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Transformer Components

Conversion table for bushings type GSB to type AirRIP® flex

Product overview

Are you thinking about how you can extend the service life of your transformers and increase their maintenance intervals? With our smart plug-and-play solution Quick Connect you can easily convert GSB bushings to the new dry modular bushing AirRIP® flex.



GSB standard bushings can be easily replaced or converted one-to-one with AirRIP® flex for all suitable applications with polymeric or porcelain insulators.

The benefits of dry bushings include:

- Reduced risk of fire
- Elimination of oil leakage
- They are mechanically strong, suitable for seismic regions
- They are easy to transport and store
- The silicone insulators are hydrophobic and have excellent properties in demanding environments.

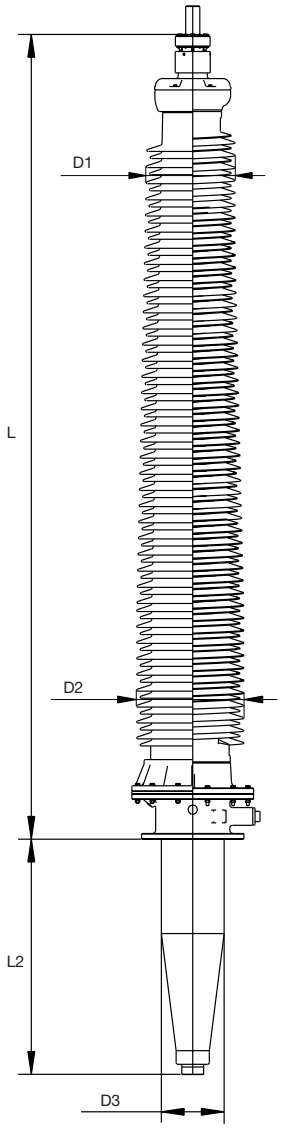
For more information and a complete list of the bushings, see Technical guide GSB 1ZSC000563-AAC, and Technical guide AirRIP® flex 1ZBF180000R0002.

Hitachi Energy

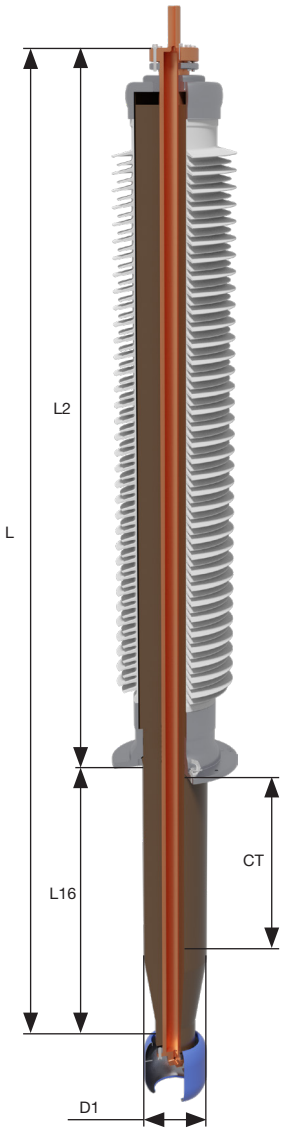
Table 1. Selection guide for replacing GSB bushings with AirRIP® flex with copper conductor tube.

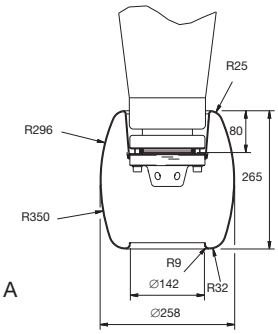
GSB

Note: Porcelain shown to the left, silicone shown to the right.



AirRIP® flex





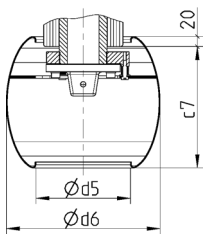
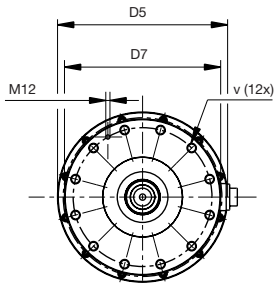
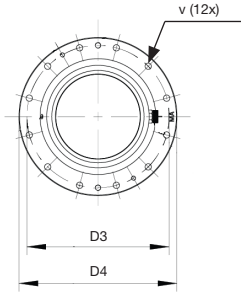


Fig. A





All dimensions in mm.

