

On-load tap-changers, type UZ, with motor-drive mechanism, type BUF3

Spare parts list

This spare parts list has been compiled to help you with procurement of spares. To obtain trouble-free deliveries you should note a few things which are explained in the following text.

The breakdown level and general contents of this list have been worked out to cover normal customer requests. Our spares sales people will be happy to assist if you require any specific item that is not included in the list.

Type designation and serial number

The rating plate on the on-load tap-changer shows which type and serial number of the device you are ordering spares for. It is important to have this information, because the manufacture of parts gradually changes as materials and manufacturing technology improves. ABB makes every effort to supply spares that should fit your requirements. Some parts of later manufacture than those you are replacing may need some adaptation to fit into your device. Our spare parts sales people need to know the type designation and serial number to supply exactly what you require.

Item number

Item numbers are shown on the drawings and lists. As you will observe, one item number is used for several items of the same general type. These items have a specific specification for each and every variant of on-load tap-changer, hence you need to specify type and serial number in addition to the item number to obtain the appropriate spare.

Name of item

The name should be specified when ordering to make sure the right type of item is ordered.



Quantity

The figures given represent the number of items included in one on-load tap-changer.

Remarks

Information pertinent to different variants of the on-load tap-changer is given in this column. Your model should be one of those shown.

Standard spare parts

The rugged design of ABB on-load tap-changers means that only the fixed and moving contacts of the selector switch might require replacement during the lifetime of the transformer. This spare parts list tells you the part number of the contacts when ordering for your replacement requirements.

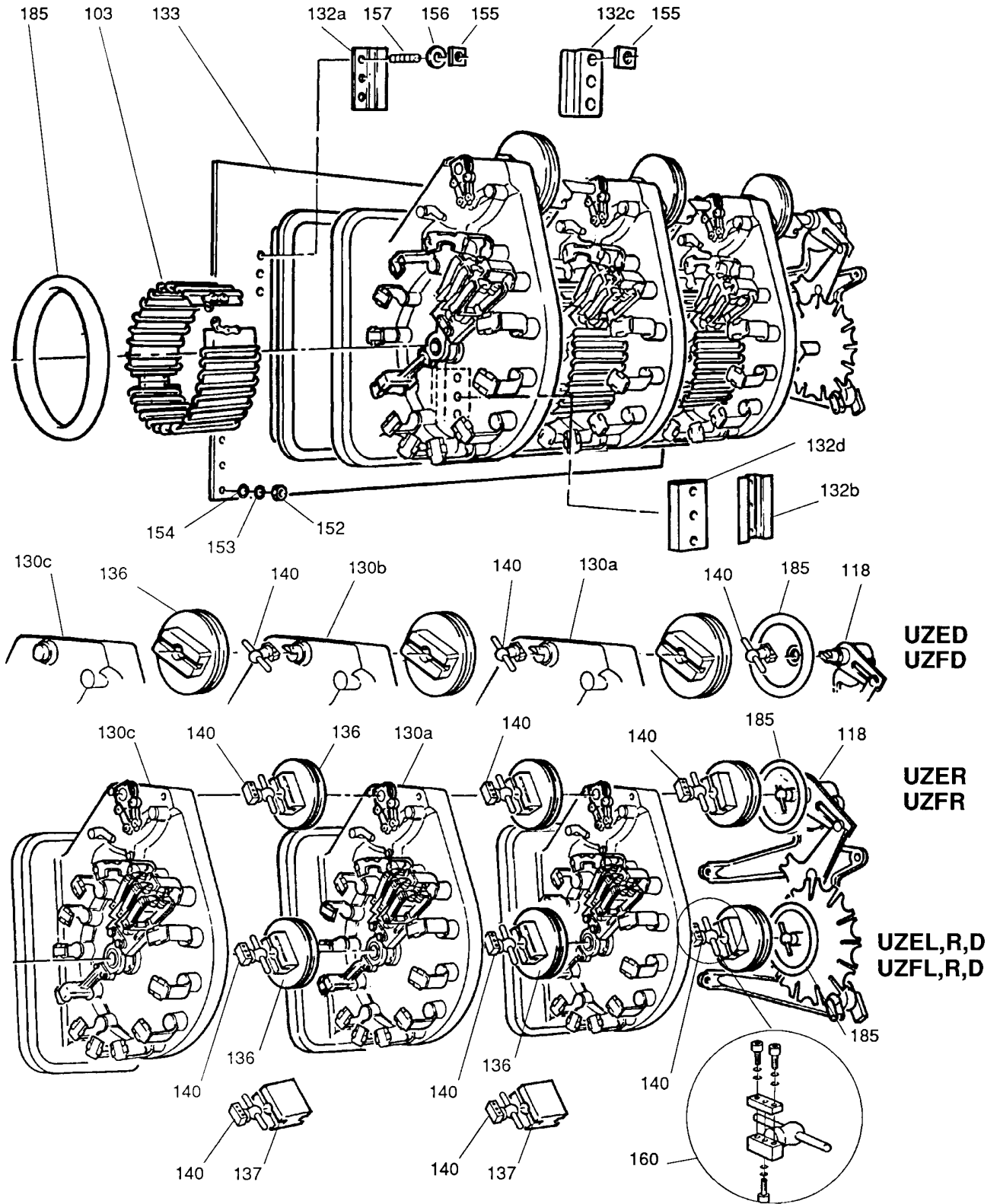
Special spare parts

If you need parts other than the contacts in the lists, our staff will be happy to assist you. Please use the illustrations in this list as a reference when discussing your requirements. As usual, the type designation and serial number are essential for ordering.

Three-phase assembly

Item No.	Name of item	Quantity per tap-changer phase		Remarks
103	Transition resistor	3	1	
118	Geneva gear	1		See pages 14, 15
130a,b,c	Selector-switch phase			See pages 12, 13
132a	Retaining plate	10		UZE.. 200/..., UZF.. 200/...
132b	Retaining plate	4		UZE.. 200/..., UZF.. 200/...
132c	Retaining plate	10		UZE.. 250/..., UZF.. 250/...
132d	Retaining plate	4		UZE.. 250/..., UZF.. 250/...
132c	Retaining plate	18		UZE.. 380, 550, 650/..., UZF.. 380, 550, 650/...
133	Steel board	1		UZE.. 200/..., UZF.. 200/...
133	Bakelite board	1		UZE.. 380/..., UZF.. 380/...
133	Bakelite board	1		UZE.. 550/..., UZF.. 550/...
133	Bakelite board	1		UZE.. 650/..., UZF.. 650/...
136	Insulating shaft 200, 250 kV	4 (1)		UZER,DN, UZFR,DN ¹⁾ (UZELN, UZFLN)
136	Insulating shaft 200, 250 kV	6 (3)		UZERT, UZFRT (UZELT, UZFRT) ¹⁾
136	Insulating shaft 380 kV	4 (1)		UZERN, UZFRN (UZELN, UZFLN) ¹⁾
136	Insulating shaft 380 kV	6 (3)		UZERT, UZFRT (UZELT, UZFRT) ¹⁾
136	Insulating shaft 550, 650 kV	4 (1)		UZERN, UZFRN (UZELN, UZFLN) ¹⁾
136	Insulating shaft 550, 650 kV	6 (3)		UZERT, UZFRT (UZELT, UZFRT) ¹⁾
137	Steel shaft	2		UZE.N 200, 250/..., UZF.N 200, 250/...
137	Steel shaft	2		UZE.N 380/..., UZF.N 380/...
137	Steel shaft	2		UZE.N 550, 650/..., UZF.N 550, 650/...
140	Coupling	6 (3)		UZER,D, UZFR,D (UZEL, UZF) ¹⁾ Another design was introduced in February 1987. When ordering, please contact ABB
152-154	Set of nuts + washers	42		UZE.. 200, 250/..., UZF.. 200, 250/...
152-154	Set of nuts + washers	56		UZE.. 380/..., UZF.. 380/...
152-154	Set of nuts + washers	66		UZE.. 550, 650/..., UZF.. 550, 650/...
155-157	Set of nuts + washers + screws	42		UZE.. 200/..., UZF.. 200/...
155	Nut	42		UZE.. 250/..., UZF.. 250/...
155	Nut	54		UZE.. 380, 550, 650/..., UZF.. 380, 550, 650/...
160	Set of: 3+6 allen screws 6+12 locking washers 3 brackets	2 (1)		UZER,D, UZFR,D (UZEL, UZF) ¹⁾
185	Shield			When ordering, please contact ABB

1) Pos 136, 140, 160: Quantity () See Remarks ().



