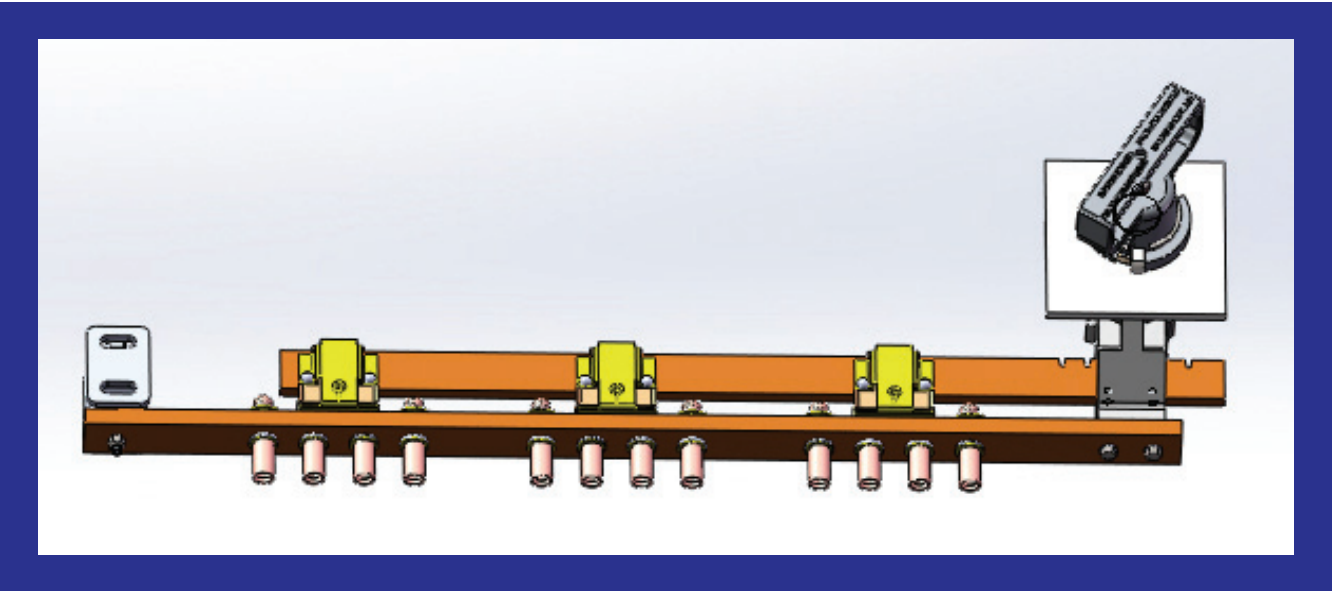


ER KAR

Transformer
Accessories and Equipments



EKZ

GENERAL SPECIFICATION

These tap changers are available in one two or three phase applications. Multi layer types are also available.

The shaft length is variable.

Driving mechanism can be either on the edge or in the middle of the phases.

Connection diagrams in page EKZ 2 can be applied in any variation to all types.

These tap changers are bolted on to the supports, welded under transformer cover and allow strong construction.

ASSEMBLY

A notch is provided to mark each position. For operation, the notch must be released by applying an axial pull on the control knob. Once the knob is in the desired position it will drop into the respective space by the help of a high tension spring. This process is clearly marked on control knob as; " LIFT - TURN - SWITCH ON "

This description can be engraved in any language.

MATERIALS

Steel Parts: These parts can be stainless or mild steel. Mild steel parts are cadmium or zinc plated. Upon request galvanizing is also available.

Aluminum Parts : GAISi12Cu

BrassParts : Cu ZN40Pb2 Ms 60 F34 DIN 17 673

Copper Parts :E - Cu F25 DIN 40 500

Insulator Parts : Paper phenol - plastic resin based laminates, HP 2061.5 class of DIN 7735.

ON REQUEST

The aluminum parts can be protected by anodic oxidation.

The mild steel parts can be supplied in stainless steel.

The brass and copper parts can be tin, silver or cadmium plated.

CURRENT

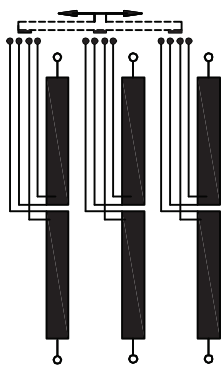
CURRENT	CONTACT INNER DIA. (For cable connection)
30 A	ø 3.1 mm.
63 A	ø 5.1 mm.
120 A	ø 8.1 mm.

VOLTAGE CLASS

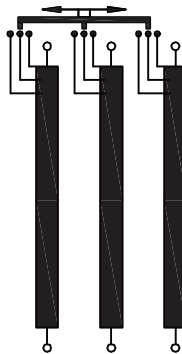
VOLTAGE CLASS	B. I. L.
10 kV	75 kV
15 kV	95 kV
20 kV	125 kV
30 kV	170 kV

Other B. I. L. values are also available upon customer request.

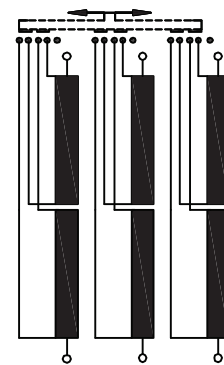
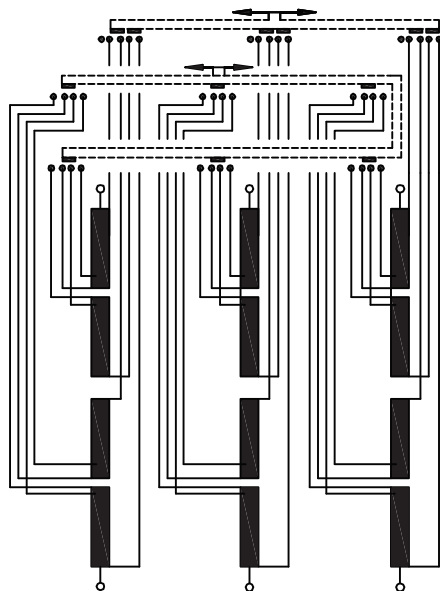
Usual diagram



setting for delta transformer



setting for star transformer



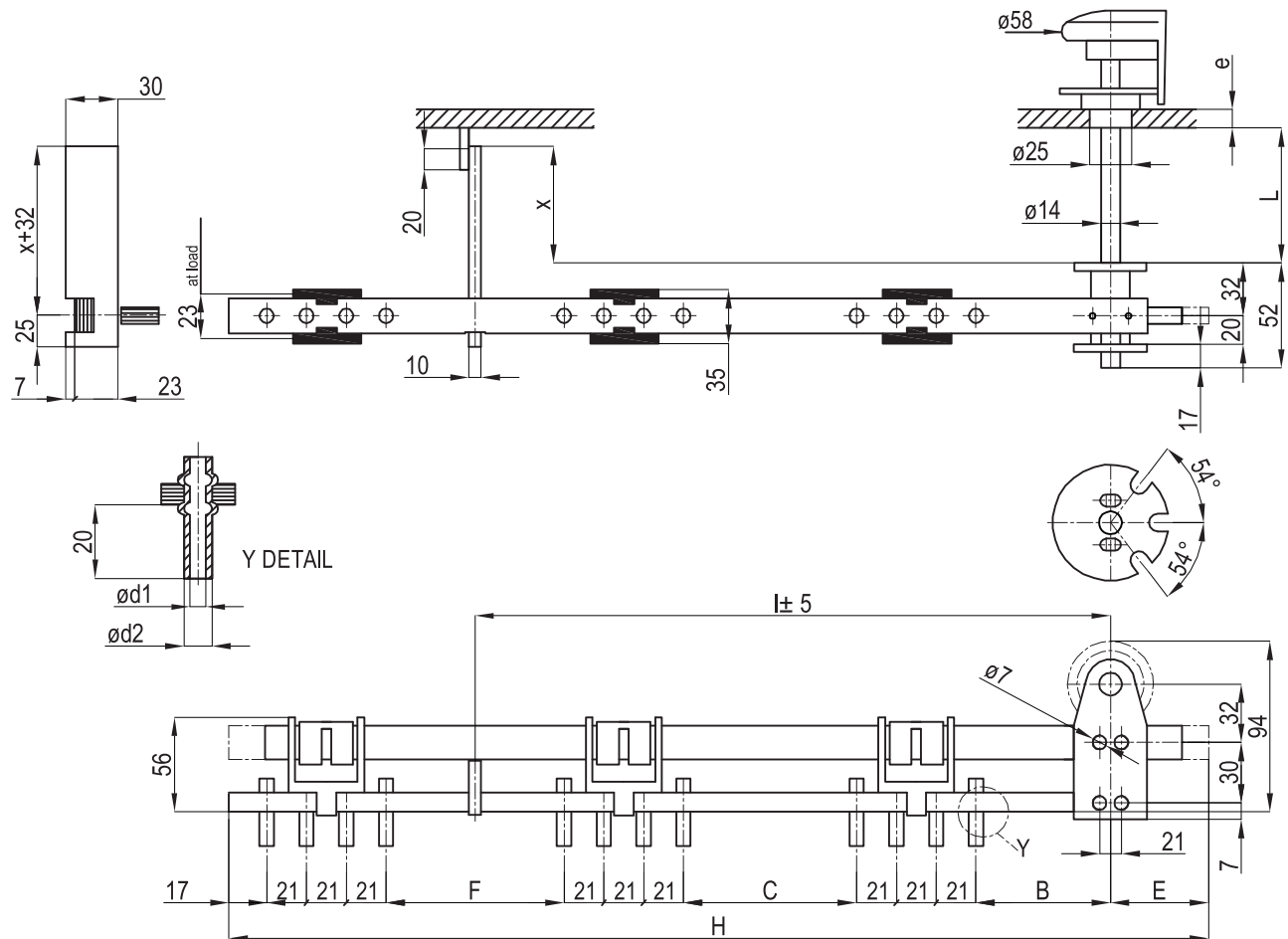
series - parallel coupling

Typical combination :

- * 1 stage, series - parallel coupling

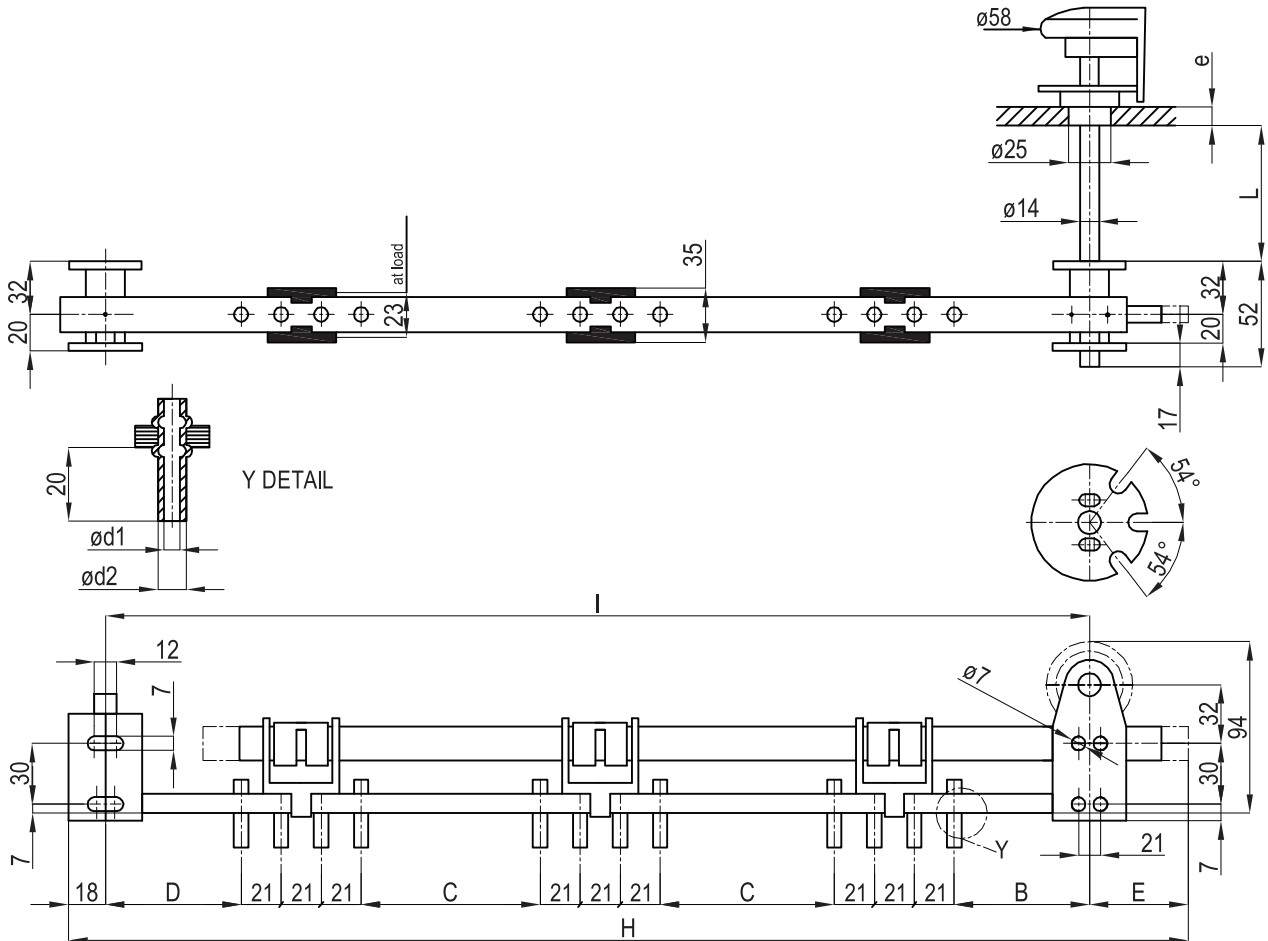
- * 2 stages, delta diagram - setting $\pm 2,5\%$.

