



power
circuit
breakers

indoor oil circuit breakers small • medium • large

price list

33-120

all ratings

manually and electrically operated

page 1

general information

interrupting ratings: Interrupting ratings of the breakers listed herein are in accordance with NEMA and ASA standards and are based on the standard 2CO duty cycle with a 15 second interval except the 25000 kva and lower ratings for which the interval is 2 minutes.

For complete ratings, basis of rating, calculation of interrupting current rating at lower voltage, and further information refer to technical data 33-060.

ordering information

when ordering, specify:

breaker type

ratings: voltage, current, and mva

mounting: panel, frame (pipe or angle), wall, pole, special

direct or remote control

manually or electrically operated

type and number of trip coils

control voltage (if electrically operated)

special attachments and accessories

specify oil as separate item on order

April 3, 1959

supersedes price list 33-120 dated January 31, 1958 and supplement page .01 dated February 1, 1959
mailed to: E/275,276/PL; D64-1C; C26-1Y

prices effective April 3, 1959; subject to change without notice

*for standard terms and conditions
of sale, refer to selling policy 33-000*

**small oil breakers****list prices**

breaker type	poles	throw	characteristics				style number ▲	list prices*			
			rated volts	current ratings contin- uous 60-cycle amperes	interrupting ratings			manually operated		electrically operated	
					mva	inter- rupting time: cycles		direct con- trol	remote con- trol	d-c sole- noid	d-c with Rectox®

type I • manually operated • nonautomatic • dust-proof • panel mounting (including bolts for 2" panel)

I	2	single	4160	60	2.0	..	119 372	\$135
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type F-10 • manually operated • breaker unit without attachments • drip-proof • wall mounting

F-10	3	single	2500	5-300	10.0	..	437 893	\$280
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types F-11, MF, F-122, F-124-A▲ • manually or electrically operated • panel, wall or pipe mounting*

								group ①	group ②	group ③	
F-11	3	single	2500	400	15	12	...	\$ 360	\$ 430	....	....
F-11▲	3	double	2500	400	15	12	...	720	860	....	....
MF	4	double	4160	600	25	12	...	1830	1980	....	....
F-122	3	single	4160	600	25	8	...	565	660	\$ 850	\$1025
F-124-A	3	single	7200	600	50	8	...	1170	1265	1480	1765
F-124-A	3	single	4160	1200	50	8	...	1415	1510	1725	2010

* Prices include details in groups 1, 2, 3 (page 3), corresponding to 1, 2, and 3 at left.

▲ Style number does not include oil.

♦ Price includes oil.

♦ Price of double-throw breakers includes double handle coverplate with 3 ITL overload coils and mechanical interlock.

♦ Price of motor starting breakers includes 3 ITL overload coils, time delay undervoltage release and mechanical sequence interlock.

△ Prices include details as specified under "Method of Operation" on page 3 plus oil and contact nuts or terminals if size and type are specified on order. Where coils are included, three overcurrent trip coils will be supplied on request at no increase in price for application on grounded neutral circuits.

attachments: for F-10 breakers only

description	style number	list price
shunt-trip attachment (a-c or d-c) .....	...	\$ 70
instantaneous series trip attachments with coils (price given here includes 2 coils) .....	...	70
inverse-time-limit series trip attachments with coils (price given here includes 2 coils). (If purchased, do not add instantaneous attachments.) .....	...	85
voltage transformer: 2500/110 volts, 25 and 60 cycles for undervoltage release	464 736	55
instantaneous undervoltage release (hand or automatic reset) 550 volts or less .....	...	95
time-delay undervoltage release .....	...	175
electric lockout attachment (550-volt & less) .....	...	95
electric lockout attachment (2500-volt) including 2500-volt potential transformer .....	...	150
conduit box	437 909	40

further information

description	type I type F-10 types F-11, MF type F-122: type F-124A:	refer to East Pittsburgh db 33-150 db 33-151
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accessories: for F-122 and F-124-A breakers only

description	list price*
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for manually-operated breakers