GSB / AirRIP® flex	Catalog number	Dimension drawing
GSB 245-1050	1ZSC901245-CCA	2751377-29
AirRIP® flex 245-1050	1ZBF180039	1ZBF180039
AirRIP® flex 245-1050	1ZBF180018	1ZBF180018
GSB 245-1050	1ZSC901245-CCB	2751377-22
AirRIP® flex 245-1050	1ZBF180042	1ZBF180042
AirRIP® flex 245-1050	1ZBF180021	1ZBF180021
GSB 362-1175	1ZSC901362-CCA	2751377-31
AirRIP® flex 362-1300	1ZBF180121	1ZBF180121
AirRIP® flex 362-1300	1ZBF180103	1ZBF180103
GSB 362-1175	1ZSC901362-CCB	2751377-32
AirRIP® flex 362-1300	1ZBF180124	1ZBF180124
AirRIP® flex 362-1300	1ZBF180106	1ZBF180106
GSB 420-1550	1ZSC901420-CCA	2751377-33
AirRIP® flex 420-1550	1ZBF180163	1ZBF180163
AirRIP® flex 420-1550	1ZBF180142	1ZBF180142
AirRIP® flex 420-1675	1ZBF180205	1ZBF180205
AirRIP® flex 420-1675	1ZBF180184	1ZBF180184
GSB 420-1550	1ZSC901420-CCB	2751377-34
AirRIP® flex 420-1550	1ZBF180166	1ZBF180166
AirRIP® flex 420-1550	1ZBF180145	1ZBF180145
AirRIP® flex 420-1675	1ZBF180208	1ZBF180208
AirRIP® flex 420-1675	1ZBF180187	1ZBF180187
GSB 550-1675	1ZSC901550-CCA	2751377-35
AirRIP® flex 550-1675	1ZBF180479	1ZBF180479
AirRIP® flex 550-1675	1ZBF180485	1ZBF180485
GSB 550-1675	1ZSC901550-CCB	2751377-20
AirRIP® flex 550-1675	1ZBF180482	1ZBF180482
AirRIP® flex 550-1675	1ZBF180488	1ZBF180488
GSB 550-1800	1ZSC901550-FCA	2751377-35
AirRIP® flex 550-1800	1ZBF180223	1ZBF180223
AirRIP® flex 550-1800	1ZBF180229	1ZBF180229
GSB 550-1800	1ZSC901550-FCB	2751377-20
AirRIP® flex 550-1800	1ZBF180226	1ZBF180226
AirRIP® flex 550-1800	1ZBF180232	1ZBF180232

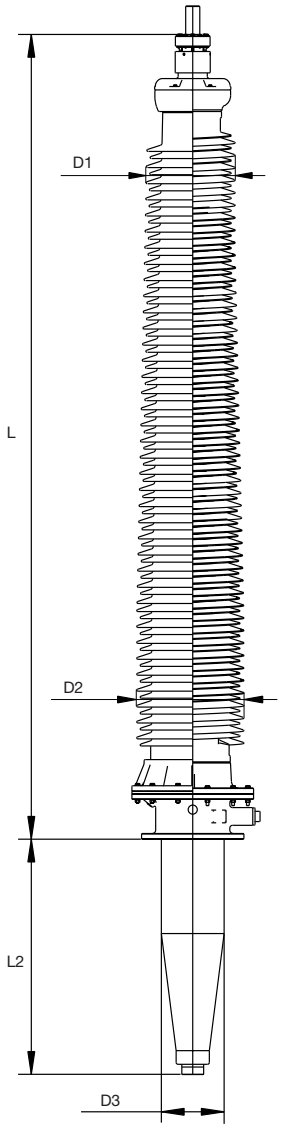
1) Flange selection n = 12 holes
2) The holes are easly adapted to AirRIP® flex
3) Depends on bottom connection
4) Cu conductor tube with FBC or draw rod

