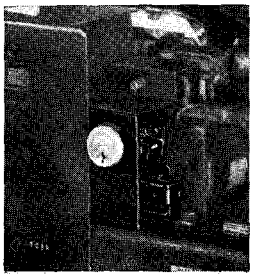


alarm switch

Closes to initiate alarm when breaker is tripped by an automatic tripping device (does not operate when breaker is tripped manually or by shunt trip).

electrical lockout

Holds breaker linkage in trip-free position to prevent closing until lockout is energized. After breaker is closed, de-energizing coil will not trip breaker.



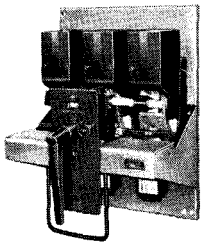
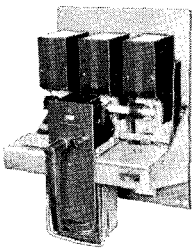
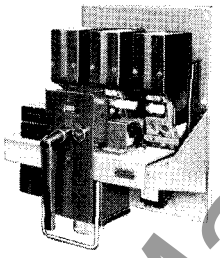
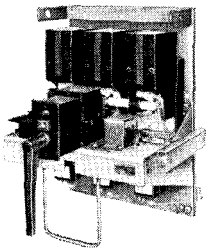
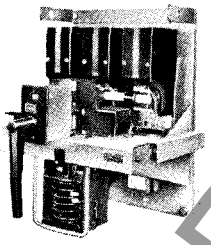
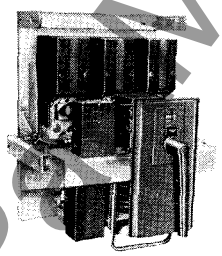
key interlock

Several designs available for interlocking two or more breakers.

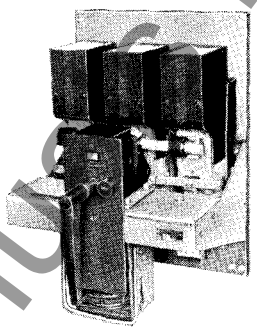
design features

choice of breaker closing mechanisms

To match application requirements, DB breakers are available with manual, manual-spring or electric solenoid closing mechanisms.

	manual closing	manual-spring closing	electric solenoid closing
for fixed position mounting			
for 3-position drawout mounting			

manual-spring closing mechanism



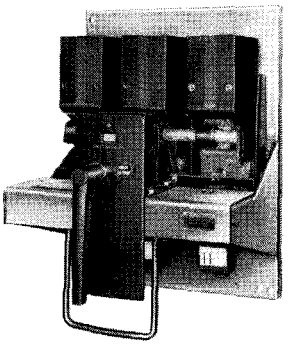
DB breaker with manual-spring closing mechanism

The manual-spring closing mechanism is available for the DB-15, DB-25 and DB-50 breakers. This spring mechanism assures rapid safe closing against all pcssible fault currents. The closing portion of the mechanism involves no latches or triggers. Simplicity, sturdiness and reliability are distinctive features of this mechanism.

sub-assembly plan • mountings • enclosures

The basic DB breaker and all components are mounted on an all-metal base to form a single compact unit. All parts are accessible for inspection and adjustment. Attachments can be added or removed easily; mounting holes are provided. This sub-assembly plan affords factory-assembled, tested and stocked components for quick assembly or changes of installed breakers—for ease of maintenance and most efficient breaker operation.

The design features illustrated on pages 2 and 3, of nine main components, illustrate the sub-assembly arrangement and its simplicity.

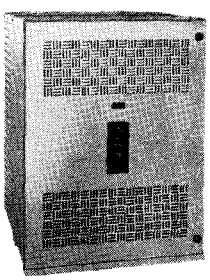


fixed mounting for switchboard use

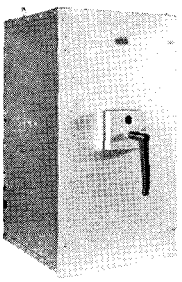
All-steel mounting panel of the basic DB breaker has mounting holes suitable for bolting to framework or switchboard. All breakers for switchboard fixed mounting are furnished with horizontal bar studs (vertical bars or round studs are not available). The breaker is supplied without front panels. Non-flanged front panel or hinged panel can be supplied as addition.

typical enclosures

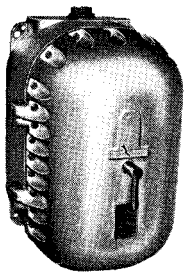
All enclosures, except DB-75 and DB-100, include clamp-type connectors for cables and cover interlocks. Ventilated, weather-proof, dust-tight and semi-dust-tight enclosures have suitable knockouts or entrance plates for conduit entrance. Explosion-proof enclosures have tapped conduit holes or entrance plates. Submersible breakers are supplied complete with external porcelain bushings. (See page 8 for details.)



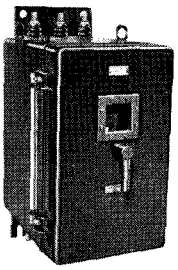
ventilated enclosure



weather-proof, dust-tight or semi-dust-tight enclosure



explosion-proof enclosure



submersible enclosure

removable arrangements

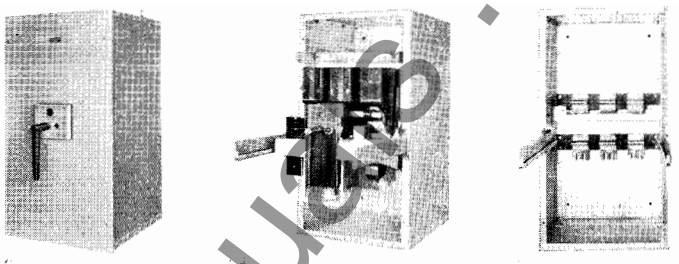
All breakers except the DB-75 and DB-100 are removable as a unit from all enclosures. Rail extensions as shown are provided.

All breakers are free-standing when removed.

a. Breaker with lifting rings for raising to mounting positions.