add 1 pole auxiliary switch	\$ 35
add each additional pole of auxiliary switch	5
add instantaneous undervoltage release	95
add time delay undervoltage release	175
add bell alarm switch	15
mechanical sequence interlock for double-throw breakers	75
capacitor trip†	225
electric lockout attachment	95

for electrically-operated breakers

add current trip coils, instantaneous or time delay (3 coils)	140
add additional pole auxiliary switch (per pole)	8
add instantaneous undervoltage (if current trips also are ordered)	95
add instantaneous undervoltage device (if current trips are not ordered)	175
add time delay to undervoltage device	80
capacitor trip†	225

for manually or electrically-operated breakers

self-supporting steel framework	60
windlass tank lifter F-122 or F-124-A	175

* This price applies only when attachments are sold with complete breaker.
† Separate mounting (for capacitor trip mounted and wired \$425).

indoor oil circuit breakers

small • medium • large

price list

33-120

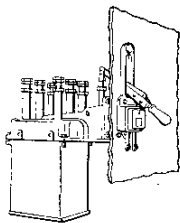
all ratings

manually and electrically operated

page 3

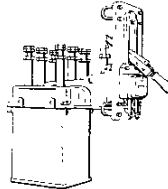
method of operation

group ① manually operated, direct control



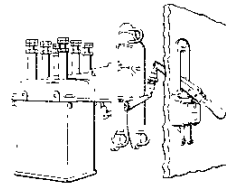
panel mounting, for 2-inch maximum panel thickness, not including panel.

price includes;
A+B+C(or H)



pipe mounting

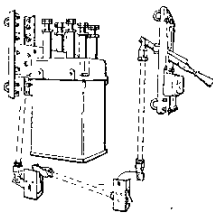
price includes;
A+B+C(or H)
+E



panel frame mounting, not including panel. Breaker on supporting framework behind panel, but directly connected to coverplate.

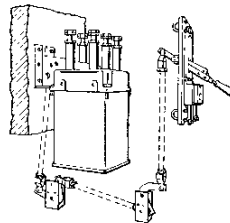
price includes;
A+B+C(or H)+F

group ② manually operated, remote control



pipe mounting, not including frame or operating rods between coverplate, bell cranks, and breaker.

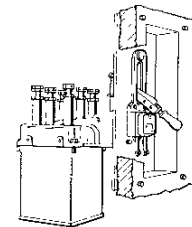
price includes;
A+B+C(or H)+
D+E^a+G



wall mounting

price includes;
A+B+C(or H)
+E^a+G

^a Not required if coverplate is mounted on panel.

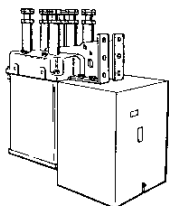


through - the - wall mounting

price includes;
A+B+C(or H)
+special plate.

^a Not required if coverplate is mounted on panel.

group ③ electrically operated



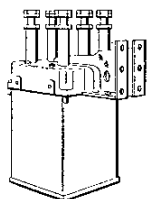
d-c solenoid operated breaker prices include breaker unit, mechanically trip-free d-c solenoid mechanism with closing coil, d-c shunt trip coil, 4-stage auxiliary switch, separate mounting control relay, and necessary maintenance levers.

(No knife switch included on control relay panel.) A tripping mechanism is included when transformer trip coils and/or undervoltage release are ordered with the breaker.

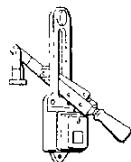
a-c operated breakers, using d-c solenoid and Rectox® rec-

tifiers, are identical to the d-c operated breakers, and all attachments may be added. Prices include plate - type Rectox and control panel for separate mounting.

component parts



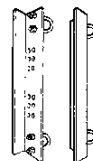
A. breaker unit.