Selector-switch phase

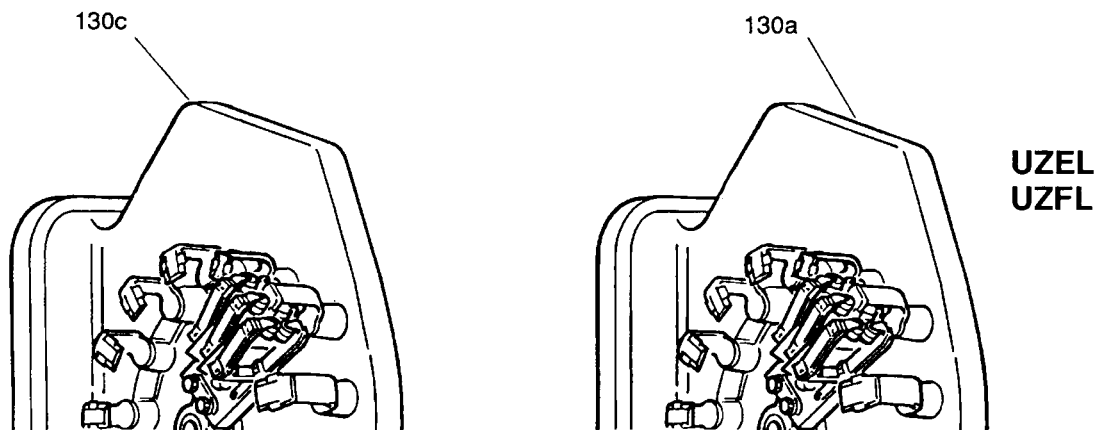
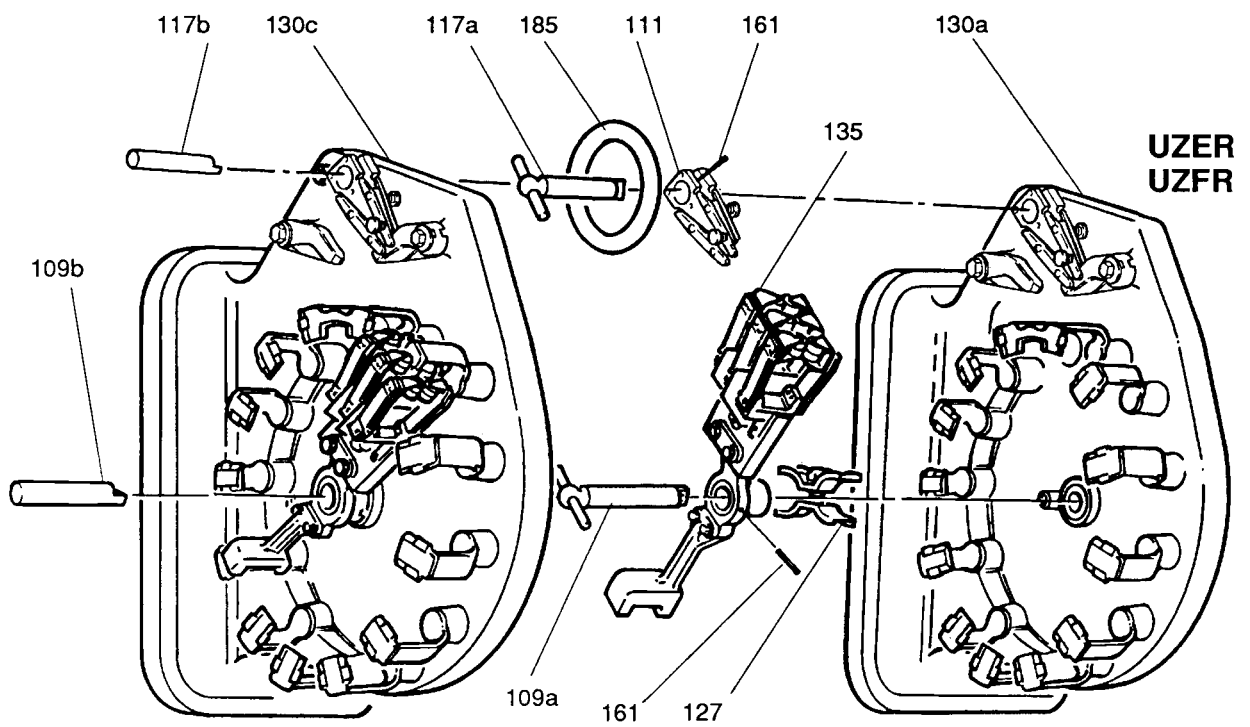
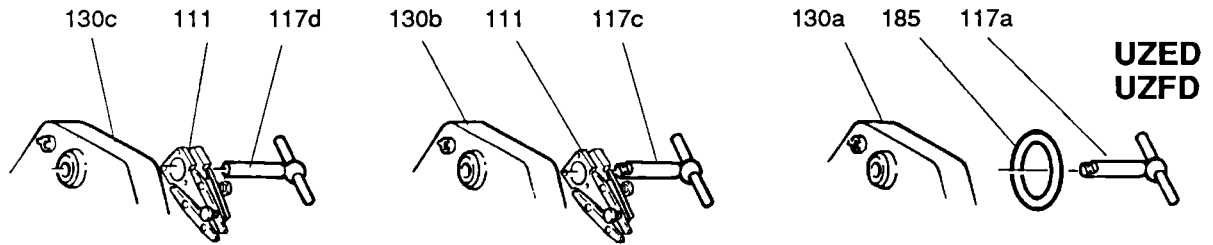
Item No.	Name of item	Quantity per tap-changer phase		Remarks	
101	Body	3	1	See pages 16, 17	
109a	Shaft for main contact	2			
109b	Shaft for main contact	1			
111	Set of change-over selector, including the fixed contacts	3	1	UZER,D, UZEYD, .../... ^{2) 4)} UZFR, D, UZFYD, .../... ²⁾ A complete type designation has to be stated.	
117a	Shaft, change-over	2 (1)		UZER, UZFR (UZED, UZFD) ^{1) 4)}	
117b	Shaft, change-over	1		UZER, UZFD ⁴⁾	
117c	Shaft, change-over	1		UZED, UZFD ⁴⁾	
117d	Shaft, change-over	1		UZED, UZFD ⁴⁾	
127	Current collector	3 (6)	1(2)	150, 300A (500, 600 A) ¹⁾	
130a+c	Selector switch phase	5-11 pos	2+1	1	UZEL.../150, UZFL.../150 ²⁾
130a+c		12-17 pos	2+1	1	UZEL.../150, UZFL.../150 ²⁾
130a+c		5-11 pos	2+1	1	UZEL.../300-600, UZFL.../300-600 ²⁾
130a+c		12-17 pos	2+1	1	UZEL.../300-600, UZFL.../300-600
130a+c		7-23 pos	2+1	1	UZER.../150, UZFR.../150 ²⁾
130a+c		25-33 pos	2+1	1	UZER.../150, UZFR.../150 ²⁾
130a+c		7-23 pos	2+1	1	UZER.../300-600, UZFR.../300-600 ²⁾
130a+c		25-33 pos	2+1	1	UZER.../300-600, UZFR.../300-600 ²⁾
130a+b+c		7-23 pos	1+1+1	1	UZED.../150, UZFD.../150 ²⁾
130a+b+c		25-29 pos	1+1+1	1	UZED.../150, UZFD.../150 ²⁾
130a+b+c		7-23 pos	1+1+1	1	UZED.../300-600, UZFD.../300-600 ²⁾
130a+b+c		25-29 pos	1+1+1	1	UZED.../300-600, UZFD.../300-600 ²⁾
130.1	Addition for shielding	3	1	UZEL. 550/..., UZFL. 550/... ³⁾	
130.1	Addition for shielding	3	1	UZER,D 550/..., UZFR,D. 550/... ³⁾	
135	Moving contact system			See pages 18, 19, 20, 21	
161	Taper-pin	3	1	UZEL, UZFL	
161	Taper-pin	6	2	UZER,D, UZFR,D ⁴⁾	
185	Shield			When ordering, please contact ABB	

1) Pos 117a, 127: Quantity (), See Remarks ().