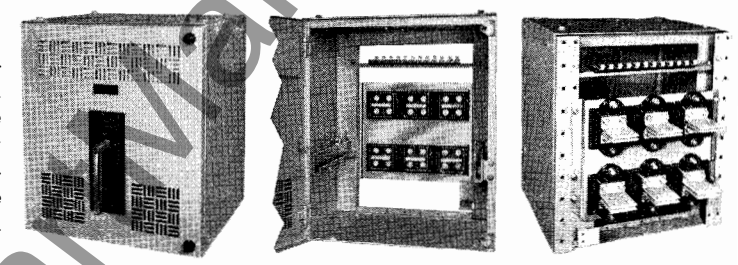
b. Breaker rolled forward on rail extension for easy test and inspection.

c. Breaker removed for access to cable connectors.



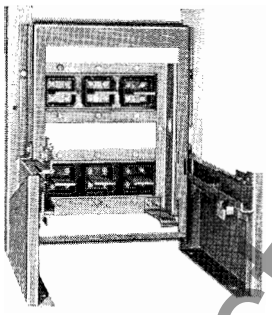
3-position drawout breakers
single unit • one-high

Single unit, one-high drawout stack-up units provide a factory-assembled standardized design for low-voltage metal-enclosed switchgear. In this 3-position arrangement, the door of the breaker compartment can be closed with the breaker in any of its three recognized positions—"connected", "test", "disconnected". The 3-position feature offers a new convenience and safety to operating and maintenance personnel and greater protection for the circuit breakers.

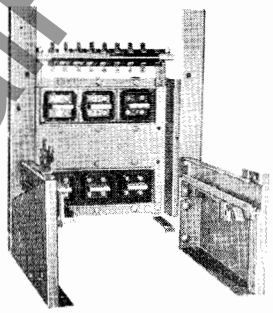


drawout breaker substructure

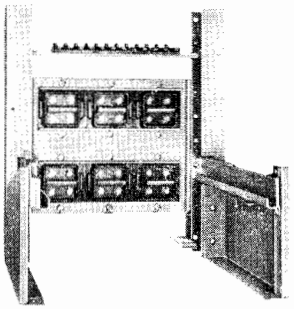
DB-15



DB-25



DB-50



wall mounting units

Large industrial plants having widely separated load locations often require isolated breaker units instead of a central distribution switchboard. Wall-mounted, low-voltage, drawout air circuit breaker units are designed to meet these requirements.

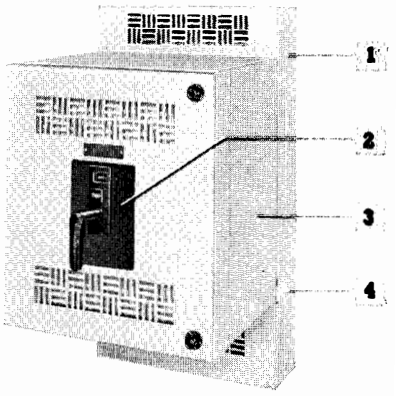
These individual units are available with air circuit breakers having interrupting capacities of 15,000, 25,000 and 50,000 amperes, manually or electrically operated. The housings are designed for cable entrances at either top or bottom. The units include all the safety and interlock features of standard, low-voltage drawout units.

1 Main housing for wall mounting with knockouts at top and bottom for conduits. Housing can be mounted in place and all cable connections made before breaker compartment is bolted in place.

2 Manually or electrically operated type DB-15, DB-25 or DB-50 three position drawout breaker element.

3 Breaker compartment includes door interlock, breaker position stops and all safety features of standard units.

4 External ground connection for solidly grounding housing and drawout welded frame.



individual unit type DB breaker for wall mounting

standard ratings

continuous current ratings • *standard ratings are calibrated 80 to 160% ratings*

rating range, amperes	breaker type	standard ratings, amperes
15-225	DB-15	15, 20, 30, 40, 50, 70, 90, 100, 125, 150, 175, 200 or 225
40-600	DB-25	40, 50, 70, 90, 100, 125, 150, 175, 200, 225, 250, 300, 350, 400, 500 or 600
200-1600	DB-50	200, 225, 250, 300, 350, 400, 500, 600, 800, 1000, 1200 or 1600▲
2000-3000	DB-75	2000, 2500, 3000
4000	DB-100	4000
6000 d-c	DB-100	6000 d-c

▲ 1600 ampere rating not available on non-ventilated enclosures

interrupting ratings

a-c or d-c service	line voltage	type breaker	minimum continuous current rating amperes	interrupting rating		maximum short circuit current at which breaker can be applied			
						selective system		cascade system	
				asymmetrical amperes	symmetrical amperes	asymmetrical amperes	symmetrical amperes	asymmetrical amperes	symmetrical amperes
a-c all values are 60 cycles (rms)	240 and below	DB-15	30	30,000	25,000	15,000	14,000	60,000	50,000
		DB-25	150	50,000	42,000	25,000	22,000	100,000	85,000
		DB-50	600	75,000	65,000	50,000	42,000	120,000	100,000
		DB-75	2000	100,000	85,000	75,000	65,000	150,000	130,000
		DB-100	4000	150,000	130,000	100,000	85,000	150,000	130,000
	241-480	DB-15	20	25,000	22,000	15,000	14,000	50,000	42,000
		DB-25	100	35,000	30,000	25,000	22,000	70,000	60,000
		DB-50	400	60,000	50,000	50,000	42,000	100,000	85,000
		DB-75	2000	75,000	65,000	75,000	65,000	100,000	85,000
		DB-100	4000	100,000	85,000	100,000	85,000	100,000	85,000
	481-600	DB-15	15	15,000	14,000	15,000	14,000	30,000	25,000
		DB-25	40	25,000	22,000	25,000	22,000	50,000	42,000
		DB-50	200	50,000	42,000	50,000	42,000	100,000	85,000
		DB-75	2000	75,000	65,000	75,000	65,000	100,000	85,000
		DB-100	4000	100,000	85,000	100,000	85,000	100,000	85,000
d-c	250 and below	DB-15	15	15,000	.....	.....	.....	.....	.....
		DB-25	40	25,000	.....	.....	.....	.....	.....
		DB-50	200	50,000	.....	.....	.....	.....	.....
		DB-75	2000	75,000	.....	.....	.....	.....	.....
		DB-100	4000	100,000	.....	.....	.....	.....	.....