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 30 - 63 A. 2 - 7 positions



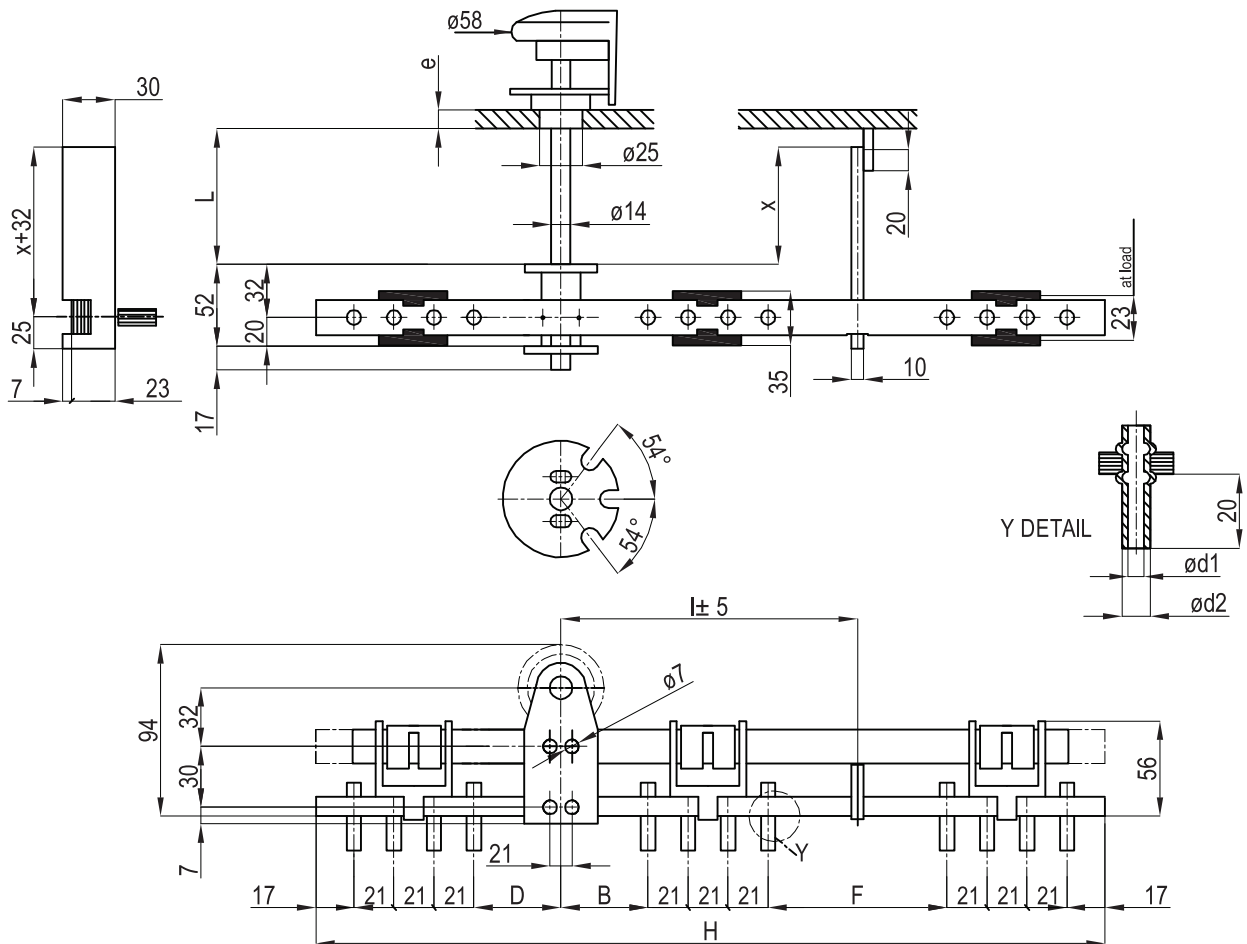
VOLTAGE CLASS KV	CURRENT A	NUMBER OF POSITIONS	H	I	E	B	C	F	X min	L	e	UNIT No	UNIT No
												30A d1= 3.1 d2= 5	63A d1= 5.1 d2= 7
10	30 or 63	2	347	212	51	61	42	50	48	PLEASE QUOTE WHEN ORDERING		897742	897722
		3	431	254	72	61	42	50	48			897743	897723
		4	515	296	93	61	42	50	48			897744	897724
		5	599	338	114	61	42	50	48			897745	897725
		6	683	380	135	61	42	50	48			897746	897726
		7	767	422	156	61	42	50	48			897747	897727
		15	30 or 63	2	384	244	51	76	54			60	48
3	468			286	72	76	54	60	48			897543	897523
4	552			328	93	76	54	60	48			897544	897524
5	636			370	114	76	54	60	48			897545	897525
6	720			412	135	76	54	60	48			897546	897526
7	804			454	156	76	54	60	48			897547	897527
20	30 or 63			2	419	271	51	84	65			76	48
		3	503	313	72	84	65	76	48			897643	897623
		4	587	355	93	84	65	76	48	897644	897624		
		5	671	397	114	84	65	76	48	897645	897625		
		6	755	439	135	84	65	76	48	897646	897626		
		7	839	481	156	84	65	76	48	897647	897627		
		30	30 or 63	2	499	344	51	125	90	90	88	897442	897422
3	583			386	72	125	90	90	88	897443	897423		
4	667			428	93	125	90	90	88	897444	897424		
5	751			470	114	125	90	90	88	897445	897425		
6	835			512	135	125	90	90	88	897446	897426		
7	919			554	156	125	90	90	88	897447	897427		

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 30 - 63 A. 2 - 7 positions



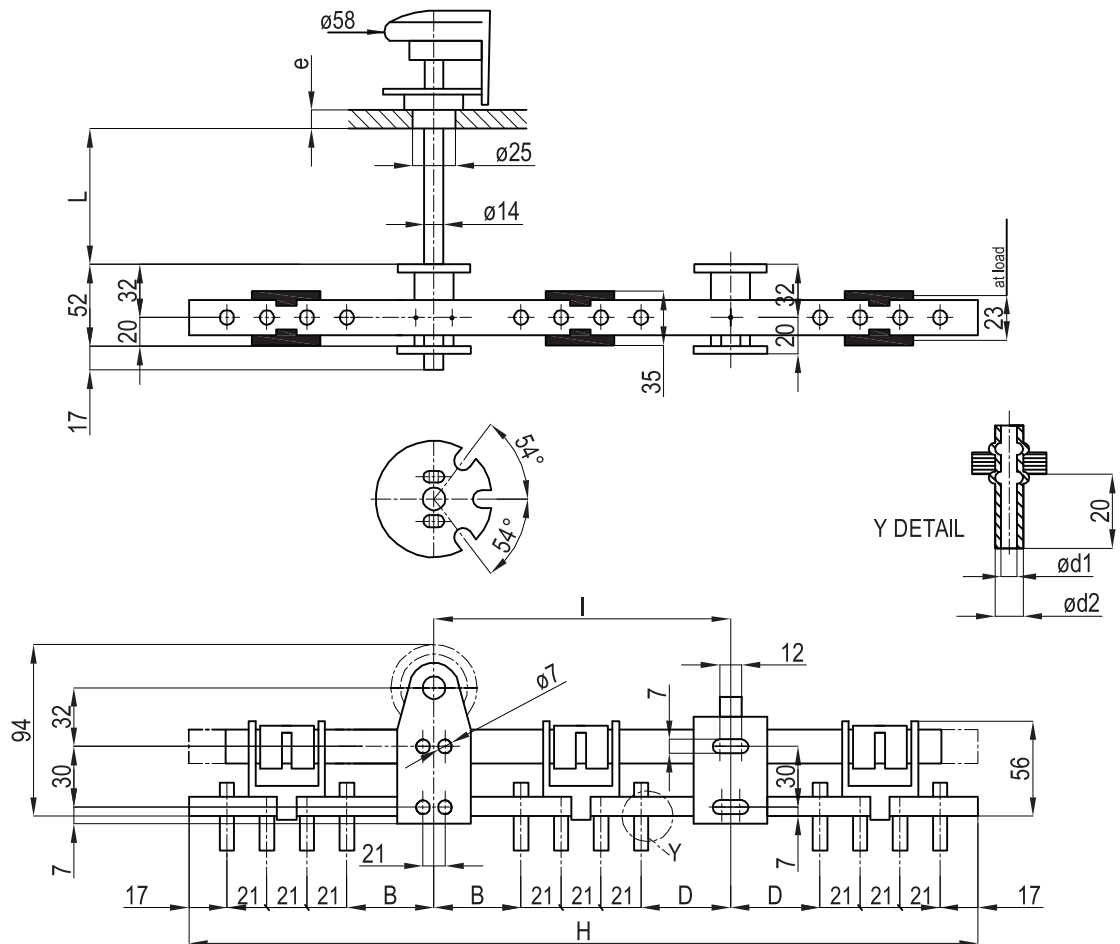
VOLTAGE CLASS kV	CURRENT A	NUMBER OF POSITIONS	H	I	D	E	B	C	L	e	UNIT No	
											30A d1= 3.1 d2= 5	63A d1= 5.1 d2= 7
10	30 or 63	2	393	324	53	51	61	42	PLEASE QUOTE WHEN ORDERING		896742	896722
		3	477	387	53	72	61	42			896743	896723
		4	561	450	53	93	61	42			896744	896724
		5	645	513	53	114	61	42			896745	896725
		6	729	576	53	135	61	42			896746	896726
		7	813	639	53	156	61	42			896747	896727
		15	30 or 63	2	445	376	66	51			76	54
3	529			439	66	72	76	54			896543	896523
4	613			502	66	93	76	54			896544	896524
5	697			565	66	114	76	54			896545	896525
6	781			628	66	135	76	54			896546	896526
7	865			691	66	156	76	54			896547	896527
20	30 or 63			2	485	416	76	51			84	65
		3	569	479	76	72	84	65			896643	896623
		4	653	542	76	93	84	65	896644	896624		
		5	737	605	76	114	84	65	896645	896625		
		6	821	668	76	135	84	65	896646	896626		
		7	905	731	76	156	84	65	896647	896627		
		30	30 or 63	2	617	548	117	51	125	90	896442	896422
3	701			611	117	72	125	90	896443	896423		
4	785			674	117	93	125	90	896444	896424		
5	869			737	117	114	125	90	896445	896425		
6	953			800	117	135	125	90	896446	896426		
7	1037			863	117	156	125	90	896447	896427		