2) Pos 111, 130: for UZE..550, 650/... and UZF..550, 650/... addition for shielding must be added.

3) Pos 130.1: for UZE.T 550, 650/... and UZF.T 550, 650/... pos 135.1 (see pages 10-11) must be added.

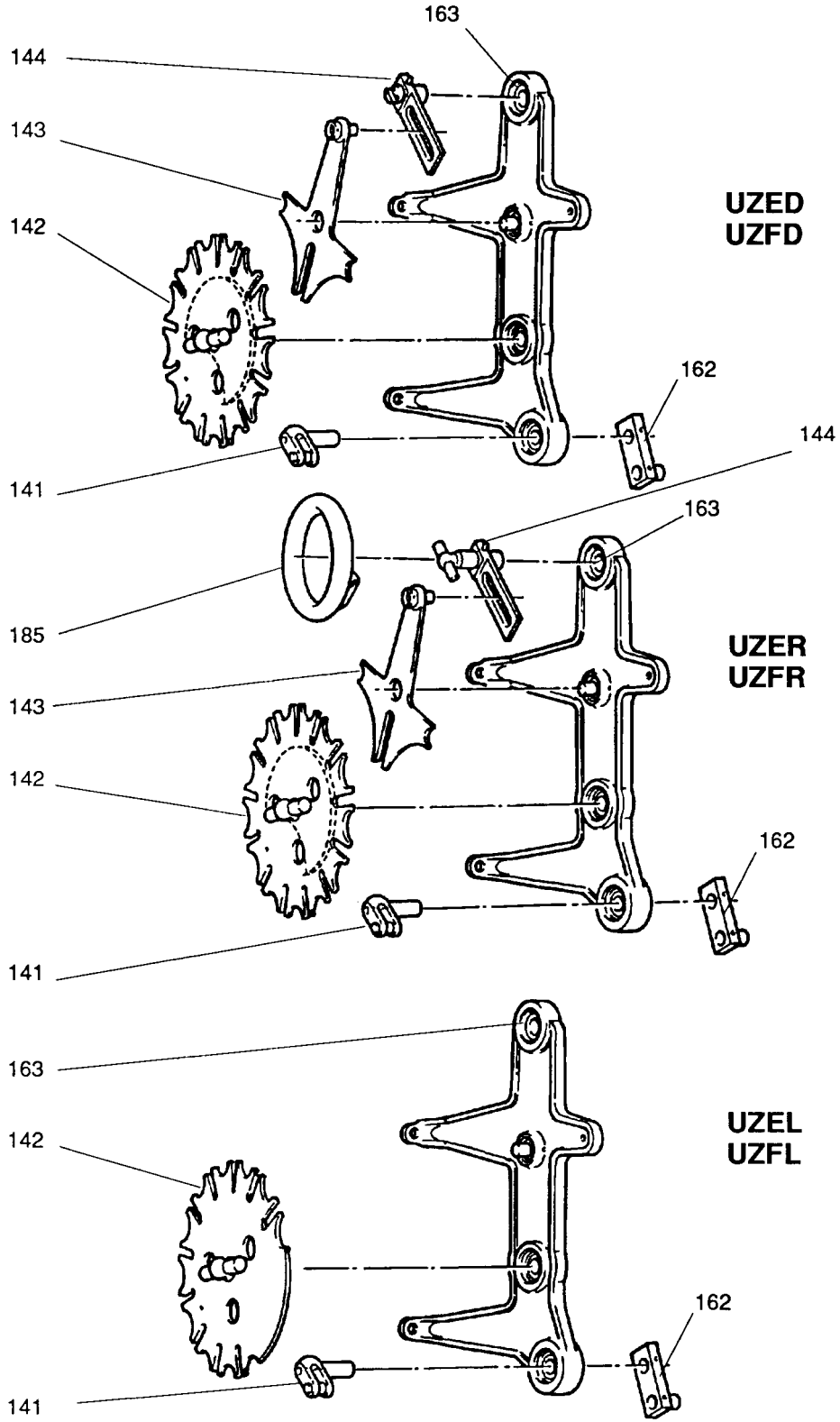
4) Pos 111, 117, 161: Delivered as integral assembly.



Geneva gear

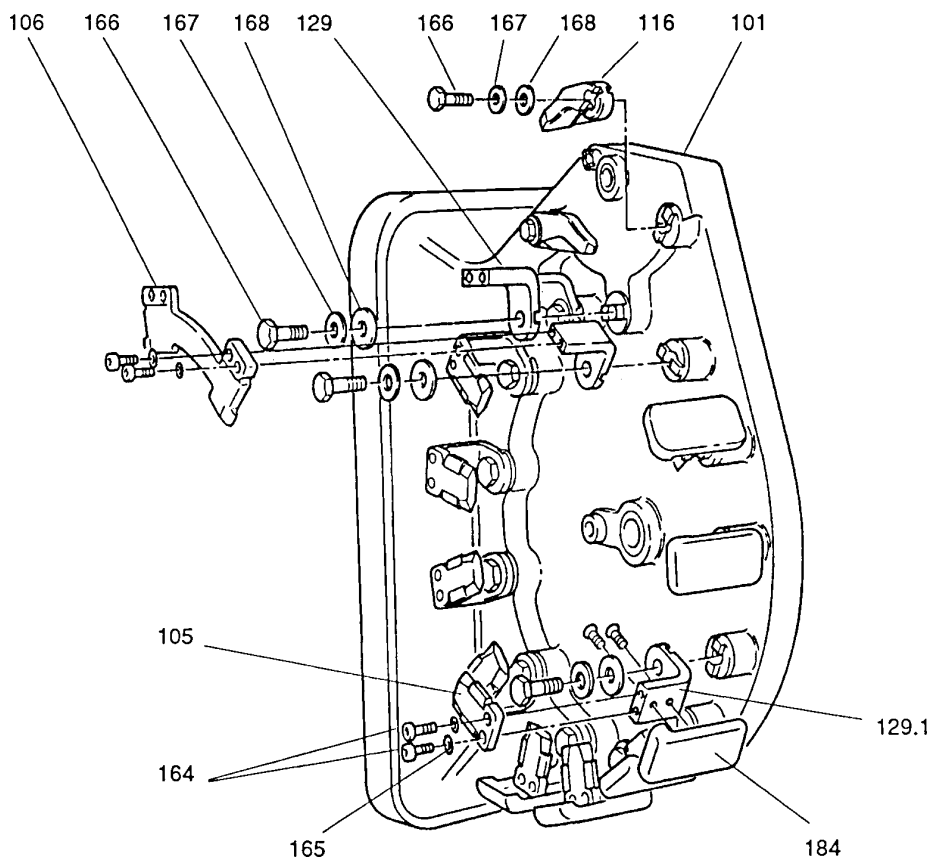
Item No.	Name of item	Quantity per tap-changer phase	Remarks
118	Complete set of geneva gear	1	UZEL, UZFL 5-11 pos ¹⁾
118	Complete set of geneva gear	1	UZEL, UZFL 12-17 pos ¹⁾
118	Complete set of geneva gear	1	UZER, UZFR 7-23 pos ¹⁾
118	Complete set of geneva gear	1	UZER, UZFR 25-33 pos ¹⁾
118	Complete set of geneva gear	1	UZED, UZFD 7-23 pos ¹⁾
118	Complete set of geneva gear	1	UZED, UZFD 25-29 pos ¹⁾
141	Geneva drive	1	UZEL .../..., UZFL .../... 5-11 pos
141	Geneva drive	1	UZER,D .../..., UZFR,D .../... 7-23 pos
141	Geneva drive	1	UZEYD .../..., UZFYD .../... 10-22 pos
141	Geneva drive	1	UZEL .../..., UZFL .../... 12-17 pos
141	Geneva drive	1	UZER .../..., UZFR .../... 25-33 pos
141	Geneva drive	1	UZED .../..., UZFD .../... 25-29 pos
141	Geneva drive	1	UZEYD .../..., UZFYD .../... 24-28 pos
142	Geneva wheel	1	UZEL, UZFL 5-11 pos ¹⁾
142	Geneva wheel	1	UZEL, UZFL 12-17 pos ¹⁾
142	Geneva wheel	1	UZER,D, UZFR,D 7-23 pos ¹⁾
142	Geneva wheel	1	UZER,D, UZFR,D 25-33 pos ¹⁾
142.1	Drilling for shield	1	UZEL. 550-650/..., UZFL. 550-650/...
143	Geneva arm	1	UZER,D, YD, UZFR,D, YD 7-23 pos, 10-22 pos
143	Geneva arm	1	UZER,D, YD, UZFR,D, YD 25-33 pos, 25-29 pos, 24-28 pos
144	Change-over arm	1	UZER 200-650/..., UZFR 200-650... ²⁾
144	Change-over arm	1	UZED 200-650/..., UZFD 200-650... ²⁾
162	Crank arm	1	
163	Bearing	1	
185	Shield		When ordering, please contact ABB