overcurrent tripping devices

standard long delay and instantaneous device, and selective device		standard long delay and instantaneous device			selective trip device short delay settings			
long delay settings for DB-15, DB-25, DB-50, DB-75, and DB-100		instantaneous pickup in % of trip unit rating			pickup settings in % of trip unit rating			short delay, cycles for
pickup settings % rating	long delay, seconds	DB-15 and DB-25	DB-50	DB-75 and DB-100	DB-15 and DB-25	DB-50	DB-75 and DB-100	DB-15, DB-25 DB-50, DB-75 and DB-100
standard settings for feeder breakers (preferred)								
80-100-120-140-160	20 and 30	800 and 1200	800 and 1200	800 and 1200	500-750-1000	500-750-1000	500-750-1000	6, 14 and 30
standard settings for transformer secondary and main incoming line breakers (preferred)								
80-100-120-140-160	20 and 30	500 and 1000	500 and 1000	500 and 1000	500-750-1000	500-750-1000	500-750-1000	6, 14 and 30
optional settings available when specified (preferred)								
80-100-120-140-160	①25–150	...	200 and 350 or 250 and 400	... ③250 and 400	...	200 and 350 or 250 and 400	③200 and 350 or ③250 and 400	6, 14 and 30
special settings (non-preferred) available on special request only								
80-100-120-140-160	12 and 20	800 and 1200	800 and 1200	800 and 1200	500-750-1000	500-750-1000	500-750-1000	6, 14 and 30
80-100-120-140-160	30 and 40	500 and 1000	800 and 1200	800 and 1200	500-750-1000	500-750-1000	500-750-1000	6, 14 and 30
80-100-120-140-160	40 and 60	500 and 800	500 and 1000	800 and 1200	500-750-1000	500-750-1000	500-750-1000	6, 14 and 30
80-100-120-140-160	①25–150	200 and 350 or 250 and 400	...	...	200 and 350 or 250 and 400	...	...	6, 14 and 30

① One calibrated mark between 25 and 150 seconds (specify mark) at 165% of trip unit rating.

② Lowest calibration must not be less than 5000 amperes.
● Lowest calibration must not be less than 10000 amperes.

standard control voltages for electrically controlled breakers and shunt trip and undervoltage trip attachments	d-c	a-c
	48, 125, 250	230, 460

standard potential coil voltages for reverse current trip and electrical lockout attachments	d-c
	125, 250

DB De-ion® circuit breakers

15-4000 amperes, a-c or d-c

manually or electrically operated • 2 or 3-pole
15,000 to 100,000 amp interrupting capacity

specification guide

for prices, refer to price lists 33-820 and 33-821

item	choice or specification
when ordering circuit breakers, specify:	
type	DB-15, DB-25, DB-50, DB-75 or DB-100
number poles	2 or 3
type of mounting	fixed (switchboard) ventilated enclosure weather-proof enclosure dust-tight enclosure semi-dust-tight enclosure explosion-proof enclosure submersible (watertight) enclosure single unit—one high
method of operation	manual, manual spring, or electric If electrical, specify control voltage, a-c or d-c, and frequency (see page 6)
circuit or service	voltage, a-c or d-c, and frequency (25-50 or 60 cycles)
ampere rating	(from table on page 6)
type of series trip attachment	one supplied per pole, choose and specify type: standard tripping device: long delay and instantaneous selective tripping device: long delay and short delay instantaneous tripping unit only.
when ordering attachments, specify:	
shunt trip (on manually operated breaker)	specify control voltage, d-c or a-c, and frequency (see page 6)
undervoltage trip	instantaneous or delayed specify control voltage, d-c or a-c and frequency (see page 6)
reverse current trip	specify voltage of potential coil (see page 6)
additional auxiliary switch	specify number of "a" and "b" circuits a: closed when breaker is closed b: open when breaker is closed **note:** All electrically operated breakers are supplied with one 4-circuit auxiliary switch (with two "a" and two "b" circuits).
alarm switch	manually or electrically reset
electrical lockout	specify voltage of potential coil (see page 6)
key interlock	specify ultimate user and destination

net weights in pounds

type	DB-15				DB-25				DB-50				DB-75		DB-100	
	manual		electrical		manual		electrical		manual		electrical		electrical		electrical	
	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole	2 pole	3 pole
switchboard (fixed)	60	70	75	85	80	90	100	110	220	280	295	355	415	475	445	525
ventilated enclosure	135	155	150	170	170	180	190	200	430	490	505	565	665	725	695	775
weather-proof enclosure	145	165	160	180	170	180	190	200	430	490	505	565	665	725	695	775
semi-dust-tight enclosure	135	155	150	170	170	180	190	200	430	490	505	565	...	...	...	...
dust-tight enclosure	145	165	160	180	170	180	190	200	430	490	505	565	...	...	...	...
explosion-proof enclosure	...	...	...	...	1480	1490	1500	1510	2440	2500	2515	2575	...	...	...	...

DB De-ion circuit breakers
15-4000 amperes, a-c or d-c

dimensions, wiring data

type breaker	approximate overall dimensions, inches▲ A	B	C	conduit entrance	cable size range for clamp-type connectors
fixed mounting for switchboard • figure 1					
DB-15	17	16⅝	12	unit is unenclosed	studs only supplied: 1¼ x 1½″, 2¼″ long; two $^{13}/_{32}$″ dia. connecting holes
DB-25	20	18¾	13	unit is unenclosed	studs only supplied: 1½ x ½″, 2¼″ long; two $^{17}/_{32}$″ dia. connecting holes
DB-50	27	23$^{7}/_{16}$	19½	unit is unenclosed	studs only supplied: 3½ x ¾″, 2⅞″ long; two $^{21}/_{32}$″ dia. connecting holes
DB-75	31½	20½	24½	unit is unenclosed	3½″ x ¾″ x 2½″ long
DB-100	31½	20½	29	unit is unenclosed	4½″ x ¾″ x 2½″ long
ventilated or semi-dust-tight enclosure • figure 2					
DB-15	27½	25¼	16⅝	13⅜ x 7¾ drill plate	two #6 to 500 MCM conductors
DB-25	27½	25¼	16⅝	13⅜ x 7¾ drill plate	
DB-50	44	30½	23⅜	removable entrance plate top and bottom for drilling to accommodate desired conduit sizes: 19¼ x 7½″	from one #3 to four 500 MCM cables or any combination of four between three sizesI Buswork to be ordered separately.
DB-75	46½	38⅛	34		
DB-100	46½	38⅛	34		
dust-tight or weather-proof enclosure • figure 2					
DB-15	27½	27⅜	16⅝	20$^{5}/_{16}$ x 7¾ drill plate	same as for ventilated enclosureI
DB-25	27½	27⅜	16⅝		
DB-50	44	32¼	23⅜		
DB-75	53	43⅛	34⅜		
DB-100	53	43⅛	34⅜		
single-unit wall mounted • figure 3					
DB-15	42	33	18	16¼ x 10 plate	2 per stud, 4/0 to 500 MCM—in top—out bottom
DB-25	42	33	18	16¼ x 10 plate	2 per stud—4/0 to 750 MCM—in top—out bottom
DB-50	56	39	26	23 x 9 plate	4 per stud—4/0 to 1000 MCM—in top—out bottom
explosion-proof enclosure • figure 4					
DB-25	37	29¼	25$^{7}/_{16}$	non-removable entrance plate top and bottom drilled for conduits up to 4½″ (specify number, size and location)	same as for ventilated enclosure
DB-50	49⅛	36¼	36⅛	removable entrance plate top and bottom for drilling to conduit sizes up to 6¾″ each	same as for ventilated enclosureI
submersible enclosure • figure 5					
DB-25	37½	25⅞	22¼	one porcelain bushing per pole top and bottom with threaded terminal studs, ¾″—16 threads, 1½″ long and pipe plug outlet top and bottom, 1″—11½, for control wiring. Alternate arrangements available. Check factory.	same as for ventilated enclosure
DB-50	54½	33$^{1}/_{16}$	30⅜	1½″ x 12″	