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 30 - 63 A. 2 - 7 positions



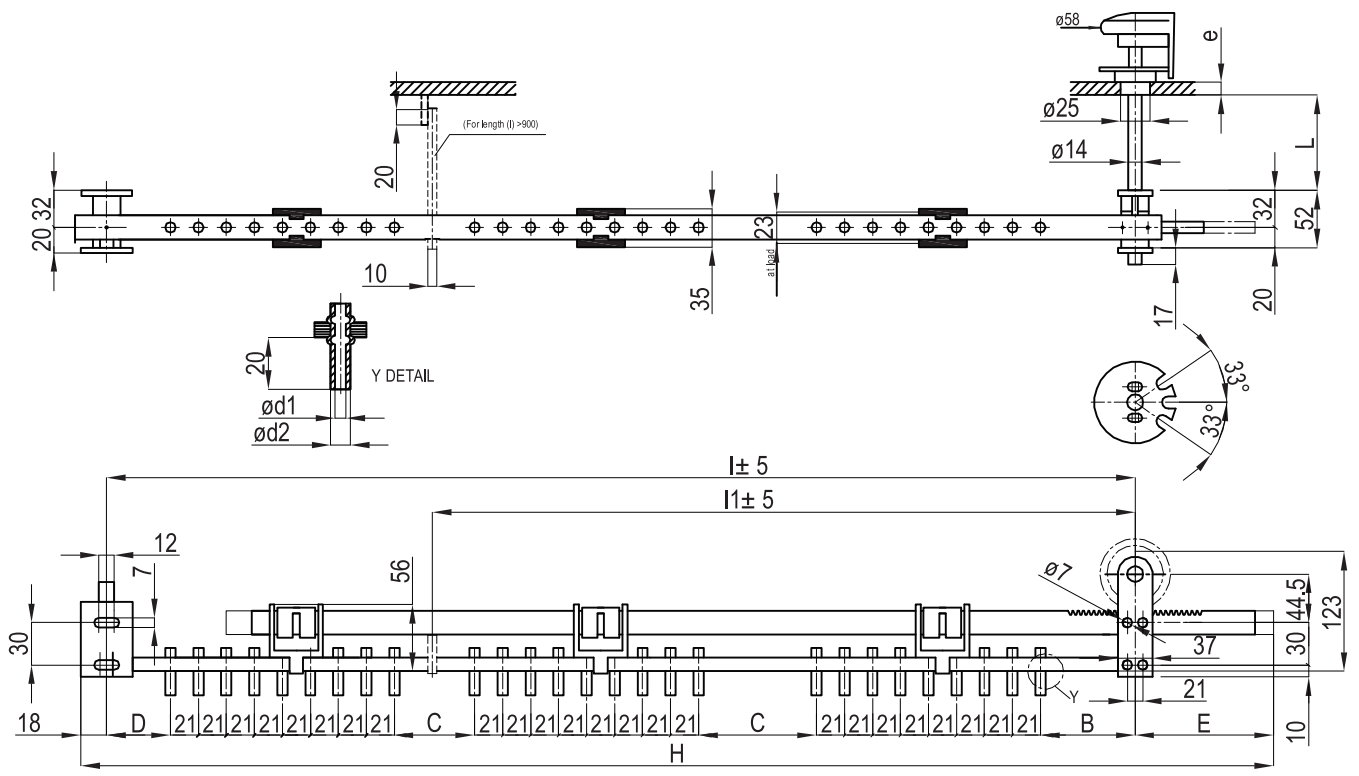
VOLTAGE CLASS KV	CURRENT A	NUMBER OF POSITIONS	H	I	D	B	F	X	L	e	UNIT No	UNIT No
											30A d1= 3.1 d2= 5	63A d1= 5.1 d2= 7
10	30 or 63	2	332	128	61	61	50	48	PLEASE QUOTE WHEN ORDERING		893742	893722
		3	395	149	61	61	50	48			893743	893723
		4	458	170	61	61	50	48			893744	893724
		5	521	191	61	61	50	48			893745	893725
		6	584	212	61	61	50	48			893746	893726
		7	647	233	61	61	50	48			893747	893727
		15	30 or 63	2	372	148	76	76			60	48
3	435			169	76	76	60	48	893543	893523		
4	498			190	76	76	60	48	893544	893524		
5	561			211	76	76	60	48	893545	893525		
6	624			232	76	76	60	48	893546	893526		
7	687			253	76	76	60	48	893547	893527		
20	30 or 63			2	404	164	84	84	76	48	PLEASE QUOTE WHEN ORDERING	
		3	467	185	84	84	76	48	893643	893623		
		4	530	206	84	84	76	48	893644	893624		
		5	593	227	84	84	76	48	893645	893625		
		6	656	248	84	84	76	48	893646	893626		
		7	719	269	84	84	76	48	893647	893627		
		30	30 or 63	2	500	212	125	125	90	88		
3	563			233	125	125	90	88	893443	893423		
4	626			254	125	125	90	88	893444	893424		
5	689			275	125	125	90	88	893445	893425		
6	752			296	125	125	90	88	893446	893426		
7	815			317	125	125	90	88	893447	893427		

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 30 - 63 A. 2 - 7 positions



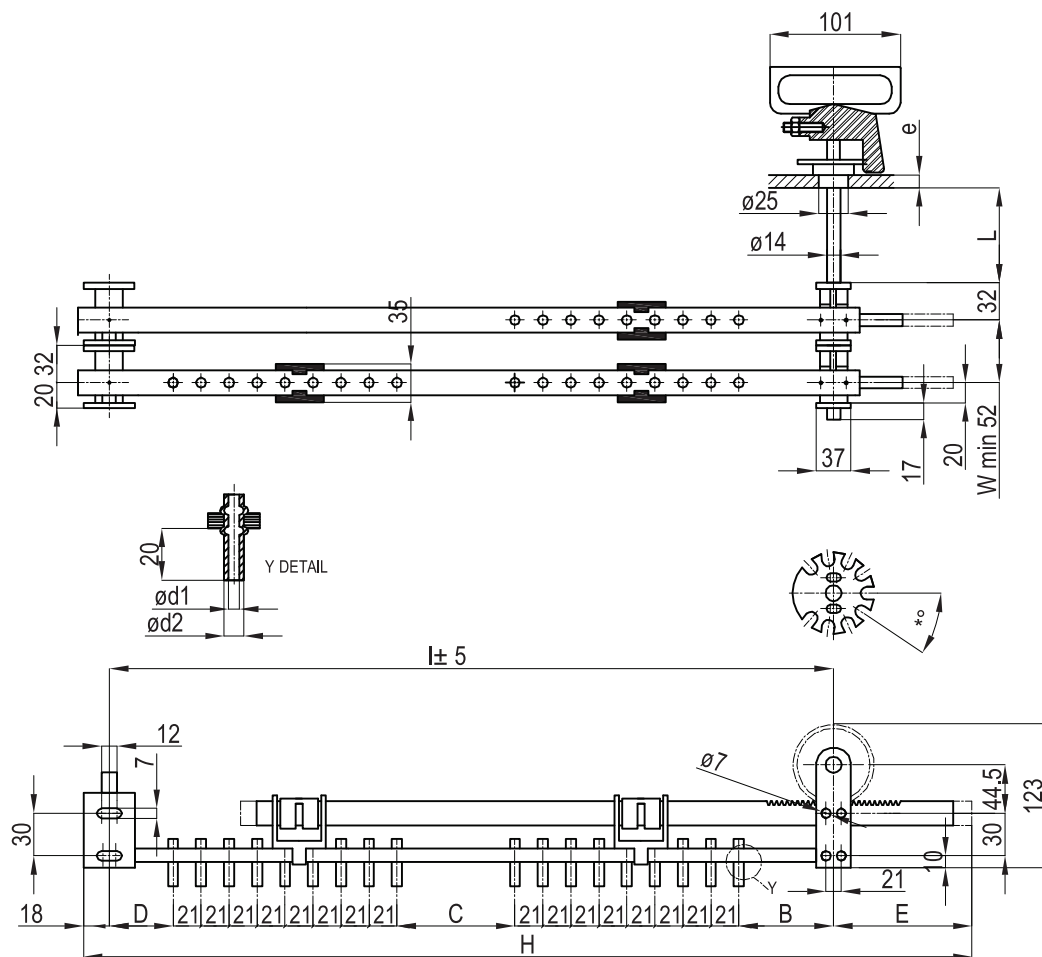
VOLTAGE CLASS KV	CURRENT A	NUMBER OF POSITIONS	H	I	D	B	L	e	UNIT No	UNIT No
									30A	63A
10	30 or 63	2	388	156	53	61	PLEASE QUOTE WHEN ORDERING		894742	894722
		3	451	177	53	61			894743	894723
		4	514	198	53	61			894744	894724
		5	577	219	53	61			894745	894725
		6	640	240	53	61			894746	894726
		7	703	261	53	61			894747	894727
		15	30 or 63	2	444	184			66	76
3	507			205	66	76			894543	894523
4	570			226	66	76			894544	894524
5	633			247	66	76			894545	894525
6	696			268	66	76			894546	894526
7	759			289	66	76			894547	894527
20	30 or 63			2	480	202			76	84
		3	543	223	76	84			894643	894623
		4	606	244	76	84	894644	894624		
		5	669	265	76	84	894645	894625		
		6	732	286	76	84	894646	894626		
		7	795	307	76	84	894647	894627		
		30	30 or 63	2	644	284	117	125	894442	894422
3	707			305	117	125	894443	894423		
4	770			326	117	125	894444	894424		
5	833			347	117	125	894445	894425		
6	896			368	117	125	894446	894426		
7	959			389	117	125	894447	894427		

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 30 - 63 A. 8 - 11 positions



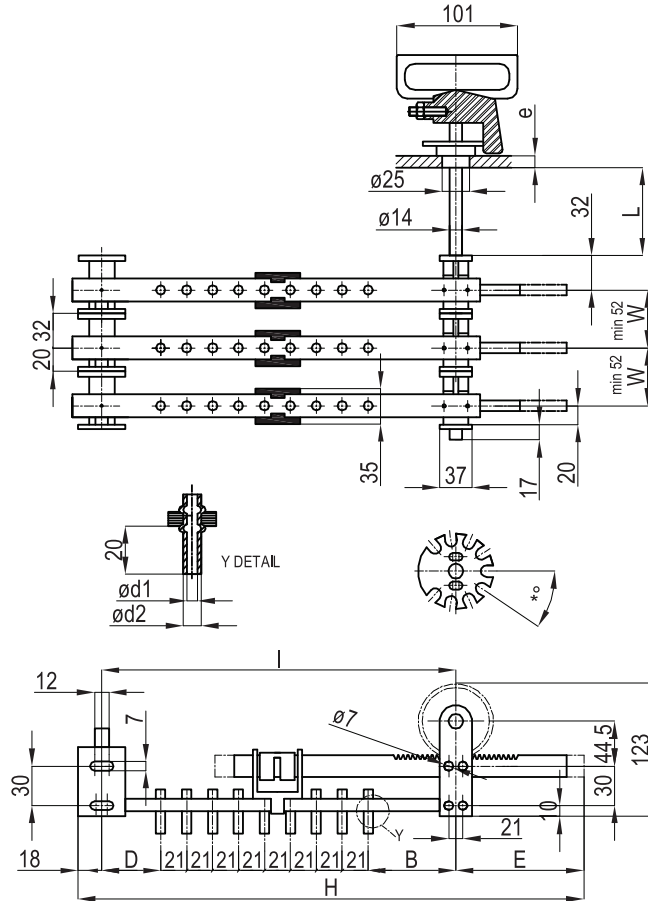
VOLTAGE CLASS kV	CURRENT A	NUMBER OF POSITIONS	H	I	I1	D	E	B	C	L	e	UNIT No	UNIT No
												30A d1= 3.1 d2= 5	63A d1= 5.1 d2= 7
10	30 or 63	8	902	762	----	53	182	61	42	PLEASE QUOTE WHEN ORDERING		896748	896728
		9	986	765	----	53	203	61	42			896749	896729
		10	1070	828	----	53	224	61	42			89674A	89672A
		11	1154	891	----	53	245	61	42			89674B	89672B
15	30 or 63	8	954	754	----	66	182	76	54			896548	896528
		9	1038	817	----	66	203	76	54			896549	896529
		10	1122	880	----	66	224	76	54			89654A	89652A
		11	1206	943	619	66	245	76	54			89654B	89652B
20	30 or 63	8	994	794	----	76	182	84	65			896648	896628
		9	1078	857	----	76	203	84	65			896649	896629
		10	1162	920	601	76	224	84	65			89664A	89662A
		11	1246	983	643	76	245	84	65			89664B	89662B
30	30 or 63	8	1126	926	596	117	182	125	90	896448	896428		
		9	1210	989	638	117	203	125	90	896449	896429		
		10	1294	1052	680	117	224	125	90	89644A	89642A		
		11	1378	1115	722	117	245	125	90	89644B	89642B		

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 30 - 63 A. 8 - 11 positions
 Special diagram