			Total	Air side	Insulator	Insulator	Oil side	Oil side	Pitch	Flange	Hole diam. [2]	Oil shield	Oil shield	Oil shield
			L + L2	L	D1	D2	L2	D3	D7	D5	v	Fig. A	Fig. A	Fig. A
			L	L2	top	bottom	L16	D1	D3 [1]	D4 [1]	v	c7 [3]	d5 [3]	d6 [3]
Rated voltage, U_m kV	Current A [4]	CT												
245	3150	300	3570	2650	373	405	920	228	450	490	23	265	142	258
245	3150	300	3321	2481	432	432	840	234	450	500	20	200-247	154-140	240-260
245	2000	300	3301	2461	387	387	840	185	400	450	20	200	114	200
245	3150	600	3870	2650	373	405	1220	228	450	490	23	265	142	258
245	3150	600	3621	2481	432	432	1140	234	450	500	20	200-247	154-140	240-260
245	2000	600	3601	2461	387	387	1140	185	400	450	20	200	114	200
362	3150	300	4575	3540	372	446	1035	274	450	535	23	265	142	258
362	2500	300	4189	3229	367	440	960	264	450	500	20	247-230	140-176	260-292
362	2000	300	4128	3168	432	432	960	234	450	500	20	200	132	230
362	3150	600	4875	3540	372	446	1335	274	450	535	23	265	142	258
362	2500	600	4489	3229	367	440	1260	264	450	500	20	247-230	140-176	260-292
362	2000	600	4428	3168	432	432	1260	234	450	500	20	200	132	230
420	2500	300	5010	3920	376	480	1090	300	500	560	23	265	142	258
420	2500	300	4717	3687	367	462	1030	285	450	500	20	247-230	140-176	260-292
420	2000	300	4657	3627	367	440	1030	264	450	500	20	247-230	140-176	260-292
420	2500	300	5277	4187	367	462	1030	285	450	500	20	247-230	140-176	260-292
420	2000	300	5217	4127	367	440	1090	264	450	500	20	247-230	140-176	260-292
420	2500	600	5310	3920	376	480	1390	300	500	560	23	265	142	258
420	2500	600	5017	3687	367	462	1330	285	450	500	20	247-230	140-176	260-292
420	2000	600	4957	3627	367	440	1330	264	450	500	20	247-230	140-176	260-292
420	2500	600	5577	4187	367	462	1330	285	450	500	20	247-230	140-176	260-292
420	2000	600	5517	4127	367	440	1390	264	450	500	20	247-230	140-176	260-292
550	2500	300	6235	4950	448	548	1285	374	550	635	23	265	142	258
550	2500	300	6047	4792	367	505	1255	338	500	550	23	247-230	140-176	260-292
550	3150	300	6047	4792	450	550	1255	374	530	580	23	247-230	140-176	260-292
550	2500	600	6535	4950	448	548	1585	374	550	635	23	265	142	258
550	2500	600	6347	4792	367	505	1555	338	500	550	23	247-230	140-176	260-292
550	3150	600	6347	4792	450	550	1555	374	530	580	23	247-230	140-176	260-292
550	2500	300	6235	4950	448	548	1285	374	550	635	23	265	142	258
550	2500	300	6047	4792	367	505	1255	338	500	550	23	247-230	140-176	260-292
550	3150	300	6047	4792	450	550	1255	374	530	580	23	247-230	140-176	260-292
550	2500	600	6535	4950	448	548	1585	374	550	635	23	265	142	258
550	2500	600	6347	4792	367	505	1555	338	500	550	23	247-230	140-176	260-292
550	3150	600	6347	4792	450	550	1555	374	530	580	23	247-230	140-176	260-292

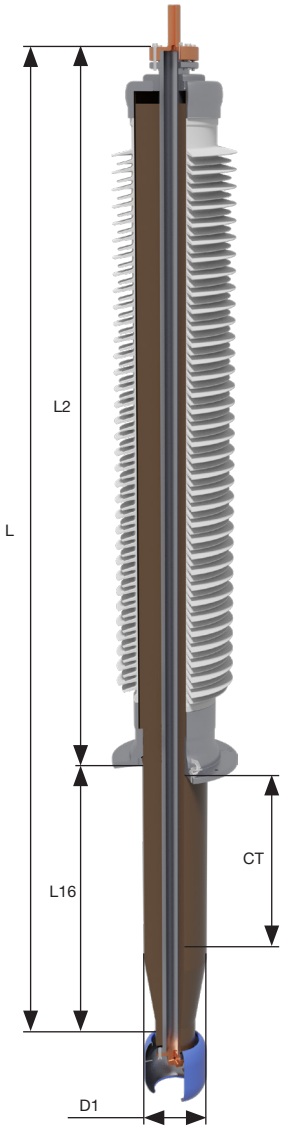
Table 2. Selection guide for replacing GSB bushings with AirRIP® flex with aluminum conductor tube.