B. coverplate (manual operating mechanism)



C. 5-amp overcurrent trip coils (instantaneous or I.T.L. — 2 per breaker standard, maximum of 3 per breaker)



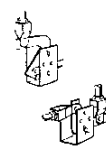
D. pipe mounting brackets (for breaker only)



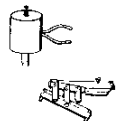
E. panel bracket for mounting coverplate and/or breaker on pipe frame



F. panel frame bracket



G. bell cranks for pipe connections for remote control (2 supplied per breaker)



H. shunt trip coil and auxiliary switch



indoor oil circuit breakers
small • medium • large

medium and large oil breakers

list prices 3-pole • single throw

- list prices
- ① manually operated, mechanically trip-free
 - ② electrically operated, mechanically and electrically trip-free
 - ③ with cells
 - ④ without cells

type	kv	amps 60 cy	int. rat. 3 ph mva	list prices		gal. of oil	net wt with oilΔ (lbs)		ship. wt less oilΔ	
				①	②†		①	②	①	②†
frame mounted breakers										
F-100	7.2	600	100	\$2460	\$ 2650	20	575	850	700	1000
	7.2	1200	100	3260	3390	20	625	900	750	1050
	7.2	2000	100	5850	5900	20	750	1030	900	1180
138-F-150	13.8	600	150	2830	3050	20	575	850	700	1000
	13.8	1200	150	3570	3820	20	625	900	750	1050
138-B-250	13.8	1200	250	....	5025	21	...	960	....	1150
138-B-500	13.8	1200	500	....	6775	60	...	1990	....	2250
	13.8	2000	500	....	9505	59	...	2090	....	2350

steel-cell mounted breakers

				③	④					
O-111-A	14.4	1200	500	\$13600	\$ 9850	60	...	3200	....	3400
O-22-B	14.4	1200	1000	19000	14050	114	...	4220	....	4030
	14.4	3000	1000	29000	23050	105	...	5340	....	5460
O-44-C	14.4	2000	1500	29000	23050	150	...	8450	....	8800
	14.4	4000	1500	38000	31000	255	...	9500	....	9300
	34.5	1200	1500	29000	23050	285	...	9000	....	7800

△ Net weight of oil is 7½ lbs per gallon. Shipping weight is 9 lbs per gallon.

† Rector—solenoid: add \$285 to frame mounted breakers, add \$370 to steel cell mounted breakers.

‡ Single, and two pole breakers, see rule 7 of price modifications 33-140.

accessories • prices apply only when ordered with complete breakers

accessory	breaker type			
	F-100	138-F-150	138-B-250	138-B-500
windlass type tank lifters.	\$185	\$185	\$185	\$270
truck type tank lifters....	370	370	370	370
steel framework or cell inserts (omission price)...	30	35	35	65
cell inserts.....	price of breaker with cell inserts is same as breaker with framework			
mounting on wheels (no rails)	220	220	220	220
cell doors.....	105	105	105	105

trip coils and auxiliary switches

	list price	
	manually- operated brkr	electrically- operated brkr
add capacitor trip (mounted and wired)	\$425	\$425
add current trip coils—instantaneous or time delay.	...	140
add instantaneous undervoltage release	95	•
add time delay to undervoltage release	80	80
add bell alarm switch	15	...
add 1 pole auxiliary switch	35	...
add for each additional pole of auxiliary switch...	5	8

• If current trips are ordered—\$95; if current trips are not ordered—\$175

list prices: buggy type tank lifters

breaker type	operation	list price
O-111-A	manual	\$ 750
O-22-B	manual	910
O-44-C	motor△	2250

△ Equipped with 110-volt, 60-cycle, single-phase motor.

all prices include:

necessary oil, clamp-type terminals or contact nuts only when specified or described, necessary maintenance closing lever, and mounting frame or steel cell respectively.

manually-operated prices include:

manual mechanism
bell cranks (no operating rods)
necessary trip coils
auxiliary switches

solenoid-operated prices include:

mechanically and electrically trip-free
solenoid mechanism with 125 volt d-c
close and shunt-trip coils
10-pole rotary auxiliary switch
2-pole cutoff switch
standard control relay panel with cover
operation counter and position indicator

prices do not include:

type W control switch
signal lamp
protective relays
tank lifters
current transformers

further information

description	types F-100 db 33-152	
	138-F-150	
	138-B-250	
	138-B-500	
	types O-111-A	refer to
	O-22-B	East
	O-44-C	Pittsburgh

Westinghouse Electric Corporation

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