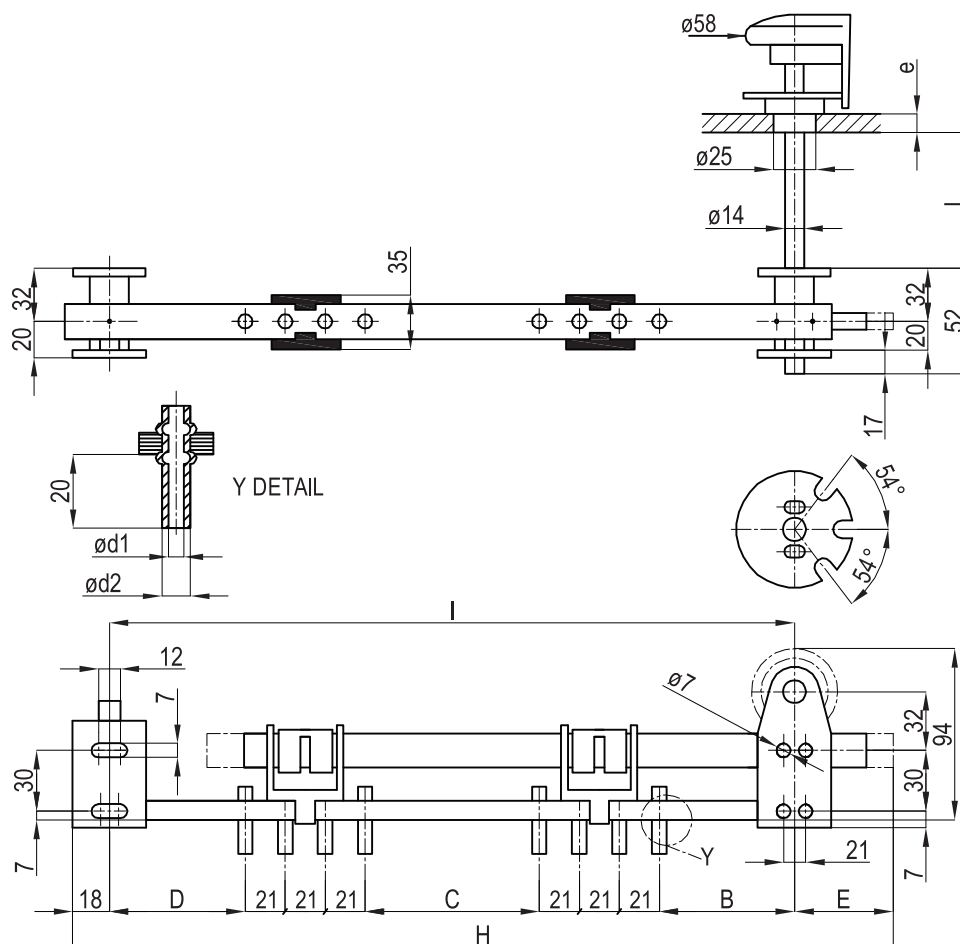
VOLTAGE CLASS kV	CURRENT A	NUMBER OF POSITIONS	H	I	D	E	B	C	*°	L	W	e	UNIT No	UNIT No
													30A d1= 3.1 d2= 5	63A d1= 5.1 d2= 7
10	30 or 63	8	692	492	53	182	61	42	33°	PLEASE QUOTE WHEN ORDERING			2A896748	2A896728
		9	755	534	53	203	61	42	33°				2A896749	2A896729
		10	818	576	53	224	61	42	33°				2A89674A	2A89672A
		11	881	618	53	245	61	42	33°				2A89674B	2A89672B
15	30 or 63	8	732	532	66	182	76	54	33°		2A896548	2A896528		
		9	795	574	66	203	76	54	33°		2A896549	2A896529		
		10	858	616	66	224	76	54	33°		2A89654A	2A89652A		
		11	921	658	66	245	76	54	33°		2A89654B	2A89652B		
20	30 or 63	8	761	561	76	182	84	65	33°		2A896648	2A896628		
		9	824	603	76	203	84	65	33°		2A896649	2A896629		
		10	887	645	76	224	84	65	33°		2A89664A	2A89662A		
		11	950	687	76	245	84	65	33°		2A89664B	2A89662B		
30	30 or 63	8	868	668	117	182	125	90	33°	2A896448	2A896428			
		9	931	710	117	203	125	90	33°	2A896449	2A896429			
		10	994	752	117	224	125	90	33°	2A89644A	2A89642A			
		11	1057	794	117	245	125	90	33°	2A89644B	2A89642B			

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 30 - 63 A. 8 - 11 positions
 Special diagram



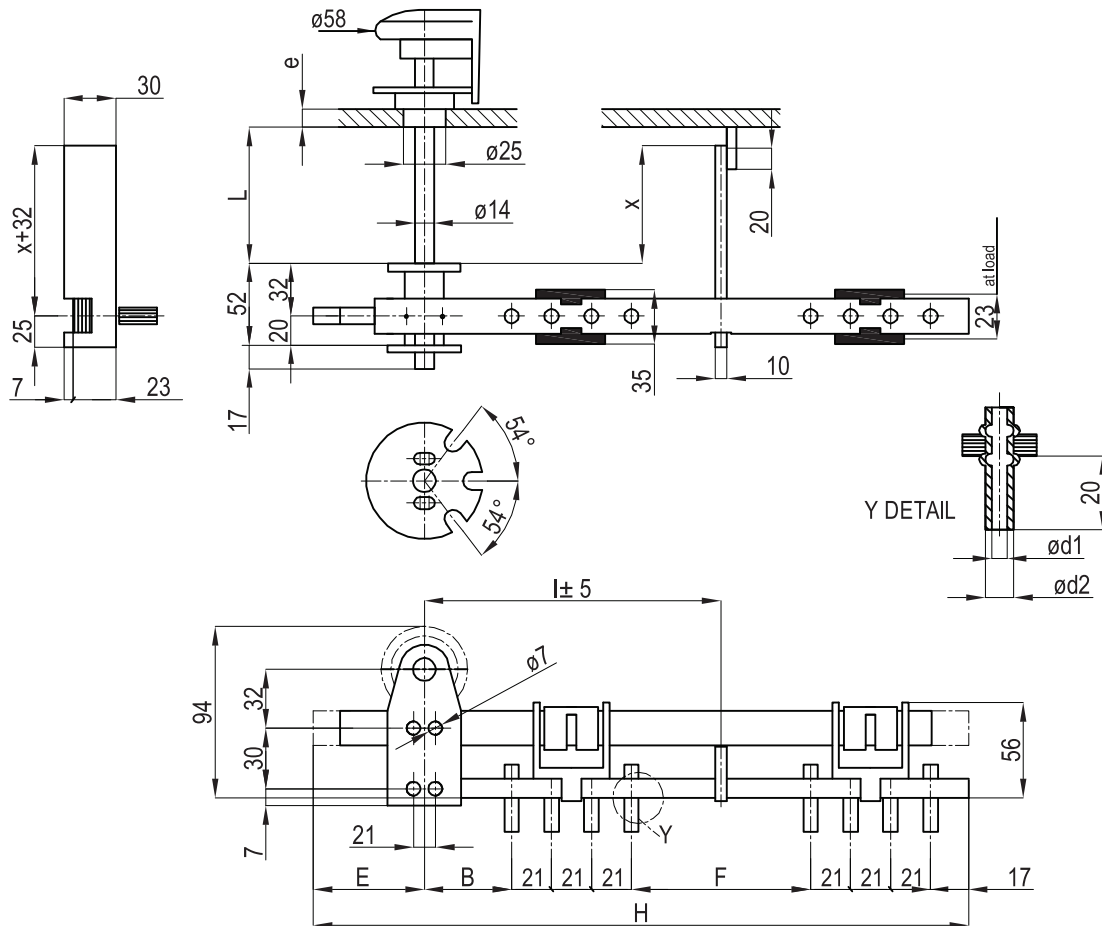
VOLTAGE CLASS kV	CURRENT A	NUMBER OF POSITIONS	H	I	D	E	B	* °	L	W	e	UNIT No	
												30A d1= 3.1 d2= 5	63A d1= 5.1 d2= 7
10	30 or 63	8	476	282	53	182	61	33°	PLEASE QUOTE WHEN ORDERING			3A896748	3A896728
		9	524	303	53	203	61	33°				3A896749	3A896729
		10	572	324	53	224	61	33°				3A89674A	3A89672A
		11	620	345	53	245	61	33°				3A89674B	3A89672B
15	30 or 63	8	510	310	66	182	76	33°				3A896548	3A896528
		9	558	331	66	203	76	33°				3A896549	3A896529
		10	606	352	66	224	76	33°				3A89654A	3A89652A
		11	654	373	66	245	76	33°				3A89654B	3A89652B
20	30 or 63	8	528	328	76	182	84	33°				3A896648	3A896628
		9	576	349	76	203	84	33°				3A896649	3A896629
		10	624	370	76	224	84	33°				3A89664A	3A89662A
		11	672	391	76	245	84	33°				3A89664B	3A89662B
30	30 or 63	8	610	410	117	182	125	33°	3A896448	3A896428			
		9	658	431	117	203	125	33°	3A896449	3A896429			
		10	706	452	117	224	125	33°	3A89644A	3A89642A			
		11	754	473	117	245	125	33°	3A89644B	3A89642B			

Off - circuit operation can be used in oil or askarel
 Delta diagram 10 - 30 kV 30 - 63 A. 2 - 7 positions



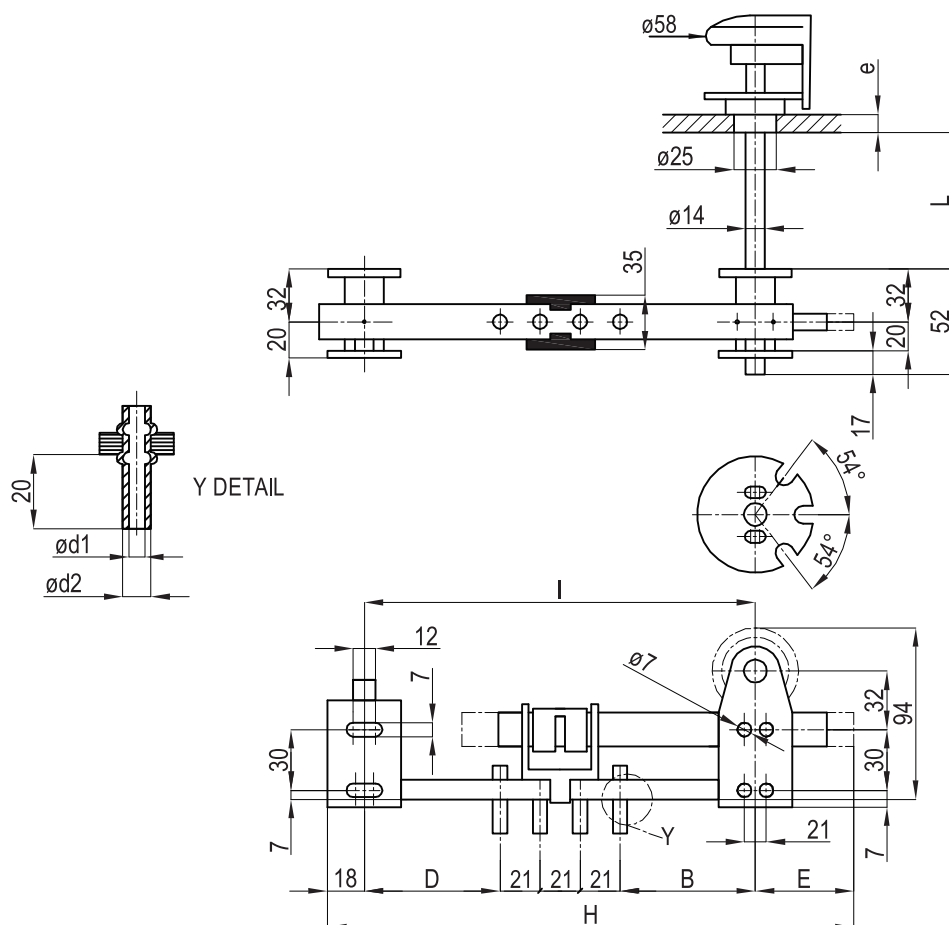
VOLTAGE CLASS kV	CURRENT A	NUMBER OF POSITIONS	H	I	D	E	B	C	L	e	UNIT No	
											30A d1= 3.1 d2= 5	63A d1= 5.1 d2= 7
10	30 or 63	2	309	240	53	51	61	42	PLEASE QUOTE WHEN ORDERING		8896742	8896722
		3	372	282	53	72	61	42			8896743	8896723
		4	435	324	53	93	61	42			8896744	8896724
		5	498	366	53	114	61	42			8896745	8896725
		6	561	408	53	135	61	42			8896746	8896726
		7	624	450	53	156	61	42			8896747	8896727
		15	30 or 63	2	349	280	66	51			76	54
3	412			322	66	72	76	54			8896543	8896523
4	475			364	66	93	76	54			8896544	8896524
5	538			406	66	114	76	54			8896545	8896525
6	601			448	66	135	76	54			8896546	8896526
7	664			490	66	156	76	54			8896547	8896527
20	30 or 63			2	378	309	76	51			84	65
		3	441	351	76	72	84	65			8896643	8896623
		4	504	393	76	93	84	65	8896644	8896624		
		5	567	435	76	114	84	65	8896645	8896625		
		6	630	477	76	135	84	65	8896646	8896626		
		7	693	519	76	156	84	65	8896647	8896627		
		30	30 or 63	2	485	416	117	51	125	90	8896442	8896422
3	548			458	117	72	125	90	8896443	8896423		
4	611			500	117	93	125	90	8896444	8896424		
5	674			542	117	114	125	90	8896445	8896425		
6	737			584	117	135	125	90	8896446	8896426		
7	800			626	117	156	125	90	8896447	8896427		