I For cases where cables must by-pass, four 500 MCM cables per stud is maximum arrangement.
▲ For stack-up units refer to Headquarters.

figure 1

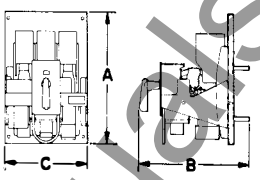


figure 2

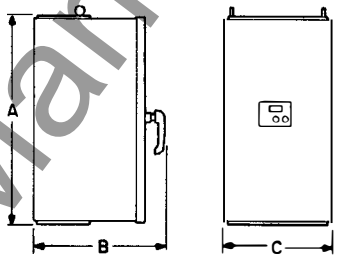


figure 3

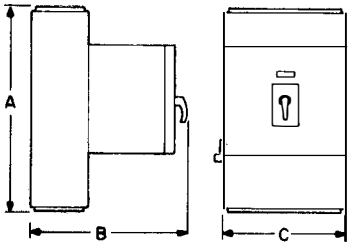


figure 4

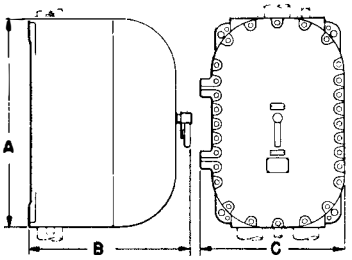
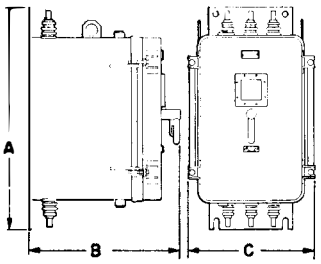


figure 5



further information

prices	price lists 33-820 and 33-821
instructions, official dimensions	DB-15, DB-25: instruction book 33-850—1 and 2E DB-50: instruction book 33-850—3C DB-75, DB-100: instruction book 33-850—4 and 5C

Westinghouse Electric Corporation
Switchgear Division • East Pittsburgh, Pa.
printed in U.S.A.

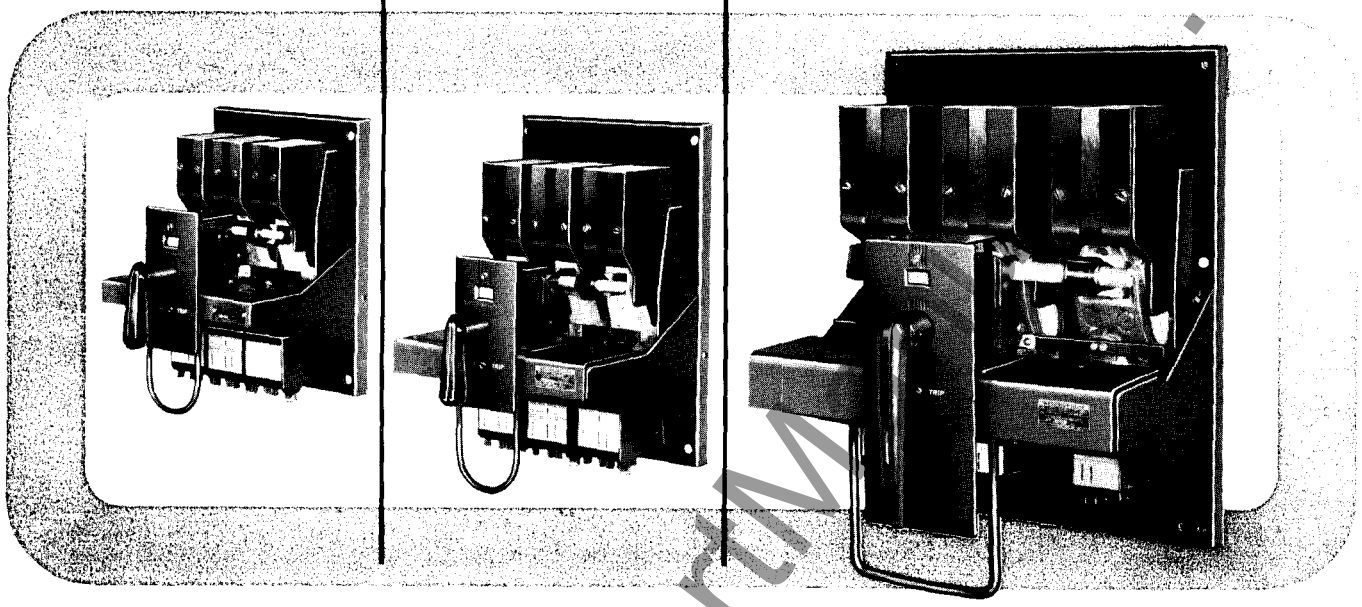
low-voltage air circuit breakers

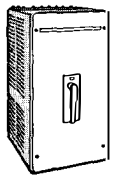
DB De-ion® circuit breakers
15-1600 amperes, a-c or d-c

manually or electrically operated • 2 or 3-pole
15,000 to 50,000 amp interrupting capacity