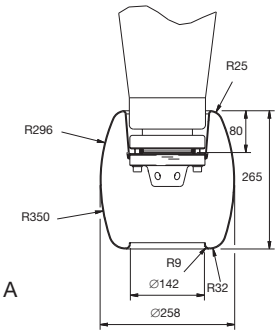
GSB

Note: Porcelain shown to the left, silicone shown to the right.



AirRIP® flex





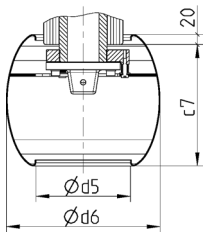
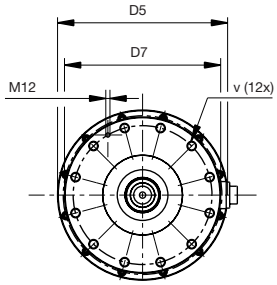
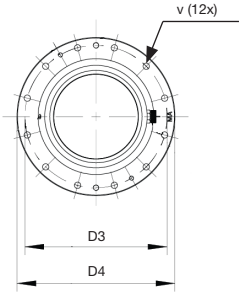


Fig. A





All dimensions in mm.

GSB AirRIP® flex	Catalog number	Dimension drawing
GSB 245-1050	1ZSC901245-CCA	2751377-29
AirRIP® flex 245-1050	1ZBF180032	1ZBF180032
AirRIP® flex 245-1050	1ZBF180011	1ZBF180011
GSB 245-1050	1ZSC901245-CCB	2751377-22
AirRIP® flex 245-1050	1ZBF180035	1ZBF180035
AirRIP® flex 245-1050	1ZBF180014	1ZBF180014
GSB 362-1175	1ZSC901362-CCA	2751377-31
AirRIP® flex 362-1300	1ZBF180097	1ZBF180097
AirRIP® flex 362-1300	1ZBF180115	1ZBF180115
GSB 362-1175	1ZSC901362-CCB	2751377-32
AirRIP® flex 362-1300	1ZBF180100	1ZBF180100
AirRIP® flex 362-1300	1ZBF180118	1ZBF180118
GSB 420-1550	1ZSC901420-CCA	2751377-33
AirRIP® flex 420-1550	1ZBF180156	1ZBF180156
AirRIP® flex 420-1550	1ZBF180135	1ZBF180135
AirRIP® flex 420-1675	1ZBF180198	1ZBF180198
AirRIP® flex 420-1675	1ZBF180177	1ZBF180177
GSB 420-1550	1ZSC901420-CCB	2751377-34
AirRIP® flex 420-1550	1ZBF180159	1ZBF180159
AirRIP® flex 420-1550	1ZBF180138	1ZBF180138
AirRIP® flex 420-1675	1ZBF180201	1ZBF180201
AirRIP® flex 420-1675	1ZBF180180	1ZBF180180
GSB 550-1675	1ZSC901550-CCA	2751377-35
AirRIP® flex 550-1675	1ZBF180473	1ZBF180473
GSB 550-1675	1ZSC901550-CCB	2751377-20
AirRIP® flex 550-1675	1ZBF180476	1ZBF180476
GSB 550-1800	1ZSC901550-FCA	2751377-35
AirRIP® flex 550-1800	1ZBF180217	1ZBF180217
GSB 550-1800	1ZSC901550-FCB	2751377-20
AirRIP® flex 550-1800	1ZBF180220	1ZBF180220