- 1) Pos 118,142: for UZE.. 550 and UZF.. 550/... addition for shielding must be added.
 Pos 118: for UZER. 550/... and UZFR. 550/... pos 142.1 + 185
 Pos 142: for UZEL. 550, 650/... and UZFL. 550, 650/... pos 142.1
 2) Pos 144: for UZER,D. 550-650/... and UZFR,D. 550-650/... pos 185 must be added.



Body with fixed contacts

Item No.	Name of item		Quantity per tap-changer phase		Remarks
101	Epoxy-resin body	5-11 pos	3	1	UZEL .../150, 300, UZFL .../150, 300
101		12-17 pos	3	1	UZEL .../150, 300, UZFL .../150, 300
101		5-11 pos	3	1	UZEL .../500, 600, UZFL .../500, 600
101		12-17 pos	3	1	UZEL .../500, 600, UZFL .../500, 600
101		7-23 pos	3	1	UZER .../150, 300, UZFR .../150, 300
101		10-22 pos	3	1	UZEYD .../150, 300, UZFYD .../150, 300
101		10-22 pos	3	1	UZER .../500, 600, UZFR .../500, 600
101		25-33 pos	3	1	UZEYD .../500, 600, UZFYD .../500, 600
101		25-33 pos	3	1	UZER .../150, 300, UZFR .../150, 300
101		25-33 pos	3	1	UZER .../500, 600, UZFR .../500, 600
101		7-23 pos	3	1	UZED .../150, 300, UZFD .../150, 300
101		7-23 pos	3	1	UZED .../500, 600, UZFD .../500, 600
101		25-29 pos	3	1	UZED .../150, 300, UZFD .../150, 300
101		25-29 pos	3	1	UZED .../500, 600, UZFD .../500, 600
105	Fixed single contact	5-11 pos	see table page 9		UZEL .../150, UZFL .../150
		7-23 pos	see table page 9		UZER,D .../150, UZFR,D .../150
		10-22 pos	see table page 9		UZEYD .../150, UZFYD .../150
105	Fixed single contact	12-17 pos			UZEL .../150, UZFL .../150
		25-33 pos			UZER .../150, UZFR .../150
		25-29 pos			UZED .../150, UZFD .../150
		24-28 pos			UZEYD .../150, UZFYD .../150
105	Fixed single contact	5-11 pos			UZEL .../300-600, UZFL .../300-600
		7-23 pos			UZER,D .../300-600, UZFR,D .../300-600
		10-22 pos			UZEYD .../300-600, UZFYD .../300-600,
105	Fixed single contact	12-17 pos			UZEL .../300-600, UZFL .../300, 600
		25-33 pos			UZER .../300-600, UZFR .../300, 600
		25-29 pos			UZED .../300-600, UZFD .../300, 600
		24-28 pos			UZEYD .../300-600, UZFYD .../300-600
106	Fixed double contact	7-23 pos			UZER,D .../150, UZFR,D .../150
		10-22 pos			UZEYD .../150, UZFYD .../150
106	Fixed double contact	7-23 pos			UZER,D .../300-600, UZFR,D .../300-600
		10-22 pos			UZEYD .../300-600, UZFYD .../300-600
106	Fixed double contact	25-33 pos			UZER .../150-600, UZFR .../150-600
		25-29 pos			UZED .../150-600, UZFD .../150-600
		24-28 pos			UZEYD .../150-600, UZFYD .../150-600
116	Fixed contact, change-over selector		6	2	
129	Contact support		see table page 9		
129.1	Contact support		see table page 9		
164, 168	Set of screw + washer		see table page 9		
166-168	Set of screw + washers		see table page 9		
184	Contact support + shield + 2 screws		12	4	UZE.. 550/..., UZF.. 550/... 11, 23 pos
184	Contact support + shield + 2 screws		21	7	UZE.. 650/..., UZF.. 650/... 11, 23 pos
184	Contact support + shield + 2 screws		18	6	UZE.. 550/..., UZF.. 550/... 17, 33 pos
184	Contact support + shield + 2 screws		30	10	UZE.. 650/..., UZF.. 650/... 17, 33 pos