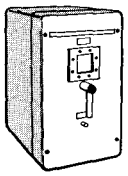
descriptive bulletin **33-850**

DB-15 | **DB-25** | **DB-50**



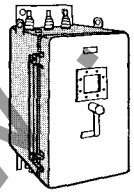


ventilated enclosure



weather-proof, dust-tight or semi dust-tight enclosure

explosion-proof enclosure



submersible enclosure

application

for protection of low-voltage a-c or d-c power distribution systems in industrial plants and electric utility station auxiliaries

complete line: DB De-ion air circuit breakers are supplied in three basic sizes of 2 or 3-pole design with a range of current ratings from 15 to 1600 amperes a-c or d-c.

flexible control: Standard breakers are equipped with either manual or electrical operating mechanisms. Optional attachments provide for modifications to suit any circuit protective scheme.

variety of mounting: Breakers can be supplied for fixed switchboard mounting or removable mounting in one of six different enclosures, depending on the hazards of the application site.

selector guide

standard circuit breakers are calibrated from 80 to 160% of current rating

range of ratings: amperes, a-c/d-c	type breaker	interrupting capacity, amperes at 600 v a-c, 250 v d-c†
15 to 225	DB-15	15,000
40 to 600	DB-25	25,000
200 to 1600	DB-50	50,000

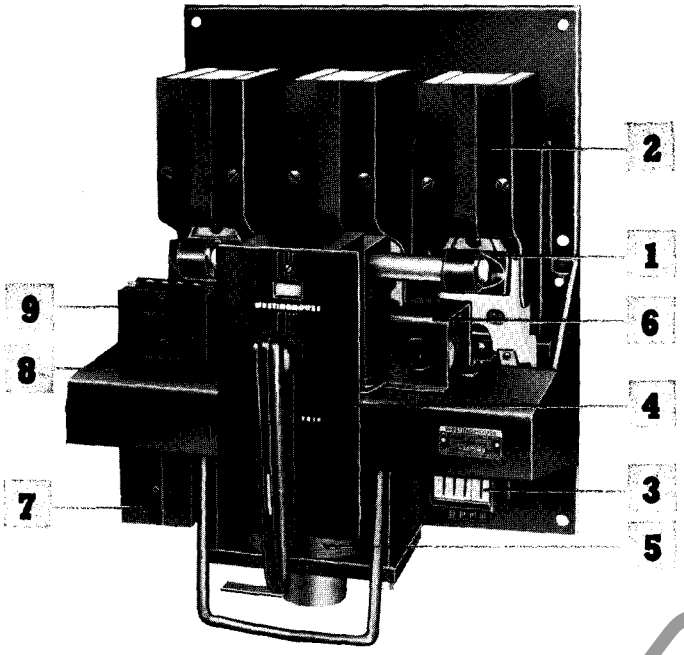
† For interrupting capacity at reduced voltages, see page 6.

In this bulletin

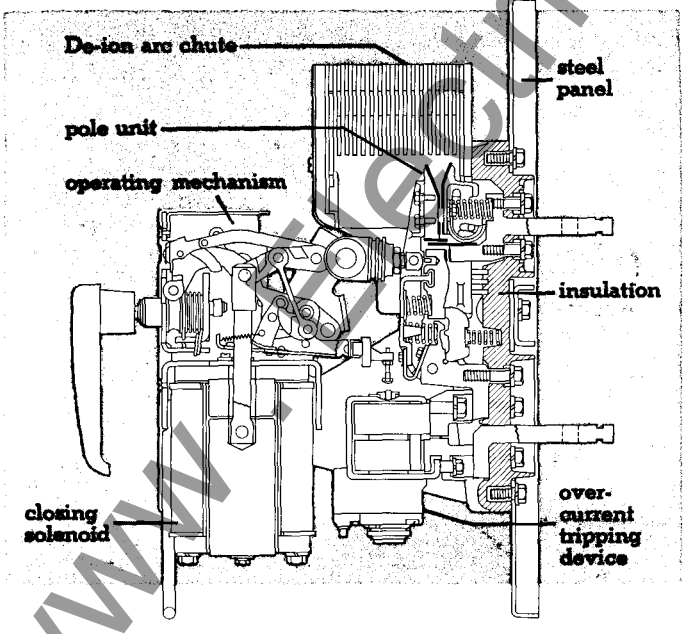
June, 1956
new information
mailed to: E/283/DB; D64-5D; C28-5A,B

design features

DB-50 breaker ■



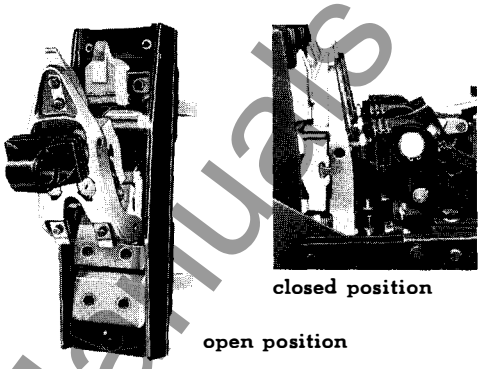
The basic DB breaker and all components are mounted on an all-metal mounting base to form a single, compact unit. All parts are accessible for inspection and adjustment. Attachments can be added or removed easily; mounting holes are provided.



■ DB-15 and DB-25 breakers have similar construction to the DB-50 breaker illustrated here and the same basic design modified to suit their smaller size and lower ratings.

standard components for all breakers

1 pole unit (2 or 3 supplied)

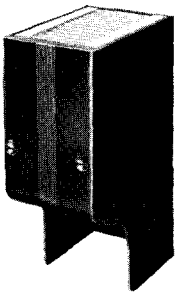


closed position

open position

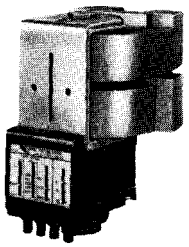
All breakers have solid-block, silver-inlaid main contacts, insuring lasting current-carrying ability. Main contacts will not arc: When breaker opens, main contacts part first, then secondary contacts and finally arcing tips. When arcing tips break, arc flashes at the point and is blown into De-ion arc chute.

2 De-ion arc chutes (one per pole)



To prevent contact burning, arcs are quickly and positively interrupted. Strong magnetic fields pull the arc upward into the arc chute; rising gas blasts carry conducting particles out of the arc path to break the arc.