Off - circuit operation can be used in oil or askarel
 Delta diagram 10 - 30 kV 30 - 63 A. 2 - 7 positions



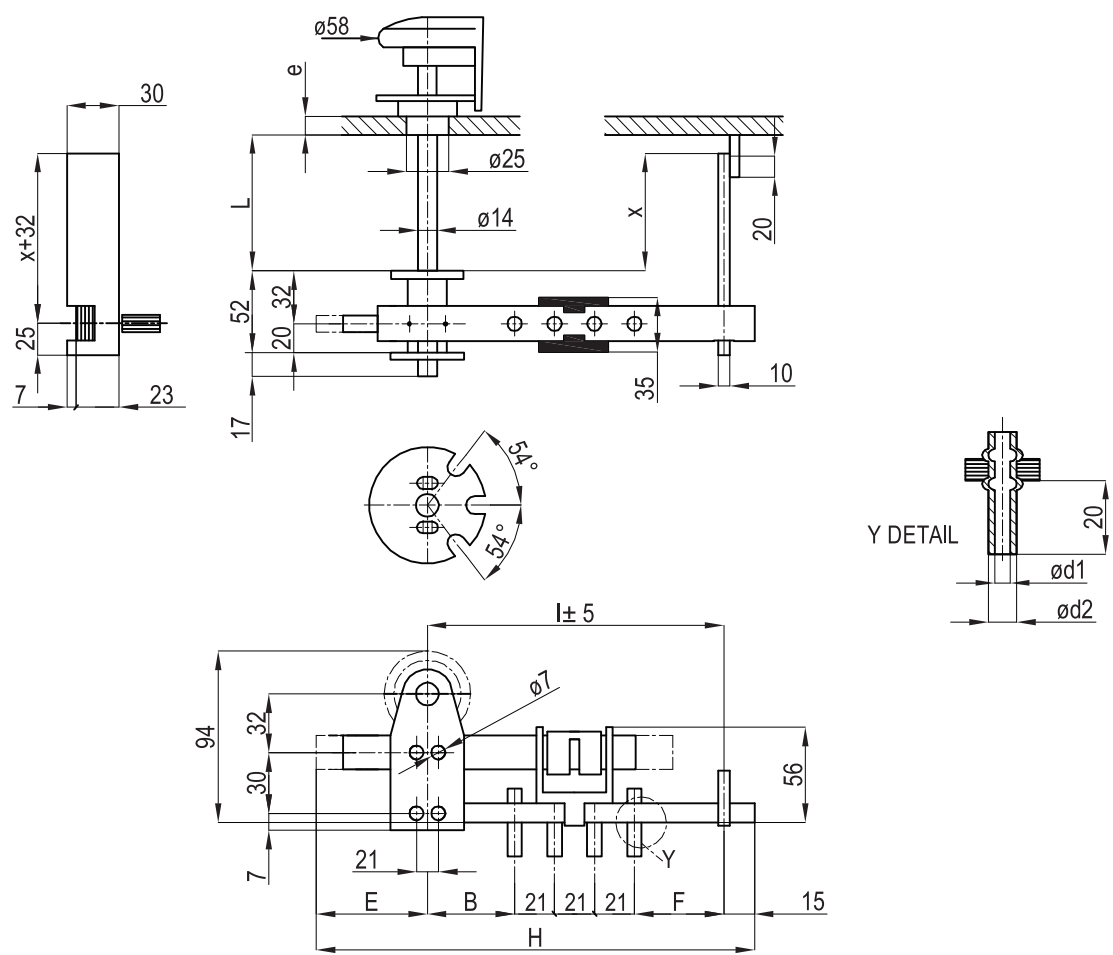
VOLTAGE CLASS kV	CURRENT A	NUMBER OF POSITIONS	H	I	E	B	F	X	L	e	UNIT No	UNIT No
											30A	63A
10	30 or 63	2	257	128	45	61	50	48	PLEASE QUOTE WHEN ORDERING		8897742L	8897722L
		3	320	149	66	61	50	48			8897743L	8897723L
		4	383	170	87	61	50	48			8897744L	8897724L
		5	446	191	108	61	50	48			8897745L	8897725L
		6	509	212	129	61	50	48			8897746L	8897726L
		7	572	233	150	61	50	48			8897747L	8897727L
		2	282	148	45	76	60	48			8897542L	8897522L
15	30 or 63	3	345	169	66	76	60	48			8897543L	8897523L
		4	408	190	87	76	60	48			8897544L	8897524L
		5	471	211	108	76	60	48			8897545L	8897525L
		6	534	232	129	76	60	48			8897546L	8897526L
		7	597	253	150	76	60	48			8897547L	8897527L
20	30 or 63	2	306	164	45	84	76	48			8897642L	8897622L
		3	369	185	66	84	76	48			8897643L	8897623L
		4	432	206	87	84	76	48	8897644L	8897624L		
		5	495	227	108	84	76	48	8897645L	8897625L		
		6	558	248	129	84	76	48	8897646L	8897626L		
30	30 or 63	7	621	269	150	84	76	48	8897647L	8897627L		
		2	361	212	45	125	90	88	8897442L	8897422L		
		3	424	233	66	125	90	88	8897443L	8897423L		
		4	487	254	87	125	90	88	8897444L	8897424L		
		5	550	271	108	125	90	88	8897445L	8897425L		
		6	613	296	129	125	90	88	8897446L	8897426L		
		7	676	317	150	125	90	88	8897447L	8897427L		

Off - circuit operation can be used in oil or askarel
 Delta diagram 10 - 30 kV 30 - 63 A. 2 - 7 positions



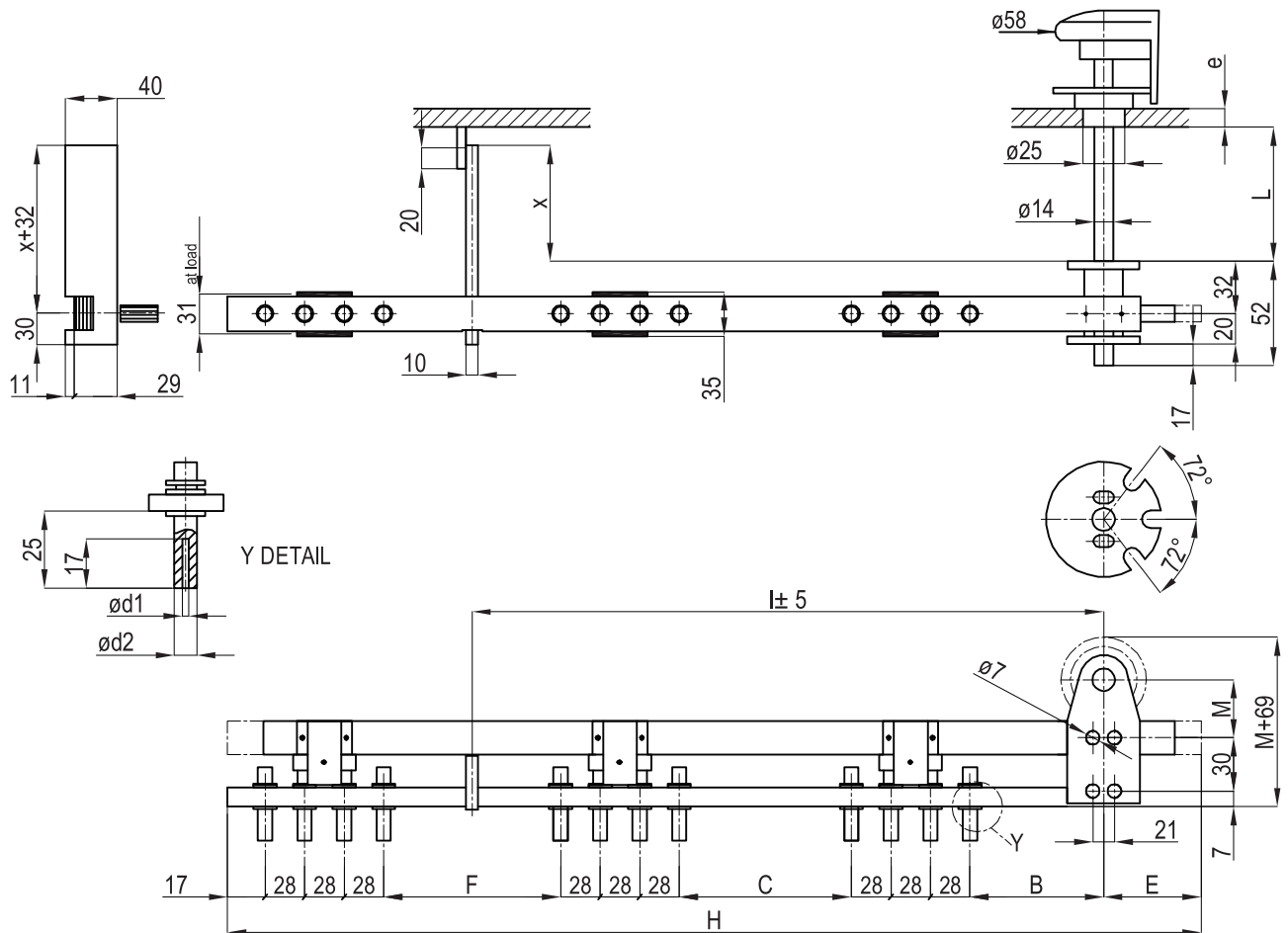
VOLTAGE CLASS KV	CURRENT A	NUMBER OF POSITIONS	H	I	D	E	B	L	e	UNIT No 30A d1= 3.1 d2= 5	UNIT No 63A d1= 5.1 d2= 7
10	30 or 63	2	225	156	53	51	61	PLEASE QUOTE WHEN ORDERING		9896742	9896722
		3	267	177	53	72	61			9896743	9896723
		4	309	198	53	93	61			9896744	9896724
		5	351	219	53	114	61			9896745	9896725
		6	393	240	53	135	61			9896746	9896726
		7	435	261	53	156	61			9896747	9896727
		2	253	184	66	51	76			9896542	9896522
15	30 or 63	3	295	205	66	72	76			9896543	9896523
		4	337	226	66	93	76			9896544	9896524
		5	379	247	66	114	76			9896545	9896525
		6	421	268	66	135	76			9896546	9896526
		7	463	289	66	156	76			9896547	9896527
		2	271	202	76	51	84			9896642	9896622
		3	313	223	76	72	84			9896643	9896623
20	30 or 63	4	355	244	76	93	84	9896644	9896624		
		5	397	265	76	114	84	9896645	9896625		
		6	439	286	76	135	84	9896646	9896626		
		7	481	307	76	156	84	9896647	9896627		
		2	353	284	117	51	125	9896442	9896422		
		30	30 or 63	3	395	305	117	72	125	9896443	9896423
				4	437	326	117	93	125	9896444	9896424
5	479			347	117	114	125	9896445	9896425		
6	521			368	117	135	125	9896446	9896426		
7	563			389	117	156	125	9896447	9896427		

Off - circuit operation can be used in oil or askarel
 Delta diagram 10 - 30 kV 30 - 63 A. 2 - 7 positions