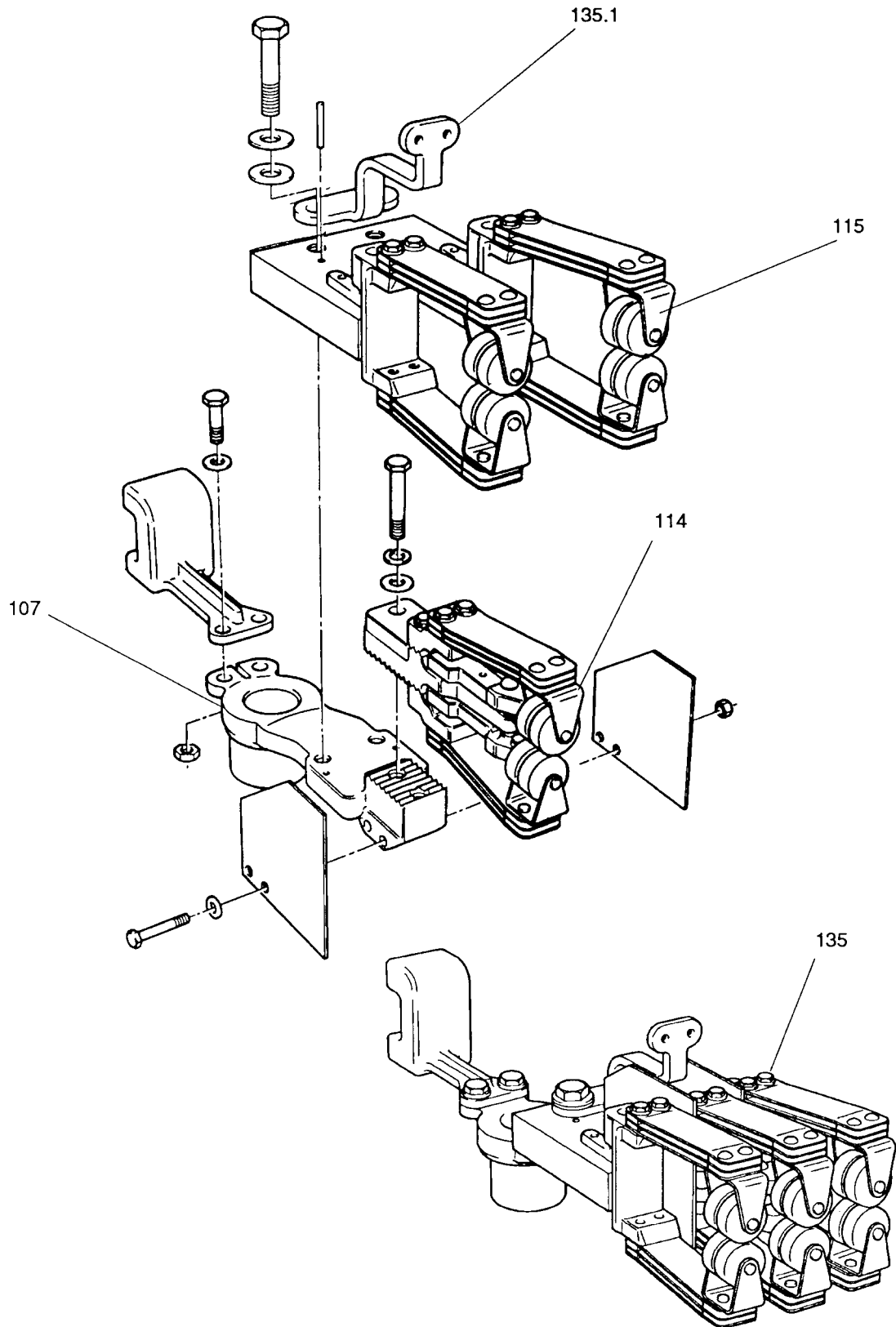
No. of pos.	Quantity per phase ¹⁾ UZEL, UZFL					UZER UZFR		UZED UZFD		UZER, UZED UZFR, UZFD					
	Item No.					Item No.		Item No.		Item No.					
	-380/...	550/... ²⁾	650/... ²⁾							-380/...	550/... ²⁾	650/...			
	105	129	129+129.1	129+129.1	105	106	105	106	129	129+129.1	129+129.1	164-165	166-168		
5	5	5	1	4	5										
7	7	7	3	4	7	1	6	1	6	13	9 + 4	6 + 7	26	15	
9	9	9	5	4	2	7	1	6	1	6					
11	11	11	7	4	4	7	1	6	1	6					
13	13	13	7	6	3	10	3	5	1	6					
15	15	15	9	6	5	10	5	4	3	5					
17	17	17	11	6	7	10	7	3	5	4					
19							7	3	7	3					
21							11	1	9	2					
23							11	1	11	1					
25							10	4	8	5	18	12 + 6	8 + 10	36	20
27							12	3	10	4					
29							12	3	12	3					
31							16	1	-	-					
33							16	1	-	-					

1) Quantity per tap-changer = 3x
 2) 129.1 is included in item 184.

Moving contact details

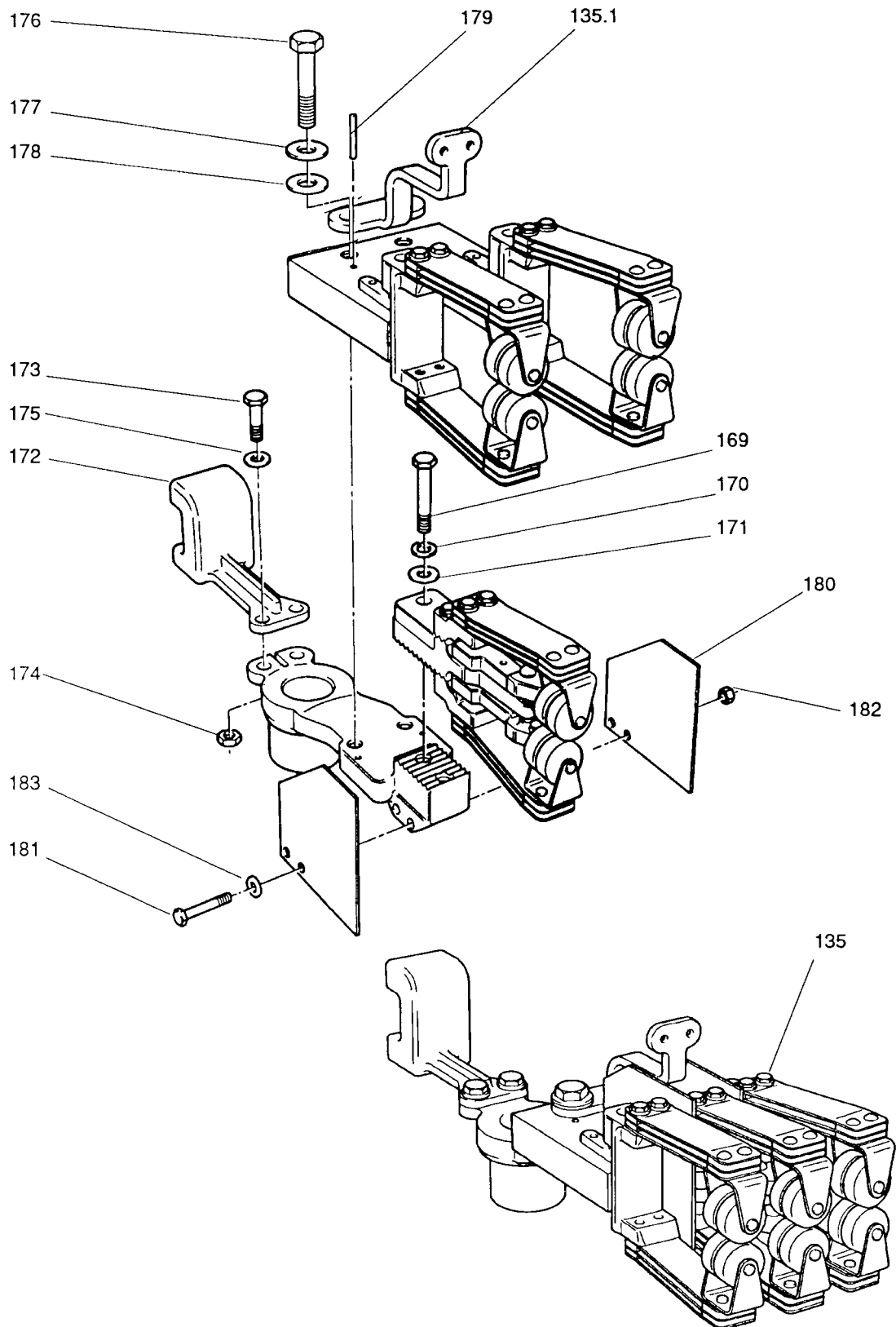
Item No.	Name of item	Quantity per tap-changer phase		Remarks
107	Arm	3	1	
114	Moving main and sw. contact	3	1	UZE .../150, UZF ../150
114	Moving main and sw. contact	3	1	UZE .../300, UZF ../300
114	Moving main and sw. contact	3	1	UZE .../500, UZF ../500
114	Moving main and sw. contact	3	1	UZE .../600, UZF../600
115	Moving transition contact	3	1	UZEL .../150, UZFL .../150; 5-11 pos UZER,D .../150, UZFR,D .../150; 7-23 pos UZEYD .../150, UZFYD .../150; 10-22 pos
115	Moving transition contact	3	1	UZEL .../300-600, UZFL .../300-600; 5-11 pos UZER,D .../300-600, UZFR,D .../300-600; 7-23 pos UZEYD .../300-600, UZFYD .../300-600; 10-22 pos
115	Moving transition contact	3	1	UZEL .../150, UZFL .../150; 12-17 pos UZER .../150, UZFR .../150; 25-33 pos UZED .../150, UZFD.../150; 25-29 pos UZEYD .../150, UZFY .../150; 24-28 pos
115	Moving transition contact	3	1	UZEL .../300-600, UZFL .../300-600; 12-17 pos UZER .../300-600, UZFR .../300-600; 25-33 pos UZED .../300-600, UZFD .../300-600; 25-29 pos UZEYD .../300-600,UZFYD .../300-600; 24-28 pos
135	Moving contact system	3	1	UZEL .../150, UZFL .../150; 5-11 pos ¹⁾ UZER,D .../150, UZFR,D .../150; 7-23 pos ¹⁾ UZEYD .../150, UZFYD .../150; 10-22 pos ¹⁾
135	Moving contact system	3	1	UZEL .../300, UZFL .../300; 5-11 pos ¹⁾ UZER,D .../300, UZFR,D .../300; 7-23 pos ¹⁾ UZEYD .../300, UZFYD .../300; 10-22 pos ¹⁾
135	Moving contact system	3	1	UZEL .../500, UZFL .../500; 5-11 pos ¹⁾ UZER,D .../500, UZFR,D .../500; 7-23 pos ¹⁾ UZEYD .../500, UZFYD .../500; 10-22 pos ¹⁾
135	Moving contact system	3	1	UZEL .../600, UZFL .../600; 5-11 pos ¹⁾ UZER,D .../600, UZFR,D .../600; 7-23 pos ¹⁾ UZEYD .../600, UZFYD .../600; 10-22 pos ¹⁾