3 overcurrent tripping device
(one dual unit per pole)

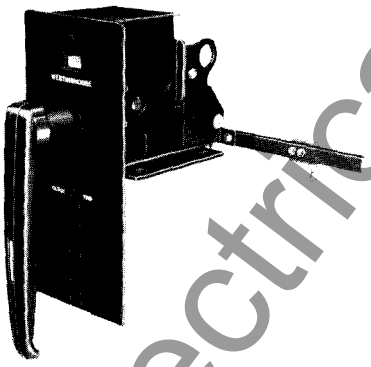


motor protection or general duty: Breakers are supplied with tripping devices having long delay and instantaneous tripping characteristics—both independently adjustable.

selective tripping: Selective overcurrent trip devices have long and short delay tripping characteristics—both independently adjustable.

Each unit consists of a magnetically operated trip plunger delayed by an air diaphragm. Time delay is adjusted by controlling the size of orifice between chambers of the air unit.

4 operating mechanism



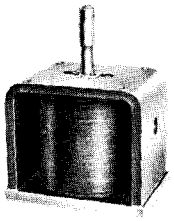
manually and electrically operated breakers: Rotary operating handle operates the breaker directly.

electrically operated breakers: Has solenoid shunt trip, control relay and 4 pole switch added.

Mechanical indicator shows breaker position at all times.

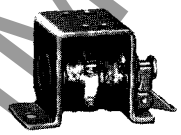
attachments supplied with electrically operated breakers

5 closing solenoid



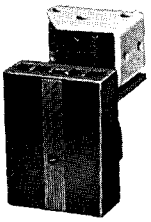
D-c solenoid for DB-50 breaker. Use Rectox® for a-c control. A-c solenoid for DB-15 to DB-25 breakers. Used also for d-c control.

6 shunt trip
(optional with manually operated breakers)



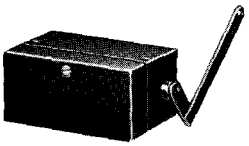
Non-adjustable coil provided for remote tripping; intermittently rated.

7 control or closing relay



Consists of a cut-off contact and a seal-in contact to operate the closing solenoid.

8 4-circuit auxiliary switch

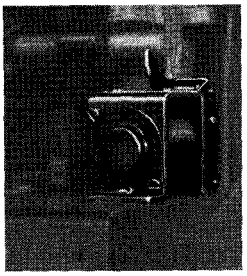


Rotary switch consisting of two "a" contacts and two "b" contacts ("a" contacts are closed when breaker is closed; "b" contacts are open when breaker is closed).

9 8-point terminal block

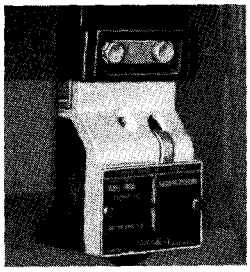
All attachment leads on separately enclosed and non-drawout breakers are connected to terminal block for easy access.

optional attachments



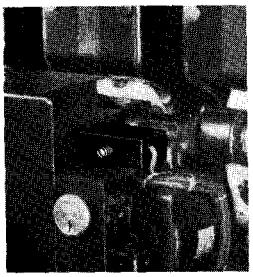
undervoltage trip

Trips breaker on loss of voltage and is automatically reset by breaker action. Attachment is available for instantaneous or time delay tripping.



reverse current trip

Opens breaker upon a reversal of current in the circuit. This direct-current device is adjustable and may be set to trip at 5 to 25% reverse current, based on normal current rating.

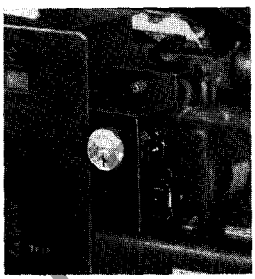


alarm switch

Closes to initiate alarm when breaker is tripped by an automatic tripping device (does not operate when breaker is tripped manually or by shunt trip).

electrical lockout

Holds breaker linkage in trip-free position to prevent closing until lockout is energized. After breaker is closed, de-energizing coil will not trip breaker.

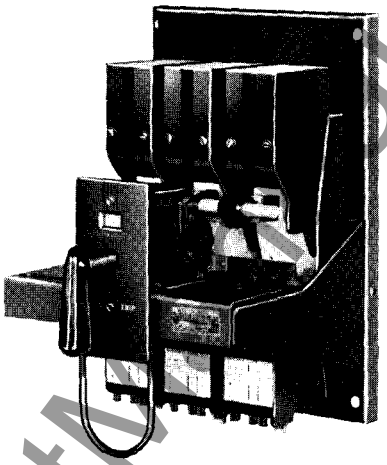


key interlock

Several designs available for interlocking two or more breakers.

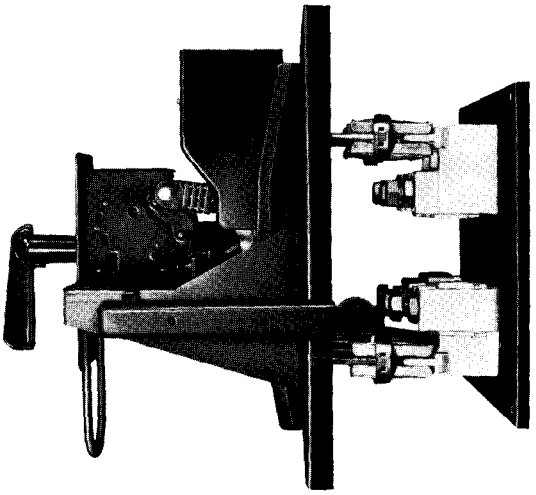
mountings and enclosures

fixed mounting for switchboard use



All-steel mounting panel of basic breaker has mounting holes suitable for bolting to framework or switchboard. Breaker is supplied without front panel. Non-flanged front panel or hinged panel can be supplied as additions.