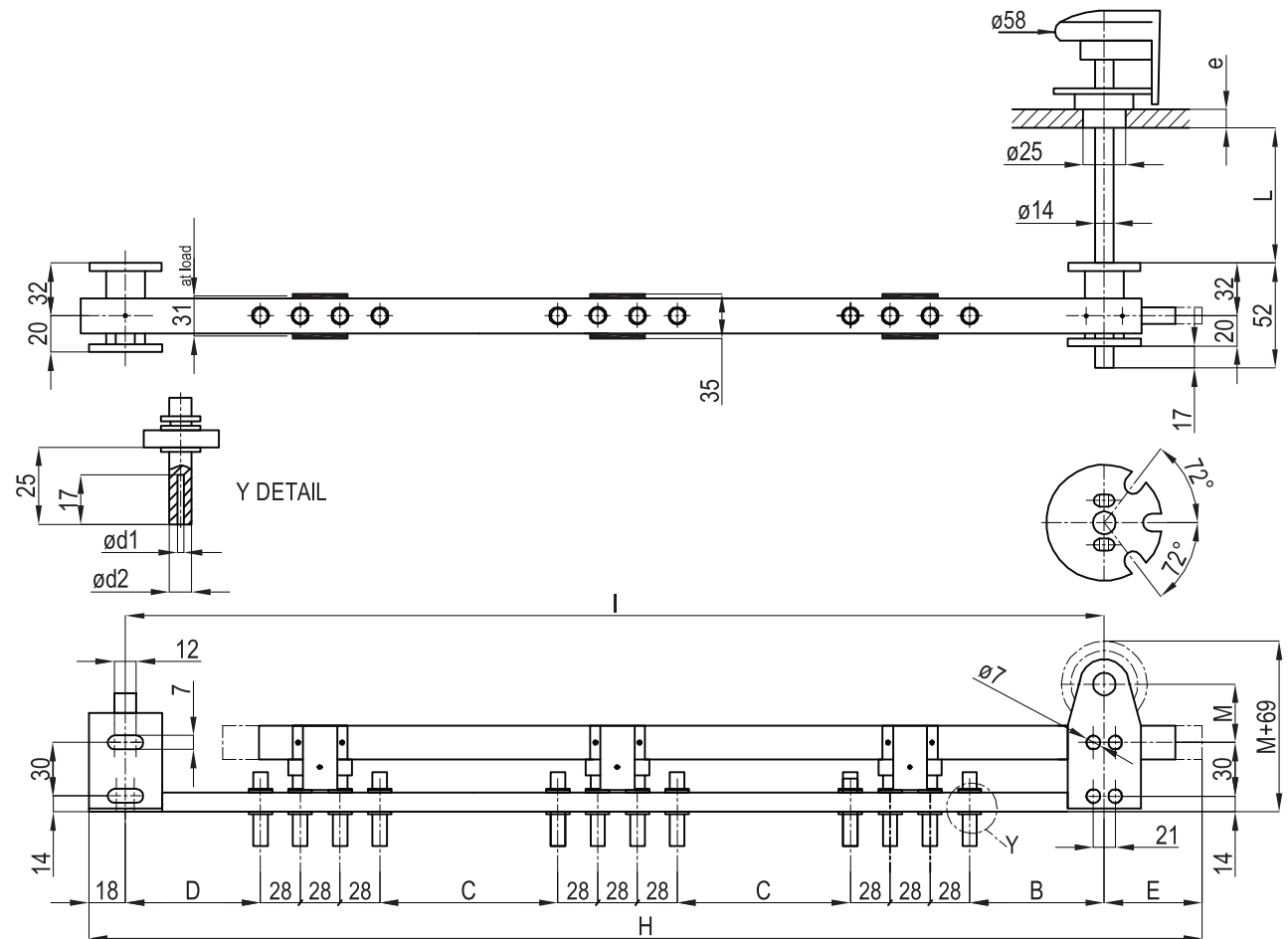
VOLTAGE CLASS KV	CURRENT A	NUMBER OF POSITIONS	H	I	E	B	F	X min	L	e	UNIT No	UNIT No
											30A d1= 3.1 d2=5	63A d1= 5.1 d2= 7
10	30 or 63	2	188	128	45	61	25	48	PLEASE QUOTE WHEN ORDERING		9895742	9895722
		3	230	149	66	61	25	48			9895743	9895723
		4	272	170	87	61	25	48			9895744	9895724
		5	314	191	108	61	25	48			9895745	9895725
		6	356	212	129	61	25	48			9895746	9895726
		7	398	233	150	61	25	48			9895747	9895727
		15	30 or 63	2	208	148	45	76			30	48
3	250	169		66	76	30	48	9895543			9895523	
4	292	190		87	76	30	48	9895544			9895524	
5	334	211		108	76	30	48	9895545			9895525	
6	376	232		129	76	30	48	9895546			9895526	
7	418	253		150	76	30	48	9895547			9895527	
20	30 or 63	2		224	164	45	84	38			48	9895642
		3	266	185	66	84	38	48			9895643	9895623
		4	308	206	87	84	38	48	9895644	9895624		
		5	350	227	108	84	38	48	9895645	9895625		
		6	392	248	129	84	38	48	9895646	9895626		
		7	434	269	150	84	38	48	9895647	9895627		
		30	30 or 63	2	272	212	45	125	45	88	9895442	9895422
3	314			233	66	125	45	88	9895443	9895423		
4	356			254	87	125	45	88	9895444	9895424		
5	398			275	108	125	45	88	9895445	9895425		
6	440			296	129	125	45	88	9895446	9895426		
7	482			317	150	125	45	88	9895447	9895427		

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 120 A. 2 - 5 positions



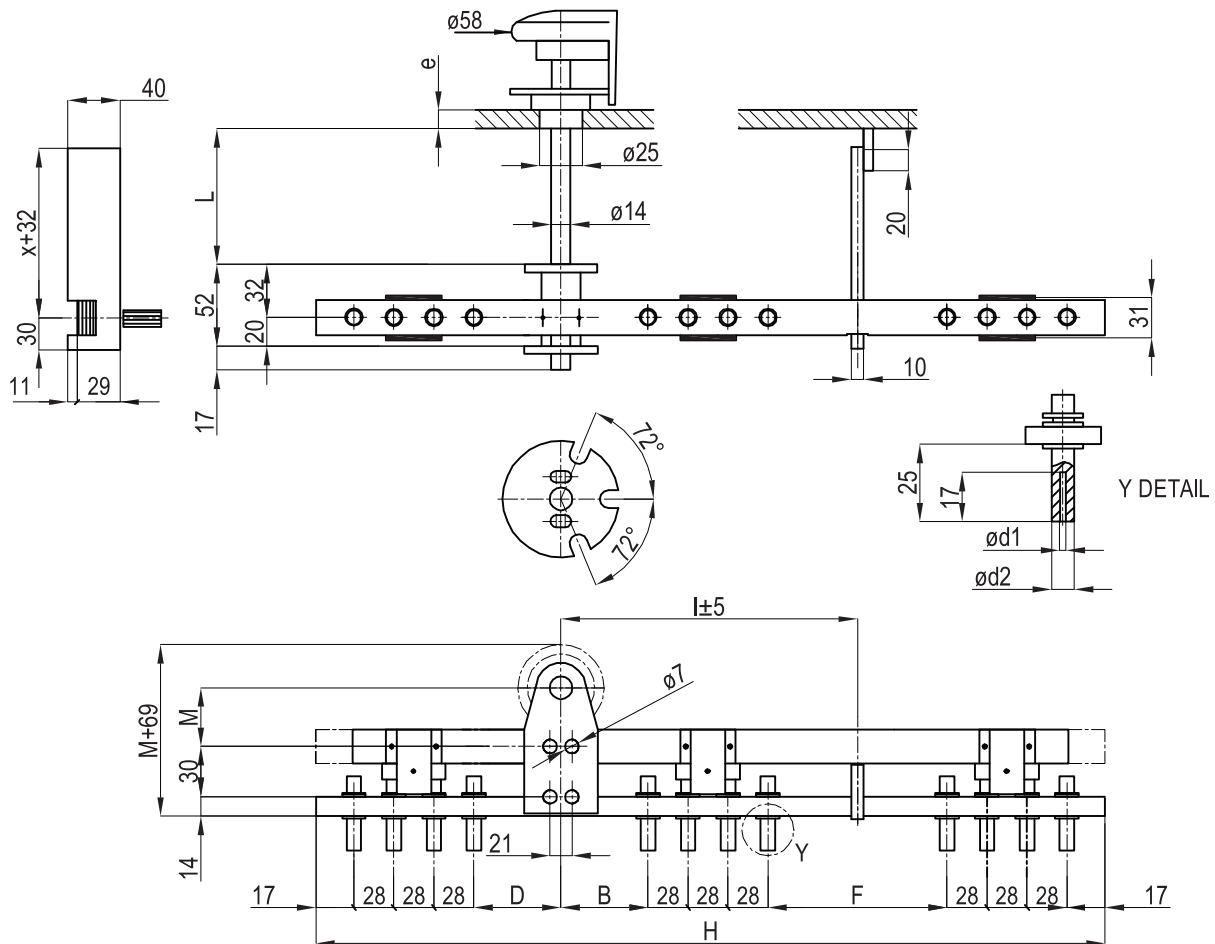
VOLTAGE CLASS kV	CURRENT A	NUMBER OF POSITIONS	H	I	E	B	C	F	$\phi d1$	$\phi d2$	X min	M	L	e	UNIT No	
10	120	2	406	251	58	67	48	48	8.1	12	48	32	PLEASE QUOTE WHEN ORDERING		897712	
		3	518	307	86	67	48	48	48	8.1	12	48			32	897713
		4	630	363	114	67	48	48	48	8.1	12	48			32	897714
		5	742	419	142	67	48	48	48	8.1	12	48			32	897715
20	120	2	475	308	58	90	71	71	8.1	12	48	32			897612	
		3	587	364	86	90	71	71	71	8.1	12	48			32	897613
		4	699	420	114	90	71	71	71	8.1	12	48			32	897614
		5	811	476	142	90	71	71	71	8.1	12	48			32	897615
30	120	2	563	384	58	130	95	95	8.1	12	88	32			897412	
		3	675	440	86	130	95	95	8.1	12	88	32			897413	
		4	787	496	114	130	95	95	8.1	12	88	32			897414	
		5	899	552	142	130	95	95	8.1	12	88	32			897415	

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 120 A. 2 - 5 positions



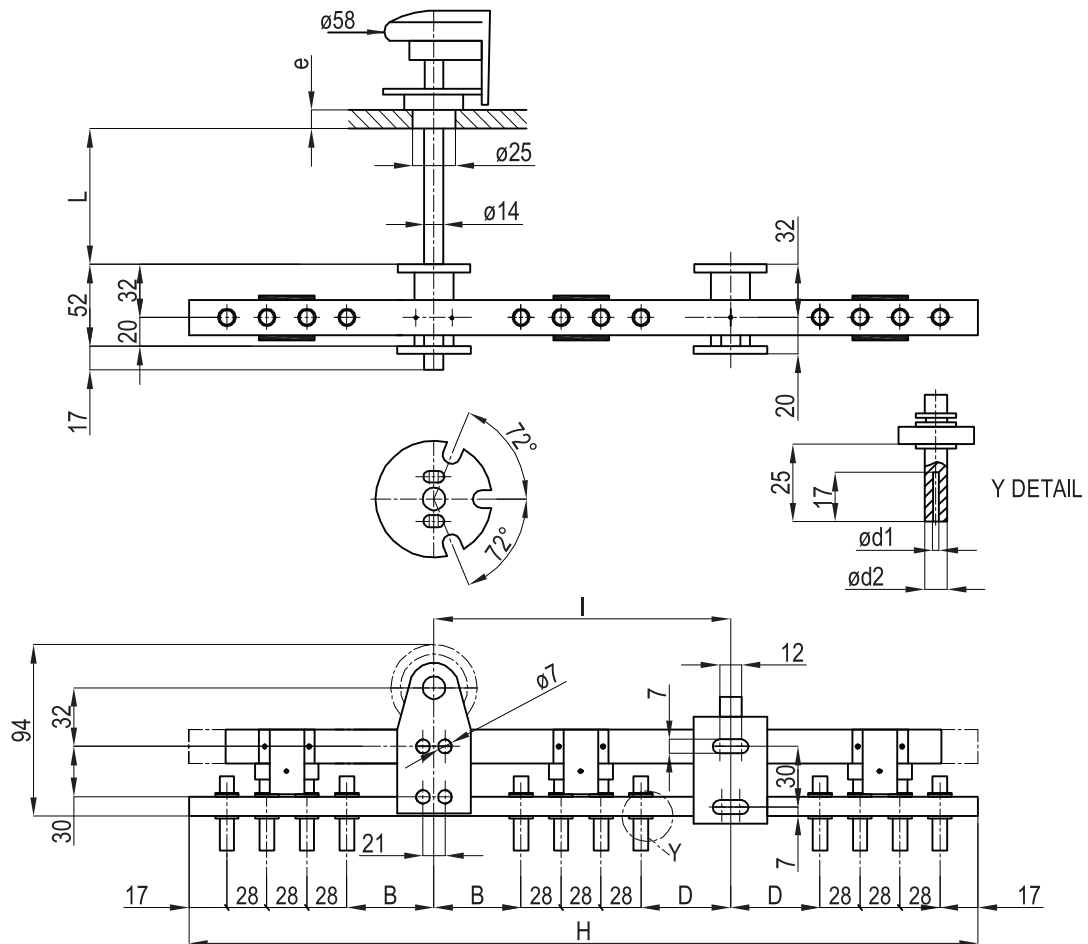
VOLTAGE CLASS KV	CURRENT A	NUMBER OF POSITIONS	H	I	D	E	B	C	$\phi d1$	$\phi d2$	M	L	e	UNIT No
10	120	2	466	390	59	58	67	48	8.1	12	32	PLEASE QUOTE WHEN ORDERING		896712
		3	578	474	59	86	67	48	8.1	12	32			896713
		4	690	558	59	114	67	48	8.1	12	32			896714
		5	802	642	59	142	67	48	8.1	12	32			896715
20	120	2	558	482	82	58	90	71	8.1	12	32			896612
		3	670	566	82	86	90	71	8.1	12	32			896613
		4	782	650	82	114	90	71	8.1	12	32			896614
		5	894	734	82	142	90	71	8.1	12	32			896615
30	120	2	686	610	122	58	130	95	8.1	12	32			896412
		3	798	694	122	86	130	95	8.1	12	32			896413
		4	910	778	122	114	130	95	8.1	12	32			896414
		5	1022	862	122	142	130	95	8.1	12	32			896415