1) Item 135; for UZE.T 550-650/..., UZF.T 550-650/... pos 135.1 must be added.



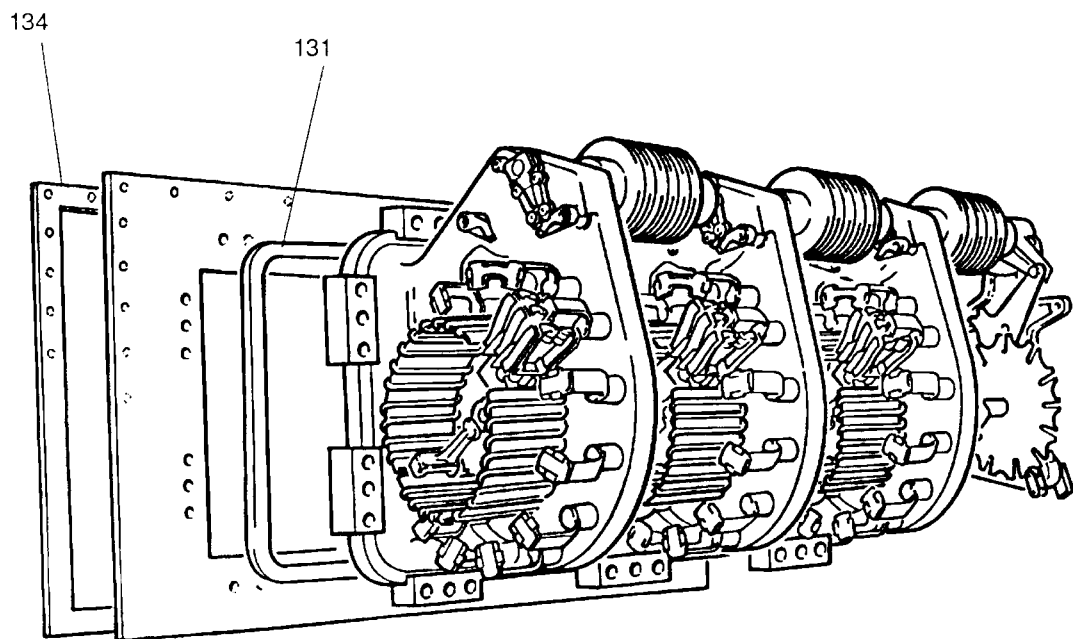
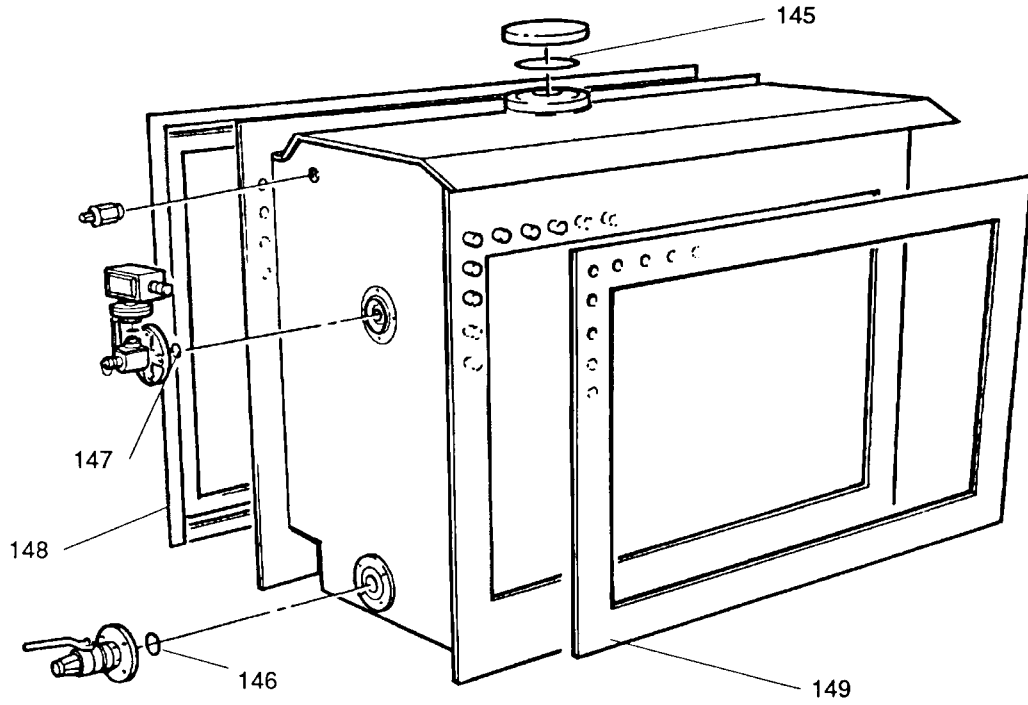
Item	Name of item	Quantity per tap-changer phase		Remarks
135	Moving contact system	3	1	UZEL .../150, UZFL .../150; 12-17 pos ¹⁾ UZER .../150, UZFR .../150; 25-33 pos ¹⁾ UZED .../150, UZFD .../150; 25-29 pos ¹⁾ UZEYD .../150, UZFYD .../150; 24-28 pos ¹⁾
135	Moving contact system	3	1	UZEL .../300, UZFL .../300; 12-17 pos ¹⁾ UZER .../300, UZFR .../300; 25-33 pos ¹⁾ UZED .../300, UZFD .../300; 25-29 pos ¹⁾ UZEYD .../300, UZFYD .../300; 24-28 pos ¹⁾
135	Moving contact system	3	1	UZEL .../500, UZFL .../500; 12-17 pos ¹⁾ UZER .../500, UZFR .../500; 25-33 pos ¹⁾ UZED .../500, UZFD .../500; 25-29 pos ¹⁾ UZEYD .../500, UZFYD .../500; 24-28 pos ¹⁾
135	Moving contact system	3	1	UZEL .../600, UZFL .../600; 12-17 pos ¹⁾ UZER .../600, UZFR .../600; 25-33 pos ¹⁾ UZED .../600, UZFD .../600; 25-29 pos ¹⁾ UZEYD .../600, UZFYD .../600; 24-28 pos ¹⁾
135.1	Bracket for shield	3	1	UZE.T 550-650, UZF.T 550-650
169-171	Set of screw + washers	6	2	
172	Bracket	3	1	
173-175	Set of screw + washer + nut	6	2	
176-179	Set of screw + washer + roll pin	6	2	
180	Insulation board	6	2	
181-183	Set of screw + washer + nut	6	2	