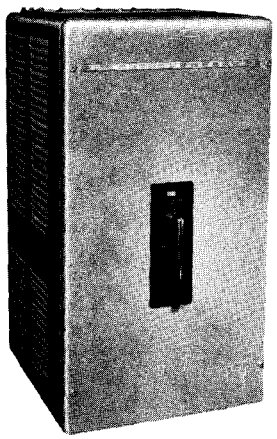
terminals



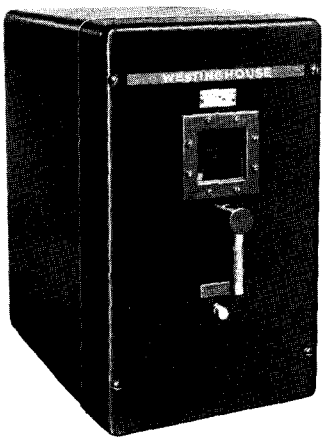
All breakers for switchboard fixed mounting are furnished with horizontal bar studs (vertical bars or round studs are not available). Clamp-type connectors are included with all enclosed breakers (see above). See page 8 for conductor sizes.

typical enclosures

ventilated enclosure

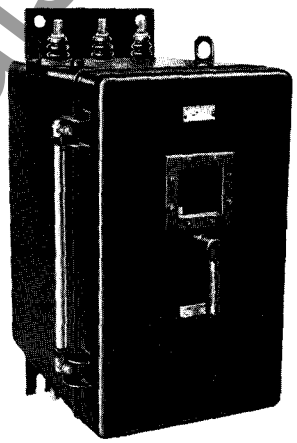


weather-proof, dust-tight or semi-dust-tight enclosure



explosion-proof enclosure

submersible enclosure



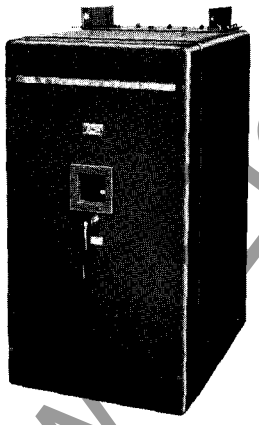
All enclosures include clamp-type connectors for cables and cover interlocks. Ventilated, weather-proof, dust-tight and semi-dust-tight enclosures have suitable knockouts or entrance plates for conduit entrance. Explosion-proof enclosures have tapped conduit holes or entrance plates. Submersible breakers are supplied complete with external porcelain bushings. (See page 8 for details.)

removable breaker features

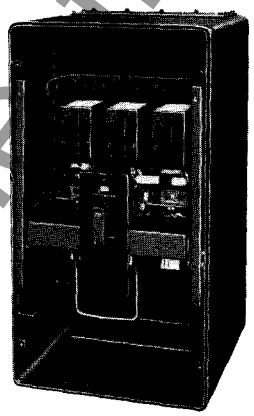
Breakers are removable as a unit from all enclosures. Rail extensions as shown are provided with all DB-50 breakers only.

All breakers are free-standing when removed.

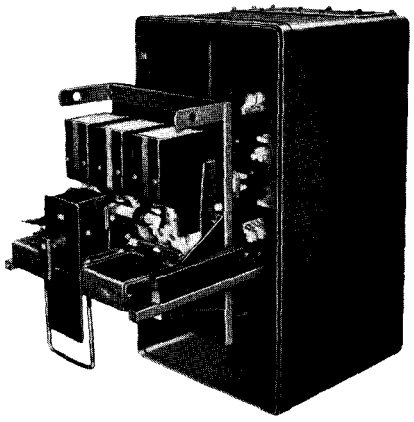
type DB-50 dust-tight enclosure:



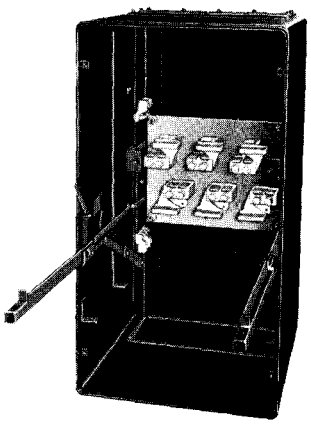
Breaker with angle members for lifting to mounting positions.



Front cover removed. Note top and bottom entrance plates for drilling to suit conductor connections.



Breaker rolled forward on rail extension for easy test and inspection.



Breaker removed for access to cable connectors. Note optional solid neutral on left wall of enclosure.

standard ratings

continuous current ratings

standard ratings are calibrated 80 to 160% ratings

rating range, amperes	breaker type	standard ratings, amperes
15- 225	DB-15	15, 20, 30, 40, 50, 70, 90, 100, 125, 150, 175, 200 or 225
40- 600	DB-25	40, 50, 70, 90, 100, 125, 150, 175, 200, 225, 250, 300, 350, 400, 500 or 600
200-1600	DB-50	200, 225, 250, 300, 350, 400, 500, 600, 800, 1000, 1200 or 1600▲

▲ 1600 ampere rating available for fixed mounting or ventilated enclosure only

interrupting ratings

a-c or d-c service	line voltage	type breaker	interrupting rating amperes	minimum continuous current rating amperes	maximum short circuit current at which breaker can be applied, amperes	
					cascade system	selective system
a-c all values are 60 cycle (rms)	240 and below	DB-15	30,000	30	60,000	15,000
		DB-25	50,000	150	100,000	25,000
		DB-50	75,000	600	120,000	50,000
	241-480	DB-15	25,000	20	50,000	15,000
		DB-25	35,000	100	70,000	25,000
		DB-50	60,000	400	100,000	50,000
	481-600	DB-15	15,000	15	30,000	15,000
		DB-25	25,000	40	50,000	25,000
		DB-50	50,000	200	100,000	50,000
d-c	250 and below	DB-15	15,000	15	.....	.....
		DB-25	25,000	40	.....	.....
		DB-50	50,000	200	.....	.....