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 120 A. 2 - 5 positions



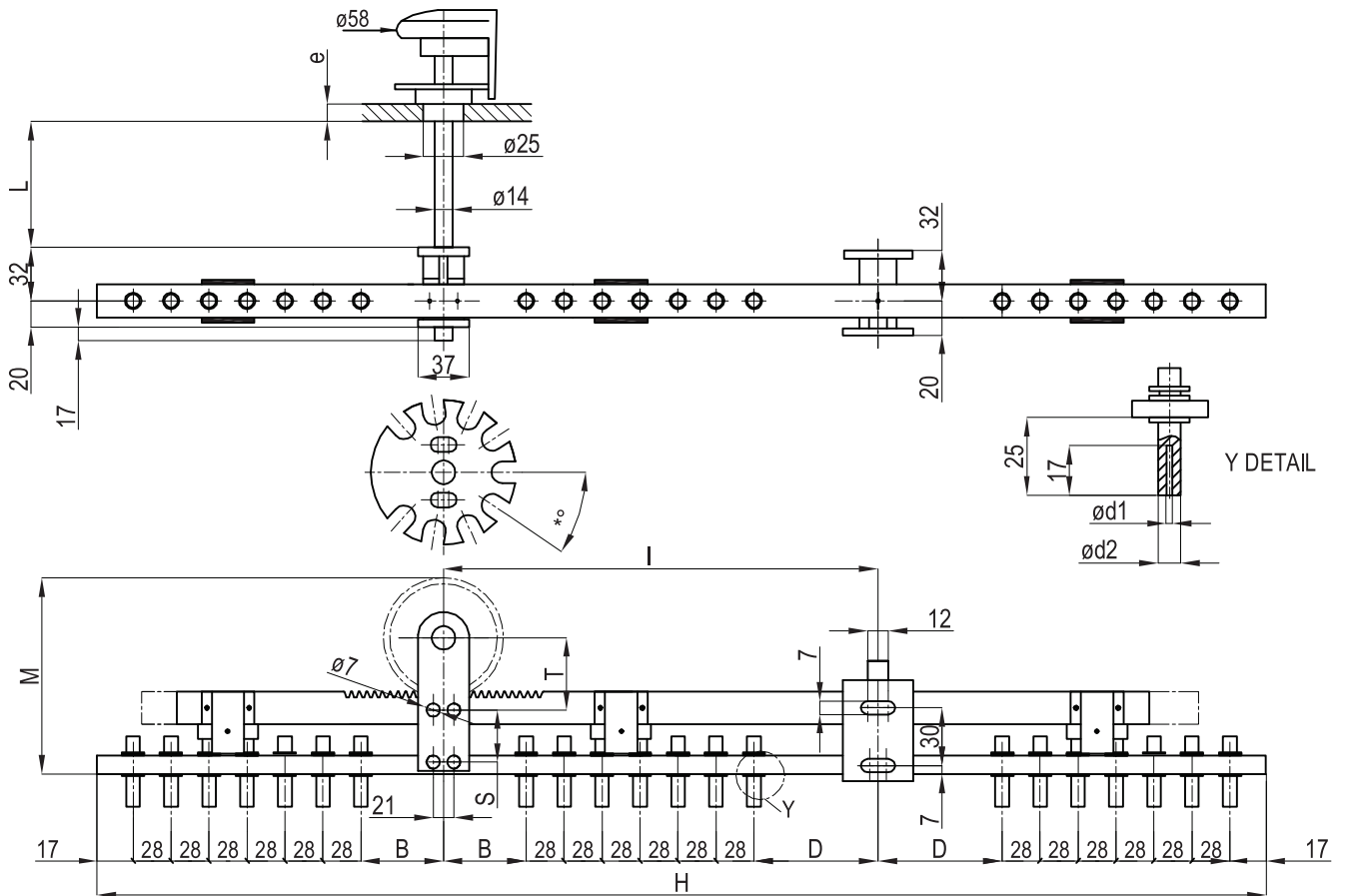
VOLTAGE CLASS kV	CURRENT A	NUMBER OF POSITIONS	H	I	D	B	F	$\phi d1$	$\phi d2$	X min	M	L	e	UNIT No
10	120	2	384	147	67	67	48	8.1	12	48	32	PLEASE QUOTE WHEN ORDERING		893712
		3	468	175	67	67	48	8.1	12	48	32			893713
		4	552	203	67	67	48	8.1	12	48	32			893714
		5	636	231	67	67	48	8.1	12	48	32			893715
20	120	2	453	181	90	90	71	8.1	12	48	32			893612
		3	537	209	90	90	71	8.1	12	48	32			893613
		4	621	237	90	90	71	8.1	12	48	32			893614
		5	705	265	90	90	71	8.1	12	48	32			893615
30	120	2	557	233	130	130	95	8.1	12	88	32			893412
		3	641	261	130	130	95	8.1	12	88	32			893413
		4	725	289	130	130	95	8.1	12	88	32			893414
		5	809	317	130	130	95	8.1	12	88	32			893415

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 120 A. 2 - 5 positions



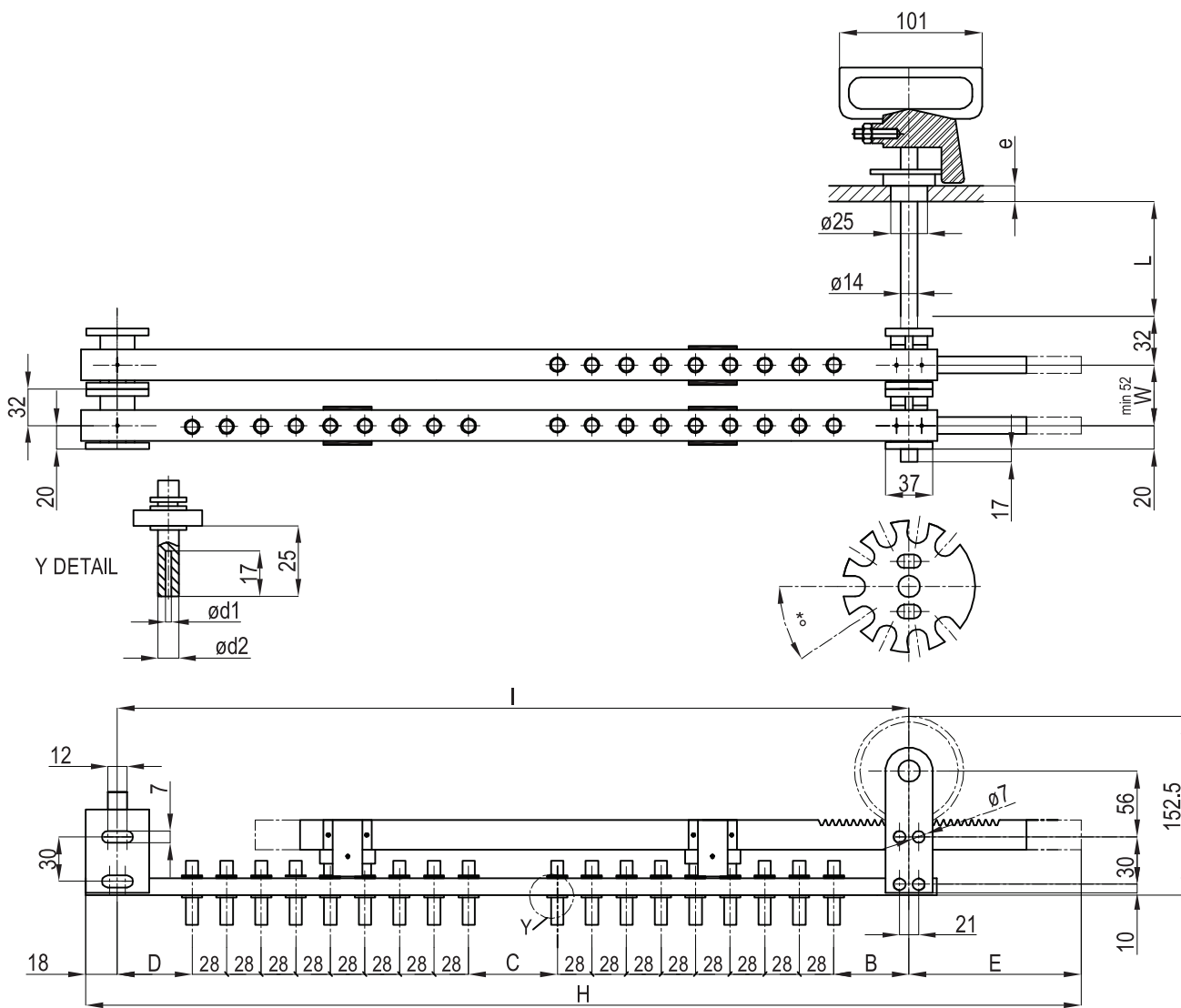
VOLTAGE CLASS KV	CURRENT A	NUMBER OF POSITIONS	H	I	D	B	$\phi d1$	$\phi d2$	L	e	UNIT No
10	120	2	454	182	59	67	8.1	12	PLEASE QUOTE WHEN ORDERING		894712
		3	538	210	59	67	8.1	12			894713
		4	622	238	59	67	8.1	12			894714
		5	706	266	59	67	8.1	12			894715
20	120	2	546	228	82	90	8.1	12			894612
		3	630	256	82	90	8.1	12			894613
		4	714	284	82	90	8.1	12			894614
		5	798	312	82	90	8.1	12			894615
30	120	2	706	308	122	130	8.1	12			894412
		3	790	336	122	130	8.1	12			894413
		4	874	364	122	130	8.1	12			894414
		5	958	392	122	130	8.1	12			894415

Off - circuit operation can be used in oil
Delta diagram 10 - 30 kV 120 A. 6 - 11 positions



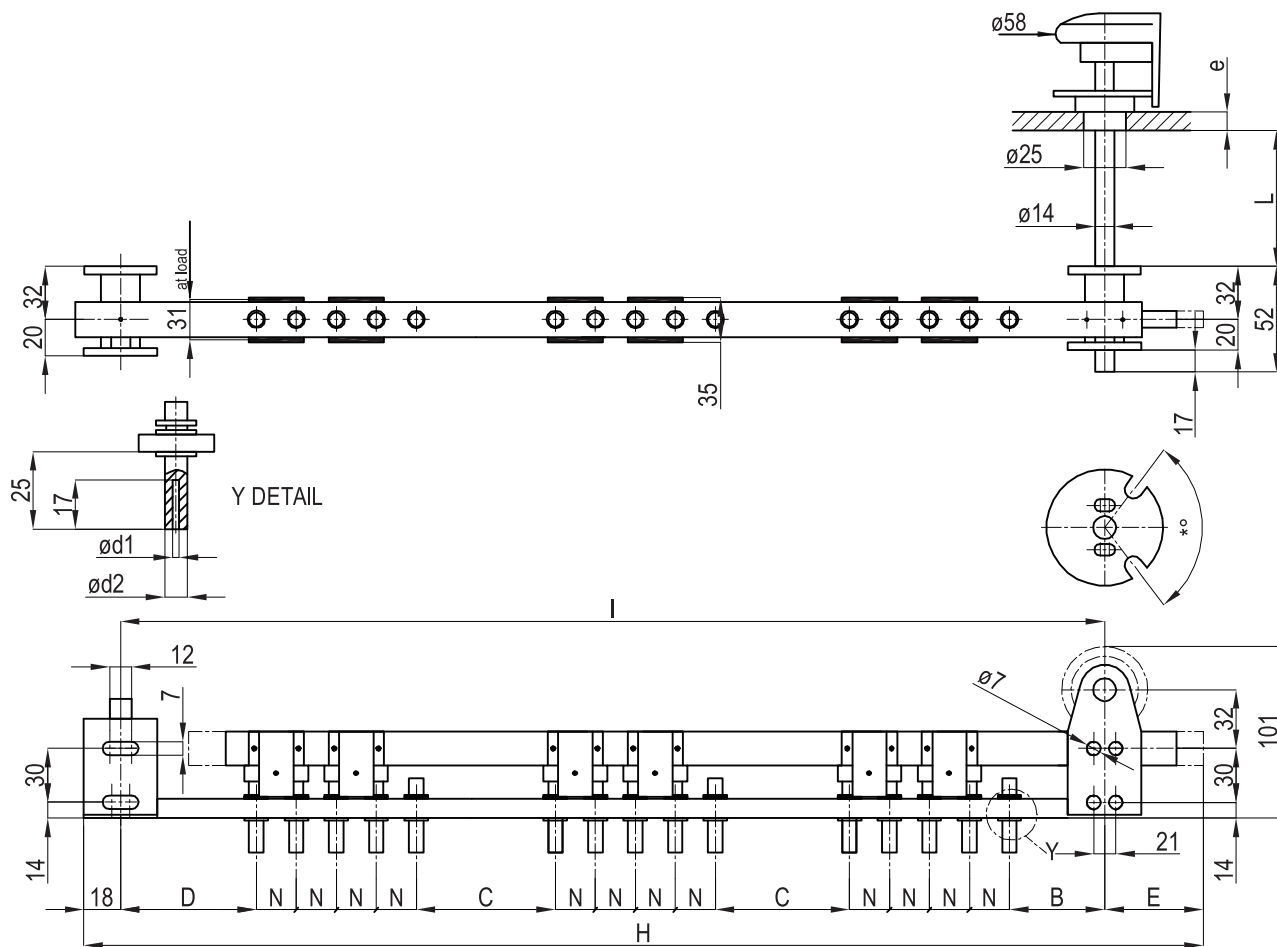
VOLTAGE CLASS kV	CURRENT A	NUMBER OF POSITIONS	H	I	D	B	S	T	M	$\phi d1$	$\phi d2$	r^*	L	e	UNIT No
10	120	6	790	294	59	67	30	44	129.5	8.1	12	44.3°	PLEASE QUOTE WHEN ORDERING		894716
		7	874	322	59	67	30	44	129.5	8.1	12	44.3°			894717
		8	958	350	59	67	30	56	152.5	8.1	12	33°			894718
		9	1042	378	59	67	30	56	152.5	8.1	12	33°			894719
		10	1126	406	59	67	30	56	152.5	8.1	12	33°			89471A
		11	1210	434	59	67	30	56	152.5	8.1	12	33°			89471B
20	120	6	882	340	82	90	30	44	129.5	8.1	12	44.3°			894616
		7	966	368	82	90	30	44	129.5	8.1	12	44.3°			894617
		8	1050	396	82	90	30	56	152.5	8.1	12	33°			894618
		9	1134	424	82	90	30	56	152.5	8.1	12	33°			894619
		10	1218	452	82	90	30	56	152.5	8.1	12	33°			89461A
		11	1302	480	82	90	30	56	152.5	8.1	12	33°	89461B		
30	120	6	1042	420	122	130	30	44	129.5	8.1	12	44.3°	894416		
		7	1126	448	122	130	30	44	129.5	8.1	12	44.3°	894417		
		8	1210	476	122	130	30	56	152.5	8.1	12	33°	894418		
		9	1294	504	122	130	30	56	152.5	8.1	12	33°	894419		
		10	1378	532	122	130	30	56	152.5	8.1	12	33°	89441A		
		11	1462	560	122	130	30	56	152.5	8.1	12	33°	89441B		

