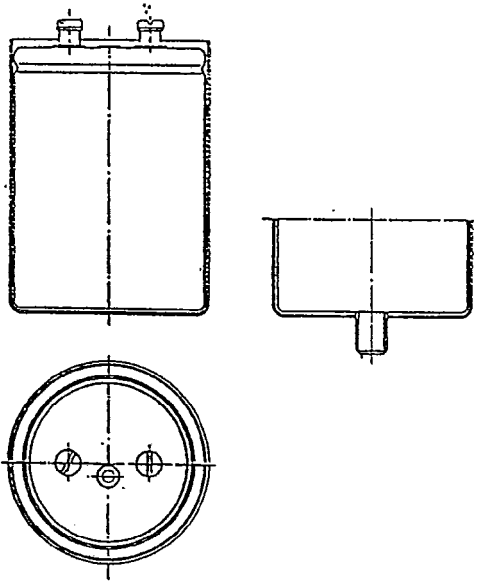
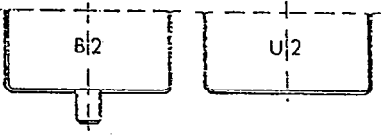
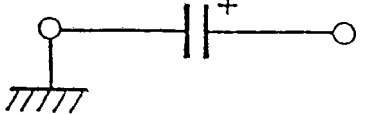


SVENSKA ELEKTRISKA KOMMISSIONEN	CECC 30 301 - 058
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH: SS CECC 30 000 SS CECC 30 300	Manufacturer's detail specification May 1990 Issue 2 March 1992
DETAIL SPECIFICATION FOR ALUMINIUM ELECTROLYTIC CAPACITORS WITH NON SOLID ELECTROLYTE.	
TYPICAL CONSTRUCTION: Cylindrical Polar Metallic, insulated or uninsulated case Stud or clip mounting Screw terminations	
 Measurements: See page No 2	QUICK REFERENCE DATA: RATED CAPACITANCE RANGE: 68 μF to 470000 μF CAPACITANCE TOLERANCE: -20/+20% -10/+30% Other tolerances on request RATED VOLTAGE RANGE: 10 V d.c. to 400 V d.c. CLIMATIC CATEGORY 40/85/56
Code letters pos M15 Alternative mounting Stud mounting B2 Clamped U2 See clause 6 	GRADE: Long Life use ASSESSMENT LEVEL: E, plus additional
Circuit diagram 	
See the relevant Qualified Products List for the availability of components qualified to this detail specification.	

1. GENERAL DATA

1.1 RECOMMENDED METHOD OF MOUNTING (for vibration and shock testing)

The capacitors are to be mounted by their stud or using clamps available from the manufacturer.