overcurrent tripping devices

standard long delay and instantaneous device, and selective device		standard long delay and instantaneous device		selective trip device short delay settings		
long delay settings for DB-15, DB-25 and DB-50		instantaneous pickup in % of coil rating		pickup settings % rating		short delay, cycles for
pickup settings % rating	long delay, seconds	DB-15 and DB-25	DB-50	DB-15 and DB-25	DB-50	DB-15, DB-25 and DB-50
standard settings						
80-100-120-140-160	20 and 30	800 and 1200	800 and 1200	500-750-1000	500-750-1000	6, 14 and 30
optional settings available when specified						
80-100-120-140-160	12 and 20	800 and 1200	800 and 1200	500-750-1000	500-750-1000	6, 14 and 30
	30 and 40	500 and 1000	800 and 1200	500-750-1000	500-750-1000	6, 14 and 30
	40 and 60	500 and 800	500 and 1000	500 and 800	500-750-1000	6, 14 and 30

standard control voltages fo electrically controlled breakers and shunt trip and undervoltage trip attachments

d-c	a-c
48, 125, 250	230, 460

standard potential coil voltages for reverse current trip and electrical lockout attachments

d-c
125, 250

DB De-ion circuit breakers
15-1600 amperes, a-c or d-c

manually or electrically operated • 2 or 3-pole
15,000 to 50,000 amp interrupting capacity

specification guide for prices, refer to price list 33-820

item	choice or specification
when ordering circuit breakers, specify	
type	DB-15, DB-25 or DB-50
no. of poles	2 or 3
type of mounting	fixed (switchboard) ventilated enclosure weather-proof enclosure dust-tight enclosure semi-dust-tight enclosure explosion-proof enclosure submersible (watertight) enclosure
method of operation	manual or electric If electrical, specify control voltage, a-c or d-c, and frequency (see page 6)
circuit or service	voltage, a-c or d-c, and frequency (25-50 or 60 cycles)
ampere rating	(from table on page 6)
type of series trip attachment	one supplied per pole, choose and specify type: standard tripping device: long delay and instantaneous selective tripping device: long delay and short delay instantaneous tripping unit only.
when ordering elsewhere, specify	
shunt trip (on manually operated breaker)	specify control voltage, d-c or a-c, and frequency (see page 6)
undervoltage trip	instantaneous or delayed specify control voltage, d-c or a-c, and frequency (see page 6)
reverse current trip	specify voltage of potential coil (see page 6)
additional auxiliary switch	specify number of "a" and "b" circuits a: closed when breaker is closed b: open when breaker is closed **note:** All electrically operated breakers are supplied with one 4-circuit auxiliary switch (with two "a" and two "b" circuits).
alarm switch	manually or electrically reset
electrical lockout	specify voltage of potential coil (see page 6)
key interlock	specify ultimate uses and destination

net weights, lb

type	DB-15				DB-25				DB-50			
	manual		electrical		manual		electrical		manual		electrical	
	2 P	3 P	2 P	3 P	2 P	3 P	2 P	3 P	2 P	3 P	2 P	3 P
switchboard (fixed)	60	70	75	85	80	90	100	110	220	280	295	355
ventilated enclosure	135	155	150	170	155	175	175	195	375	455	470	530
weather-proof enclosure	145	165	160	180	165	185	185	205	395	475	490	550
semi-dust-tight enclosure	135	155	150	170	155	175	175	195	375	455	470	530
dust-tight enclosure	145	165	160	180	165	185	185	205	395	475	490	550
explosion-proof enclosure	...	...	...	...	1480	1490	1500	1510	2440	2500	2515	2575

DB De-ion circuit breakers
15-1600 amperes, a-c or d-c

dimensions, wiring data

[illegible]	approximate overall dimensions, in.			conduit entrance	cable size range for clamp-type connectors
	A	B	C		
[illegible] • figure 1					
[illegible]	17	15⅝	12	unit is unenclosed	studs only supplied: 1¼ x 1¼", 2¼" long; two 13/32" dia. connecting holes
[illegible]	[illegible]	17⅞	13	unit is unenclosed	studs only supplied: 1½ x ½", 2¼" long; two 17/32" dia. connecting holes
[illegible]	27	21⅞	19½	unit is unenclosed	studs only supplied: 3½ x ¾", 2⅞" long; two 21/32" dia. connecting holes
[illegible] • figure 2					
[illegible]	[illegible]	[illegible]	16⅛	service wiring: two knockouts top and bottom, 4⅛ x 3⅝ x 3"	one or two #6 to 350 MCM conductor or one 750 MCM conductor
[illegible]	[illegible]	[illegible]	16⅛	control wiring: two knockouts top and bottom, 1½ x 1[illegible] x 1[illegible]"	
[illegible]	[illegible]	[illegible]	24⅝	removable entrance plate top and bottom for drilling to accommodate desired conduit sizes: 19¼ x 7½"	from one #3 to four 900 MCM cables or any combination of four between three sizesI
[illegible] • figure 2					
[illegible]	[illegible]	[illegible]	[illegible]	same as for ventilated or semi-dust-tight enclosure	same as for ventilated enclosureI
[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]		
[illegible] • figure 3					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible] entrance plate top and bottom drilled for conduits up to [illegible] (specify number, size and location)	same as for ventilated enclosure
[illegible]	[illegible]	[illegible]	[illegible]	[illegible] entrance plate top and bottom for drilling to conduit sizes up to [illegible]" each	same as for ventilated enclosureI
[illegible] • figure 4					
[illegible]	[illegible]	[illegible]	[illegible]	one porcelain bushing per pole top and bottom with [illegible] terminal studs, ¾"—[illegible] threads, 1½" long and pipe plug outlet top and bottom, 1"—11½, for control wiring. Alternate arrangements available. Check factory.	same as for ventilated enclosure
[illegible]				refer to factory	

I [illegible] four 900 MCM cables per stud is maximum arrangement.

[illegible]

[illegible]	price list 33-820
[illegible]	[illegible], DB-25: instruction book 35-225 [illegible]: instruction book 35-230

figure 1

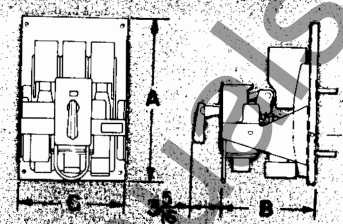


figure 2

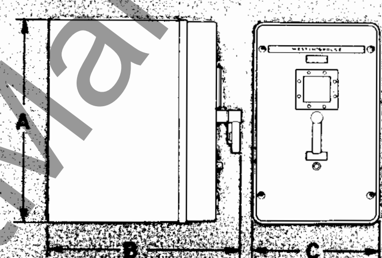


figure 3

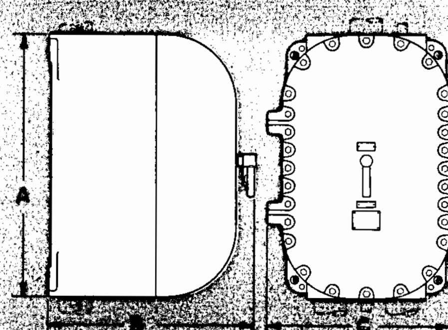


figure 4