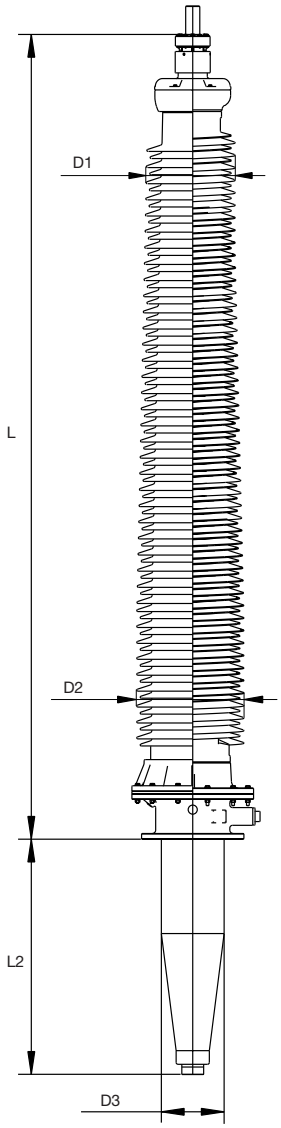
1) Flange selection n = 12 holes
2) The holes are easly adapted to AirRIP® flex
3) Depends on bottom connection
4) Al conductor tube with FBC or draw rod

			Total	Air side	Insulator	Insulator	Oil side	Oil side	Pitch	Flange	Hole diam. [2]	Oil shield	Oil shield	Oil shield
			L + L2	L	D1	D2	L2	D3	D7	D5	v	Fig. A	Fig. A	Fig. A
			L	L2	top	bottom	L16	D1	D3 [1]	D4 [1]	v	c7 [3]	d5 [3]	d6 [3]
Rated voltage, U_m kV	Current A [4]	CT												
245	2000	300	3570	2650	373	405	920	228	450	490	23	265	142	258
245	2500	300	3321	2481	432	432	840	234	450	500	20	200-247	140-154	240-260
245	1600	300	3301	2461	387	387	840	185	400	450	20	200	140	200
245	2000	600	3870	2650	373	405	1220	228	450	490	23	265	142	258
245	2500	600	3621	2481	432	432	1140	234	400	450	20	200-247	140-154	240-260
245	1600	600	3601	2461	387	387	1140	185	400	450	20	200	140	200
362	1600	300	4575	3540	372	446	1035	274	450	535	23	265	142	258
362	1600	300	4128	3168	432	432	960	234	450	500	20	200	132	230
362	2000	300	4189	3229	367	440	960	264	450	500	20	247-230	140-176	260-292
362	1600	600	4875	3540	372	446	1335	274	450	535	23	265	142	258
362	1600	600	4428	3168	432	432	1260	234	450	500	20	200	132	230
362	2000	600	4489	3229	367	440	1260	264	450	500	20	247-230	140-176	260-292
420	1600	300	5010	3920	376	480	1090	300	500	560	23	265	142	258
420	2000	300	4717	3687	367	462	1030	285	450	500	20	247-230	140-176	260-292
420	1250	300	4657	3627	367	440	1030	264	450	500	20	247-230	140-176	260-292
420	2000	300	5277	4187	367	462	1090	285	450	500	20	247-230	140-176	260-292
420	1250	300	5217	4127	367	440	1090	264	450	500	20	247-230	140-176	260-292
420	1600	600	5310	3920	376	480	1390	300	500	560	23	265	142	258
420	2000	600	5017	3687	367	462	1330	285	450	500	20	247-230	140-176	260-292
420	1250	600	4957	3627	367	440	1330	264	450	500	20	247-230	140-176	260-292
420	2000	600	5577	4187	367	462	1390	285	450	500	20	247-230	140-176	260-292
420	1250	600	5517	4127	367	440	1390	264	450	500	20	247-230	140-176	260-292
550	1600	300	6235	4950	448	548	1285	374	550	635	23	265	142	258
550	1600	300	6047	4792	367	505	1255	338	500	550	23	247-230	140-176	260-292
550	1600	600	6535	4950	448	548	1585	374	550	635	23	265	142	258
550	1600	600	6347	4792	367	505	1555	338	500	550	23	247-230	140-176	260-292
550	1600	300	6235	4950	448	548	1285	374	550	635	23	265	142	258
550	1600	300	6047	4792	367	505	1255	338	500	550	23	247-230	140-176	260-292
550	1600	600	6535	4950	448	548	1585	374	550	635	23	265	142	258
550	1600	600	6347	4792	367	505	1555	338	500	550	23	247-230	140-176	260-292