1.2 Dimensions

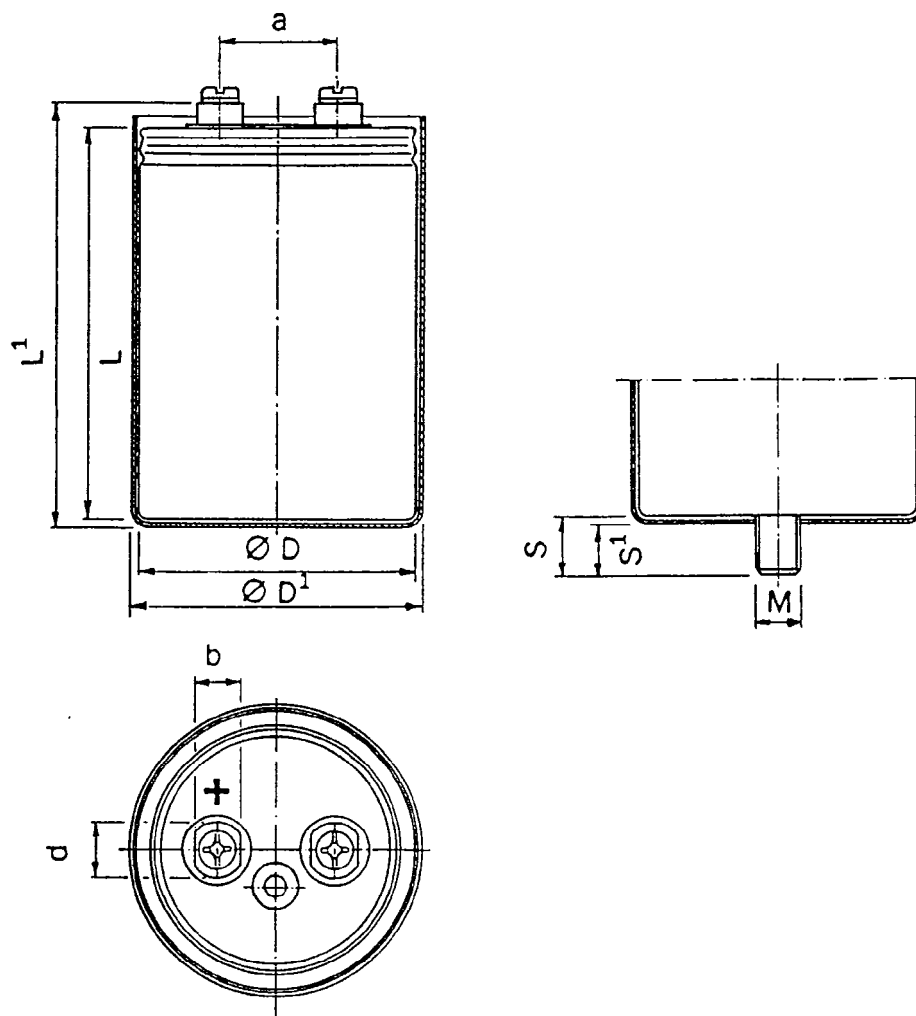


TABLE 1.

Dimensions table PEH 169

Case code	Ø × L	Ø D ±0.5	Ø D¹ ±0.5	L ±0.5	L¹ ±1.0	S	S¹	M	a	b	d
A	35 × 51	35.0	36.6	51.0	60.1	12	10.9	M8	13.0	-	8
B	35 × 60	35.0	36.6	60.0	68.1	12	10.9	M8	13.0	-	8
C	35 × 75	35.0	36.6	74.0	82.1	12	10.9	M8	13.0	-	8
D	35 × 95	35.0	36.6	95.0	103.1	12	10.9	M8	13.0	-	8
H	50 × 75	50.0	51.6	75.0	83.2	16	15.9	M12	22.0	13	15
J	50 × 95	50.0	51.6	95.0	104.2	16	15.9	M12	22.0	13	15
K	50 × 105	50.0	51.6	105.0	112.2	16	15.9	M12	22.0	13	15
O	65 × 105	65.0	66.6	145.0	112.4	16	15.9	M12	28.5	13	15
T	75 × 105	75.0	76.8	105.0	112.4	16	15.9	M12	32.0	13	15
U	75 × 115	75.0	76.8	117.0	124.4	16	15.9	M12	32.0	13	15
V	75 × 145	75.0	76.8	145.0	152.4	16	15.9	M12	32.0	13	15

1.3 RATINGS AND CHARACTERISTICS

Grade	Long life use
Capacitance range	See table 2A
Tolerance on rated capacitance	-20/+20% code M -10/+30% code Q
Rated voltage range	10 - 400V d.c.
Rated temperature	85°C
Rated ripple current	See Table 2B
Tangent of loss angle	See Table 2B
Leakage current	$\leq 0.003 \times C \times U + 4 \mu A$ after 5 min at U_R
Climatic category	40/85/56
ESR	See Table 2B
Impedance	Not required

TABLE 2A

Standard values of capacitance and voltage related to case codes.
Other values within the specified capacitance and voltage ranges
can be delivered on request.

Rated capaci- tance μF	Rated voltages and voltage code letters										
	10 E	16 G	25 H	40 K	63 M	100 P	160 Q	200 R	250 S	350 U	400 V
68 100 150										A	A, B
220 330 470							A	A	A B	A C D	B, C C, H H
680 1000 1500						A A	A C D	B D H	C H H	H J K	H, K K, O O, T
2200 3300 4700				A	A A C	C D H	H J O	J K O	K O R	O T V	T, V V
6800 10000 15000	A A	A A	A A C	B C D	D H J	J K O	T U V	T V	V		
22000 33000 47000 68000 100000 150000	B C D H J K	C D H J O T	D H J O T U	H J O T U V	K T U V	U V					
220000 330000 470000	O R V	U V	V								