1) Item 135: for UZE.T 550-650/..., UZF.T 550-650/... pos 135.1 must be added



Gaskets

Item No.	Name of item	Quantity per tap-changer phase		Remarks
131	Gasket	3	1	
134	Gasket	1		UZE. 200, 250/..., UZF. 200, 250/...
134	Gasket	1		UZE. 380/...
134	Gasket	1		UZF. 380/...
134	Gasket	1		UZE. 550-650/..., UZF. 550-650/...
145	Gasket	1		
146	Gasket	1		
147	Gasket	2		
148	Gasket	1		UZE. 200, 250/..., UZF. 200, 250/...
148	Gasket	1		UZE. 380/...
148	Gasket	1		UZF. 380/...
148	Gasket	1		UZE. 550-650/...
148	Gasket	1		UZF. 550-650/...
149	Gasket	1		UZE. 200, 250/...
149	Gasket	1		UZF. 200, 250/...
149	Gasket	1		UZE. 380/...
149	Gasket	1		UZF. 380/...
149	Gasket	1		UZE. 550-650/...
149	Gasket	1		UZF. 550-650/...



Accessories

Item No.	Name of item	Quantity per tap-changer phase	Remarks
122	Pressure-relay	1	¹⁾
123	Test valve	1	
124	Oil-filter	1	
125a	Oil valve	1	²⁾
125b	Oil valve	1	³⁾
125c	Oil valve	1	⁴⁾
125d	Oil valve	1	⁵⁾
126	Vent valve	1	For UZF... the vent valve is located on the flange for connection to the oil conservator
150	Cover	1	

1) Pos 122 Pressure-relay:

– Trip pressure must be stated when ordering.

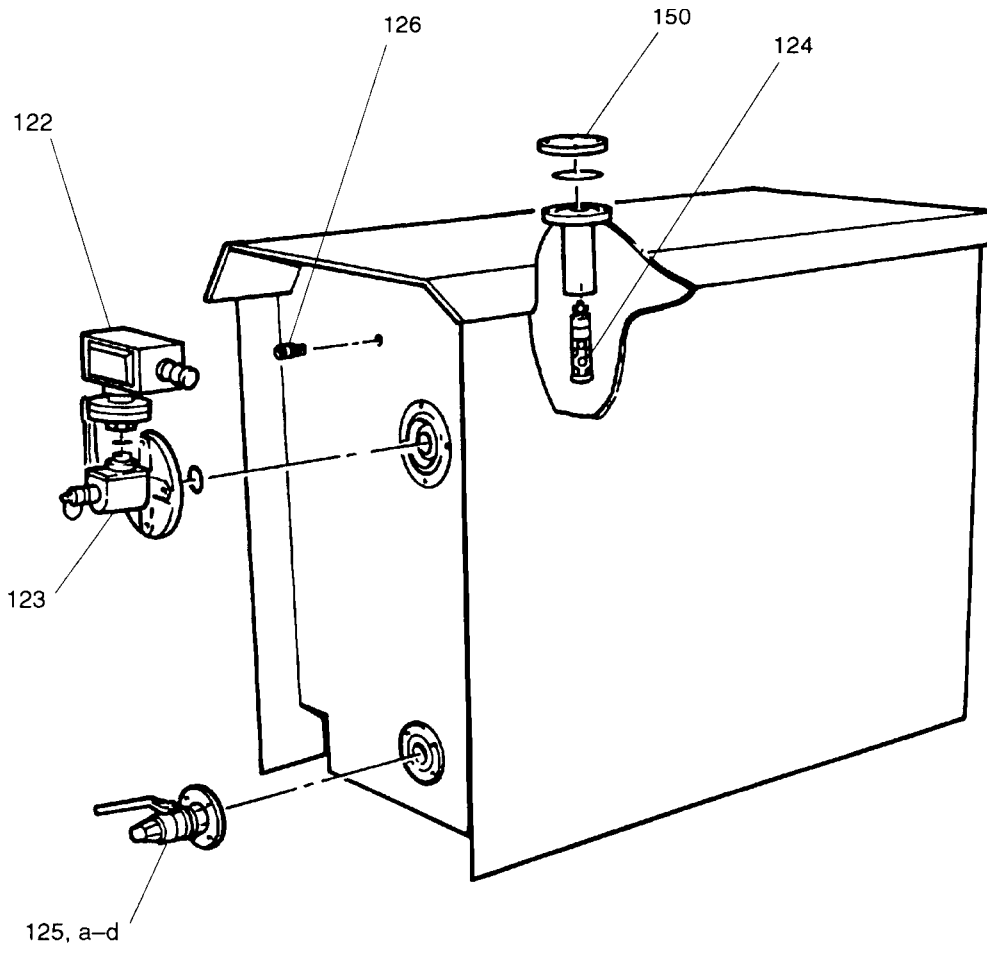
– For Serial Nos earlier than 90-3682, item 123, Test valve, must be ordered together with the pressure-relay.

2) Pos 125a: R 1½" internal thread ABB standard.

3) Pos 125b: R 1½" with connection flange according to BS.

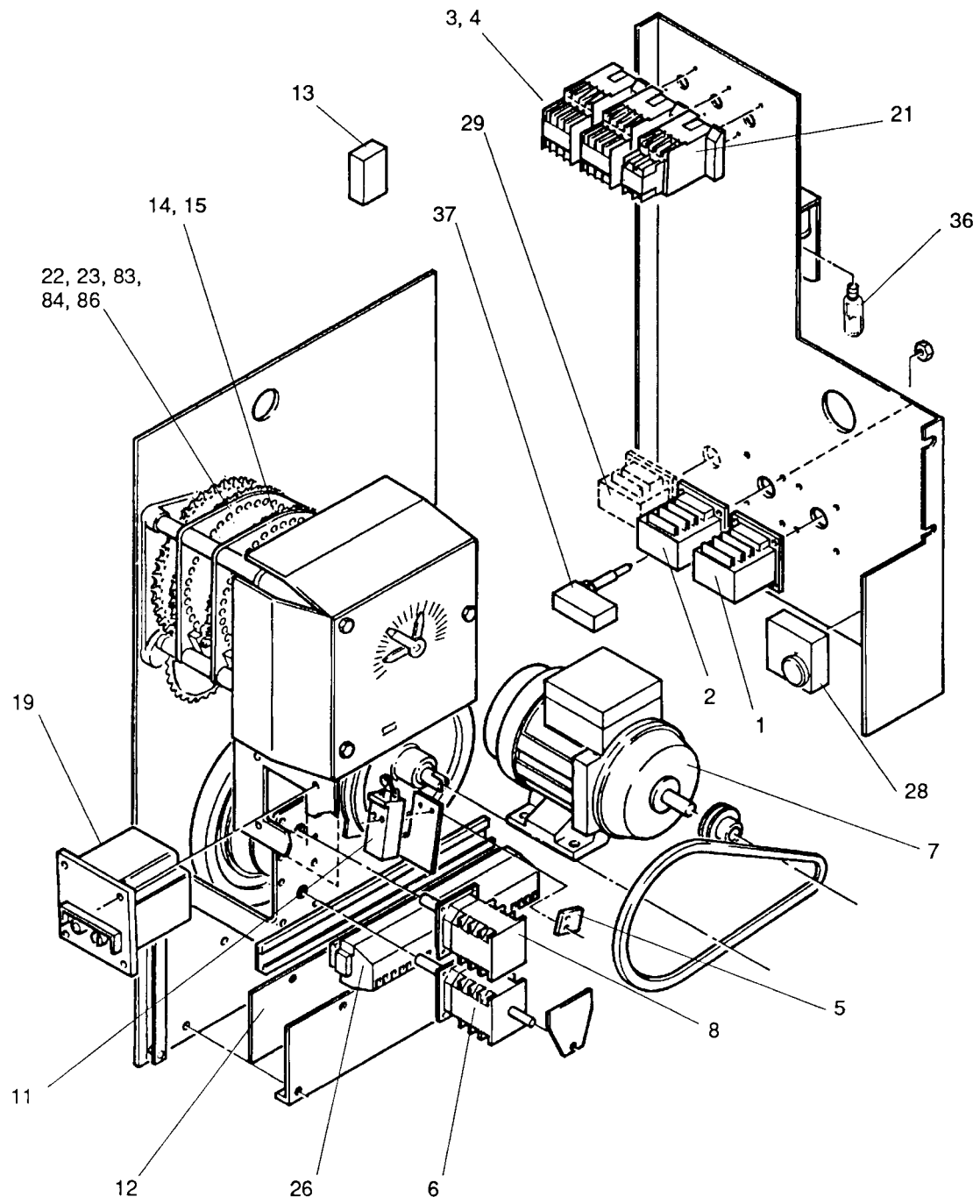
4) Pos 125c: 1½" NPT internal thread according to ANSI.