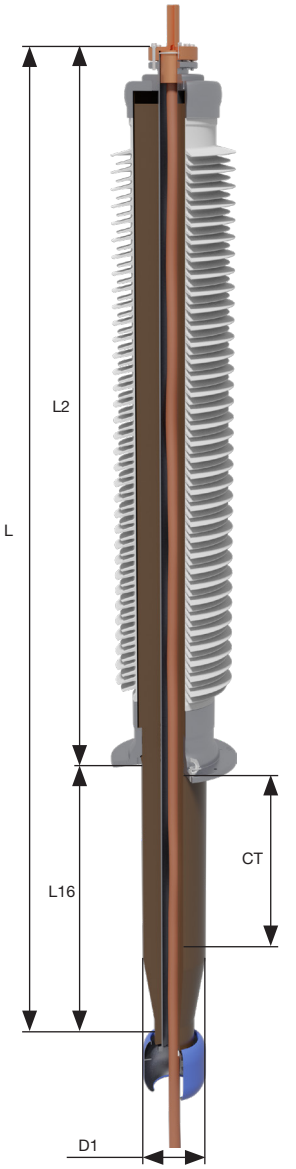
Table 3. Selection guide for replacing GSB bushings with AirRIP® flex with draw lead connection.

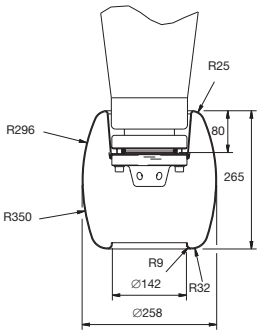
GSB

Note: Porcelain shown to the left, silicone shown to the right.



AirRIP® flex





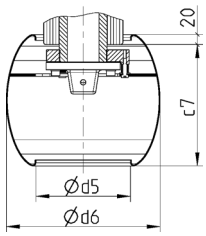
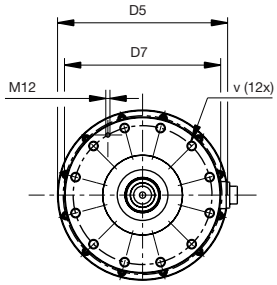
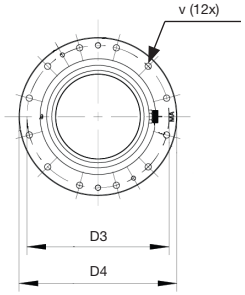


Fig. A





All dimensions in mm.

GSB AirRIP® flex	Catalog number	Dimension drawing
GSB 245-1050	1ZSC901245-CCA	2751377-29
AirRIP® flex 245-1050	1ZBF180025	1ZBF180025
AirRIP® flex 245-1050	1ZBF180004	1ZBF180004
GSB 245-1050	1ZSC901245-CCB	2751377-22
AirRIP® flex 245-1050	1ZBF180028	1ZBF180028
AirRIP® flex 245-1050	1ZBF180007	1ZBF180007
GSB 362-1175	1ZSC901362-CCA	2751377-31
AirRIP® flex 362-1300	1ZBF180109	1ZBF180109
AirRIP® flex 362-1300	1ZBF180091	1ZBF180091
GSB 362-1175	1ZSC901362-CCB	2751377-32
AirRIP® flex 362-1300	1ZBF180112	1ZBF180112
AirRIP® flex 362-1300	1ZBF180094	1ZBF180094
GSB 420-1550	1ZSC901420-CCA	2751377-33
AirRIP® flex 420-1550	1ZBF180149	1ZBF180149
AirRIP® flex 420-1550	1ZBF180128	1ZBF180128
AirRIP® flex 420-1675	1ZBF180191	1ZBF180191
AirRIP® flex 420-1675	1ZBF180170	1ZBF180170
GSB 420-1550	1ZSC901420-CCB	2751377-34
AirRIP® flex 420-1550	1ZBF180152	1ZBF180152
AirRIP® flex 420-1550	1ZBF180131	1ZBF180131
AirRIP® flex 420-1675	1ZBF180194	1ZBF180194
AirRIP® flex 420-1675	1ZBF180173	1ZBF180173
GSB 550-1675	1ZSC901550-CCA	2751377-35
AirRIP® flex 550-1675	1ZBF180467	1ZBF180467
GSB 550-1675	1ZSC901550-CCB	2751377-20
AirRIP® flex 550-1675	1ZBF180470	1ZBF180470
GSB 550-1800	1ZSC901550-FCA	2751377-35
AirRIP® flex 550-1800	1ZBF180211	1ZBF180211
GSB 550-1800	1ZSC901550-FCB	2751377-20
AirRIP® flex 550-1800	1ZBF180214	1ZBF180214