Table 2B

U_R 20°C V	C_R and μF	Case code	Maximum rated ripple current at 85°C and 100Hz* A	Max tan δ at 20°C and 100Hz %	Maximum ESR at 20°C and 100 Hz m Ω	Maximum ESR at 20°C and 100kHz m Ω
10	10000	A	7.6	21	34	28
	15000	A	8.8	23	24	20
	22000	B	10.5	24	18	15
	33000	C	12.8	25	12	10
	47000	D	14.5	29	10	9
	68000	H	15.6	40	9	8
	100000	J	18.2	44	7	6
	150000	K	18.6	70	7	7
	220000	O	20.0	109	8	8
	330000	R	23.5	123	6	6
	470000	V	23.0	208	7	7
16	10000	A	8.0	17	28	22
	15000	A	9.1	18	19	15
	22000	C	11.8	19	14	11
	33000	D	13.9	21	10	8
	47000	H	15.3	29	10	8
	68000	J	17.9	31	7	7
	100000	O	20.4	48	8	7
	150000	T	21.6	75	8	8
	220000	U	21.5	109	8	8
	330000	V	23.1	144	7	7
25	6800	A	7.3	13	30	22
	10000	A	8.4	14	22	16
	15000	C	10.9	14	15	11
	22000	D	12.9	15	11	8
	33000	H	14.7	21	10	8
	47000	J	17.3	23	8	7
	68000	O	19.9	34	8	7
	100000	T	21.2	51	8	8
	150000	U	21.5	74	8	8
	220000	V	23.0	97	7	7
40	4700	A	6.7	9	32	20
	6800	B	7.9	10	23	15
	10000	C	10.0	10	16	11
	15000	D	11.7	11	11	8
	22000	H	14.0	15	11	8
	33000	J	16.1	19	9	8
	47000	O	20.0	24	8	7
	68000	T	20.4	37	9	8
	100000	U	20.6	54	9	8
	150000	V	22.4	69	7	7

* When test is performed at 50Hz the values in the table shall be multiplied by 0.8.

Table 2B

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U_R	C_R	Case	Maximum rated	Max $\tan\delta$ at	Maximum ESR	Maximum ESR
20°C	and	code	ripple current at	20°C and 100Hz	at 20°C and	at 20°C and
V	μF		85°C and 100Hz*	%	100 Hz	100kHz
			A		m Ω	m Ω
63	2200	A	5.1	6	46	24
	3300	A	6.1	6	30	15
	4700	C	7.8	7	23	12
	6800	D	9.3	7	17	9
	10000	H	11.7	9	14	9
	15000	J	13.9	10	11	7
	22000	K	15.8	13	9	7
	33000	T	20.0	19	9	8
	47000	U	20.6	25	9	8
	68000	V	26.9	22	5	4
	**68000	V	25.8	25	6	5
100	1000	A	3.6	7	120	75
	1500	A	4.4	8	80	51
	2200	C	5.4	8	61	41
	3300	D	6.7	9	42	29
	4700	H	9.5	9	31	22
	6800	J	11.5	9	22	15
	10000	K	12.6	11	17	13
	15000	O	17.1	12	13	10
	22000	U	19.7	14	10	8
	33000	V	21.9	17	8	7
	**33000	V	23.5	25	12	11
160	470	A	2.2	7	240	110
	680	A	2.6	8	190	98
	1000	C	3.4	8	130	66
	1500	D	4.3	8	87	45
	2200	H	6.1	8	59	31
	3300	J	7.5	9	44	24
	4700	O	10.1	9	31	17
	6800	T	12.0	11	26	17
	10000	U	13.1	14	22	16
	15000	V	15.1	17	17	13
200	470	A	2.3	7	240	110
	680	B	2.9	7	170	79
	1000	D	3.6	7	110	53
	1500	H	5.3	7	79	40
	2200	J	6.6	8	55	28
	3300	K	7.9	8	39	21
	4700	O	10.2	10	35	22
	6800	T	11.6	12	29	20
	10000	V	14.3	20	20	14

* When test is performed at 50Hz the values in the table shall be multiplied by 0.8.

**Capacitance tolerance -10/+30%