Off - circuit operation can be used in oil
 Delta diagram 10 - 30 kV 120 A. 8 - 11 positions
 Special diagram



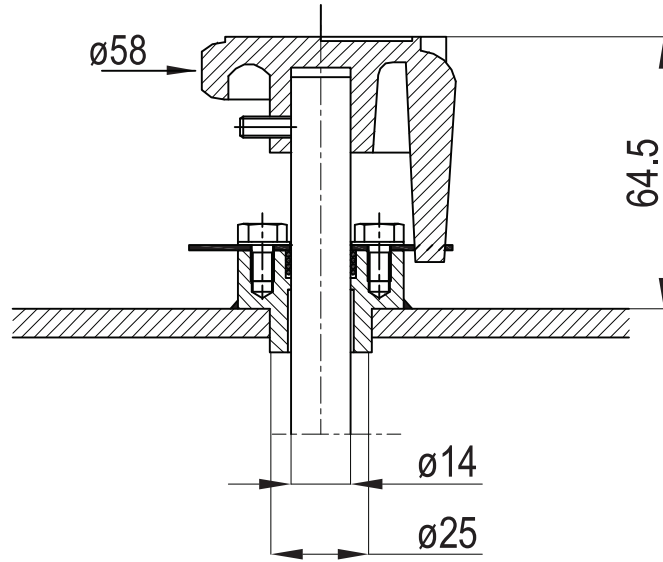
VOLTAGE CLASS kV	CURRENT A	NUMBER OF POSITIONS	H	I	D	E	B	C	* °	$\phi d1$	$\phi d2$	L	W	e	UNIT No
10	120	8	891	622	59	251	67	48	33°	8.1	12	PLEASE QUOTE WHEN ORDERING			2A896718
		9	975	678	59	279	67	48	33°	8.1	12				2A896719
		10	1059	734	59	307	67	48	33°	8.1	12				2A89671A
		11	1143	790	59	335	67	48	33°	8.1	12				2A89671B
20	120	8	960	691	82	251	90	71	33°	8.1	12				2A896618
		9	1044	747	82	279	90	71	33°	8.1	12				2A896619
		10	1128	803	82	307	90	71	33°	8.1	12				2A89661A
		11	1212	859	82	335	90	71	33°	8.1	12				2A89661B
30	120	8	1064	795	122	251	130	95	33°	8.1	12				2A896418
		9	1148	851	122	279	130	95	33°	8.1	12				2A896419
		10	1232	907	122	307	130	95	33°	8.1	12				2A89641A
		11	1316	963	122	335	130	95	33°	8.1	12	2A89641B			

Off - circuit operation can be used in oil
 Series Parallel coupling 5 - 30 kV 120 A.

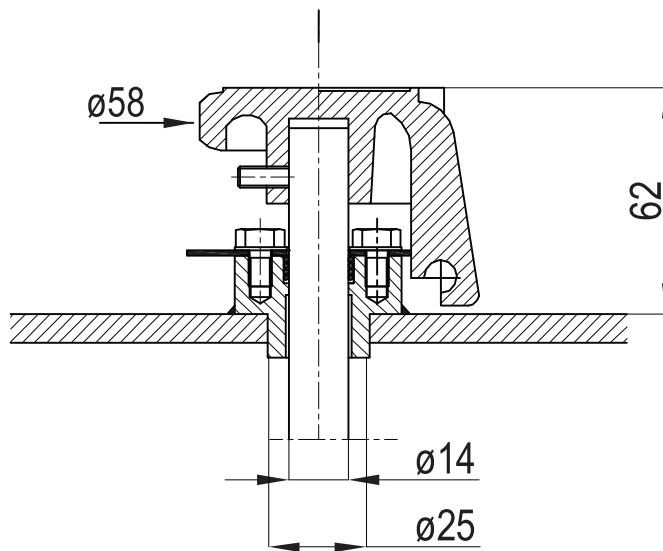


VOLTAGE CLASS kV	CURRENT A	H	I	D	E	B	N	C	$\phi d1$	$\phi d2$	$*^\circ$	L	e	UNIT No
5-10	120	833	743	68	72	75	42	48	8.1	12	108°	PLEASE QUOTE WHEN ORDERING		876019
10-20		908	818	82	72	90	42	71	8.1	12	108°		876819	
25-30		1127	1030	122	79	130	49	95	8.1	12	126°		876219	

Control Devices



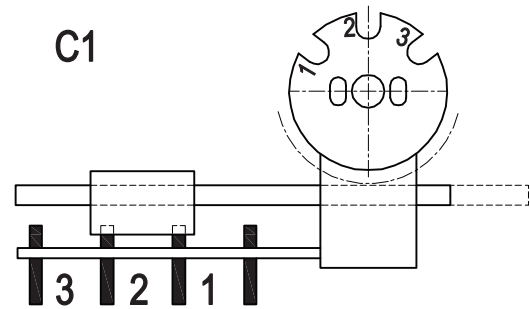
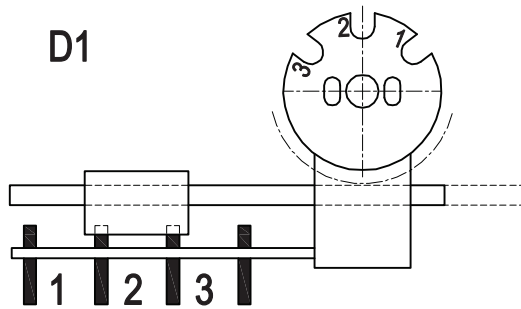
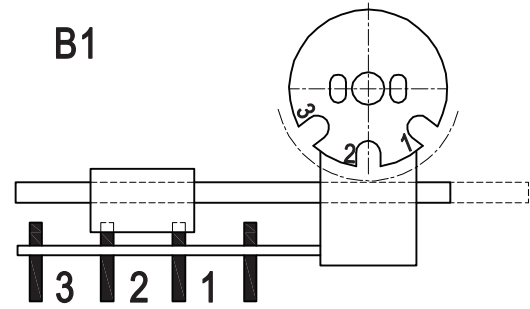
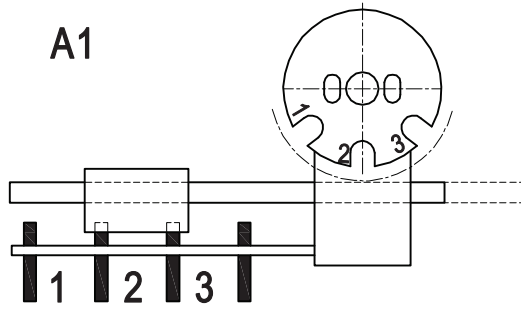
55 657
Standard Type



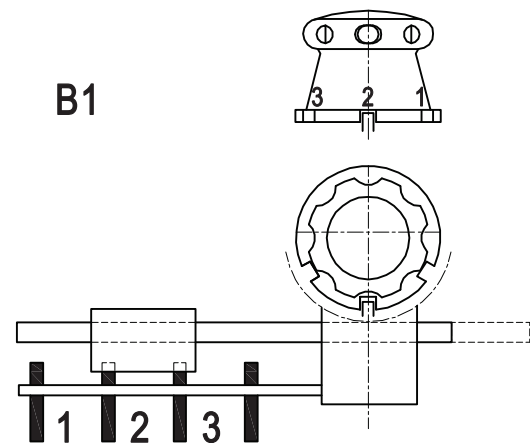
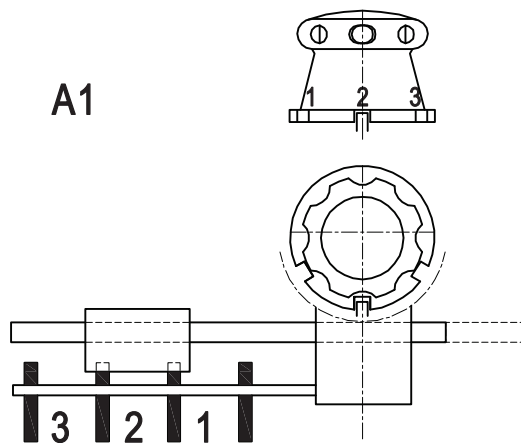
55 657K
Padlockable Type

Numbering

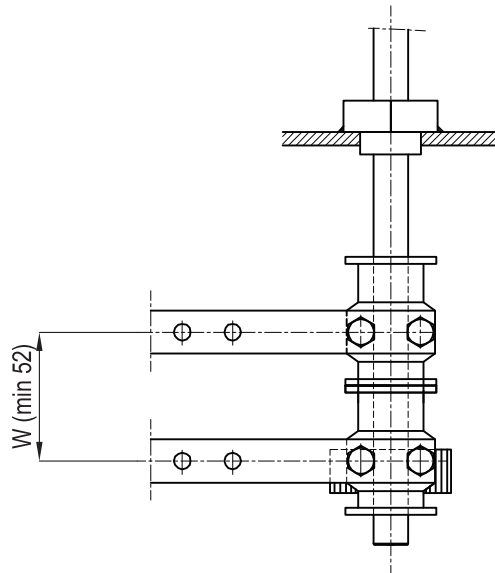
REPEATER DISC



KNOB



Combinations



All the standard series horizontal tap changers can be paired by superimposing several tap changers whose purpose - built steel brackets are assembled by nuts and bolts.

Depending on which system is adopted, the user can:

- * either operate the tap changers with one shaft
- * or operate part of the tap changers with one shaft and the other part with a second shaft.

If so, please specify the position of the coupling shaft and of the setting shaft.

Note : When ordering, it is essential not to omit dimension "W" the minimum value of which to be set in each case depends on the insulation conditions and on the position of the various tap changers.

WHEN ORDERING PLEASE QUOTE:

- 1 - Tap changer unit no.
 - 2 - The voltage class current and type of setting or coupling.
 - 3 - The service voltages and test voltages at industrial frequency (50 Hz) and on impulse (1/50), on the earth, across phases, across contact of the same phase, across contact and common output.
 - 4 - Control device no.
 - 5 - The language on the control device.
 - 6 - Number of positions.
 - 7 - The indication of the repeater disc (A1, B1, C1, D1)
 - 8 - Dimensions of the fixed contacts ($\varnothing d1$ and $\varnothing d2$)
 - 9 - L, e, X, W dimensions from the tables.
- For special setups not shown in the catalogue please consult us.