1) Flange selection n = 12 holes
2) The holes are easly adapted to AirRIP® flex
3) Depends on connection type (draw lead or removable rod)
4) Max. current with draw lead connection
5) Max. current 1600 A with removable rod

			Total	Air side	Draw lead	Insulator	Insulator	Oil side	Oil side	Pitch	Flange	Hole diam. [2]	Oil shield	Oil shield	Oil shield
			L + L2	L	L - 72	D1	D2	L2	D3	D7	D5	v	Fig. A	Fig. A	Fig. A
			L	L2	L4	top	bottom	L16	D1	D3 [1]	D4 [1]	v	c7 [3]	d5 [3]	d6 [3]
Rated voltage, U_m kV	Current A [4]	CT													
245	2000	300	3570	2650	2578	373	405	920	228	450	490	23	265	142	258
245	2000	300	3311	2471	2355	432	432	840	234	450	500	20	200-247	140-154	240-260
245	1250	300	3301	2461	2370	387	387	840	185	400	450	20	200	140	200
245	2000	600	3870	2650	2578	373	405	1220	228	450	490	23	265	142	258
245	2000	600	3611	2471	2355	432	432	1140	234	450	500	20	200-247	140-154	240-260
245	1250	600	3601	2461	2370	387	387	1140	185	400	450	20	200	140	200
245	1600	300	4575	3540	3468	372	446	1035	274	450	535	23	265	142	258
245	1600	300	4179	3219	3103	367	440	960	264	450	500	20	247-230	140-176	260-292
245	1250	300	4128	3168	3077	432	432	960	234	450	500	20	200	132	230
362	1600	600	4875	3540	3468	372	446	1335	274	450	535	23	265	142	258
362	1600	600	4479	3219	3103	367	440	1260	264	450	500	20	247-230	140-176	260-292
362	1250	600	4428	3168	3077	432	432	1260	234	450	500	20	200	132	230
420	1600	300	5010	3920	3848	376	480	1090	300	500	560	23	265	142	258
420	1600	300	4707	3677	3561	367	462	1030	285	450	500	20	247-230	140-176	260-292
420	800	300	4657	3627	3536	367	440	1030	264	450	500	20	247-230	140-176	260-292
420	1600	300	5267	4177	4061	367	462	1090	285	450	500	20	247-230	140-176	260-292
420	800	300	5217	4127	4036	367	440	1090	264	450	500	20	247-230	140-176	260-292
420	1600	600	5310	3920	3848	376	480	1390	300	500	560	23	265	142	258
420	1600	600	5007	3677	3561	367	462	1330	285	450	500	20	247-230	140-176	260-292
420	800	600	4957	3627	3536	367	440	1330	264	450	500	20	247-230	140-176	260-292
420	1600	600	5567	4177	4061	367	462	1390	285	450	500	20	247-230	140-176	260-292
420	800	600	5517	4127	4036	367	440	1390	264	450	500	20	247-230	140-176	260-292
550	1600	300	6235	4950	4878	448	548	1285	374	550	635	23	265	142	258
550	1250 [5]	300	6037	4782	4666	367	505	1255	338	500	550	23	247-230	140-176	260-292
550	1600	600	6535	4950	4878	448	548	1585	374	550	635	23	265	142	258
550	1250 [5]	600	6337	4782	4666	367	505	1555	338	500	550	23	247-230	140-176	260-292
550	1600	300	6235	4950	4878	448	548	1285	374	550	635	23	265	142	258
550	1250 [5]	300	6037	4782	4666	367	505	1255	338	500	550	23	247-230	140-176	260-292
550	1600	600	6535	4950	4878	448	548	1585	374	550	635	23	265	142	258
550	1250 [5]	600	6337	4782	4666	367	505	1555	338	500	550	23	247-230	140-176	260-292

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