5) Pos 125d: 1½" NPT internal thread according to ANSI, with test valve.

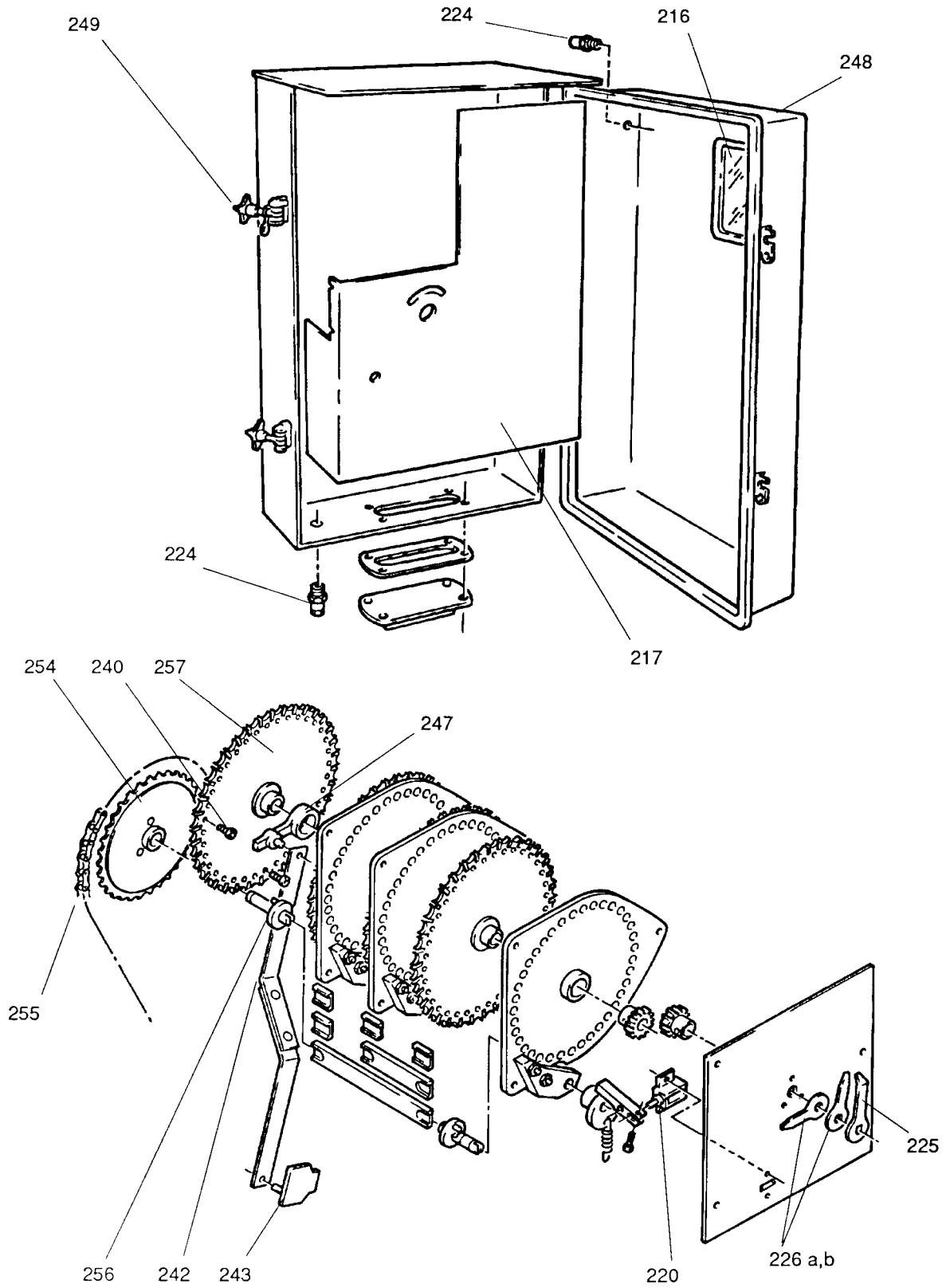


Motor-drive mechanism, mechanical and electrical details

Item No.	Name of item	Quantity	Remarks
1	Control selector-switch	1	
2	Control switch raise/lower	1	
3	Motor contactor	1	Raise
4	Motor contactor	1	Lower
5	Starting contact	1	
6	Maintaining interlocking and auxiliary contact	1	
7	Motor	1	
8	Limit switch	1	
11	Interlocking switch	1	
12	Heater 50 W	1	
13	Measuring amplifier (option)	1	13-35 pos
14	Position transmitter	1	
15	Continuation contact	1	
19	Motor protective switch	1	
21	Step by step-contactor	1	
22	Auxiliary contact, break before make	1	
23	Auxiliary contact, make before break	1	
26	Terminal blocks	1	
27	Heater 250 W (option)	1	
28	Thermostat (option)	1	
29	Control switch for heater	1	
36	Cabinet light	1	
37	Switch, door operated (option)	1	
83	Master switch (option)	1	
84	Follower switch (option)	1	
86	Step switch	1	



Item No.	Name of item	Quantity	Remarks
216	Inspection window	1	
217	Control panel	1	
220	Counter	1	
224	Air vent	2	
225	Mechanical position indicator	1	
226a	Min indicator	1	
226b	Max indicator	1	
240	Screw	2	Upper and lower limit
242	Link	2	
243	Limit stop	1	Mechanical
247	Pivoting arm	1	
248	Door	1	
249	Hand knob	2	
254	Chain wheel	1	
255	Chain	1	
256	Geneva drive	1	
257	Geneva wheel	1	
258a	Coupling	1	
258b		1	
258c		1	
259a	Geneva drive	1	For item 14, 15, 31, 33, 83 and 86
259b		1	For item 84
260	Geneva wheel	1	
261	Cam disc	1	
262a	Front plate	1	
262b		1	
263	Gear	2	
264	Lever	1	
265	Spring	1	
268	Gasket	1	
269	Cover plate	1	



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