

CCDH SERIES DOORKNOB HV CAPACITOR



■ **Feature**

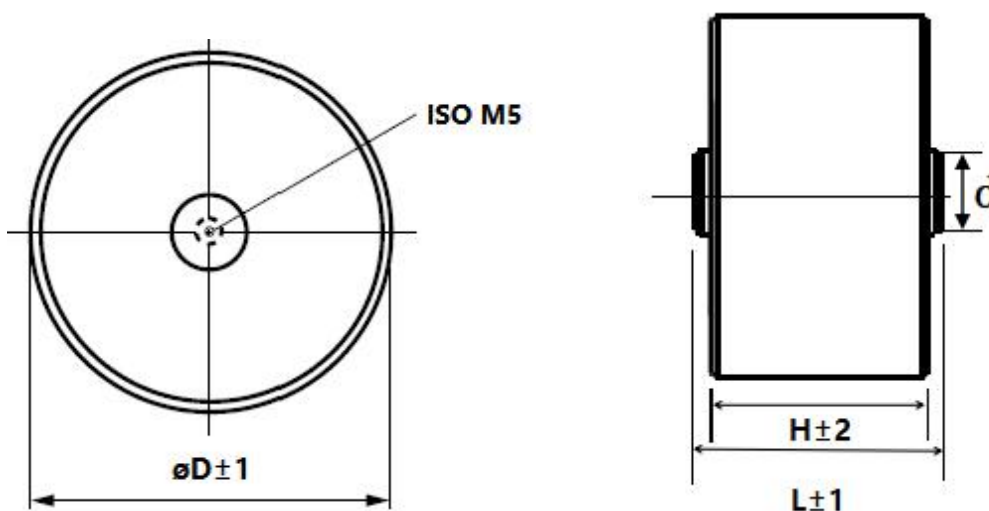
- Excellent temperature characteristics
- Low dissipation
- High insulation resistance
- High breakdown strength
- Fully symmetric full copper electrode
- Epoxy coating
- Screw terminal mounting

■ **Application**

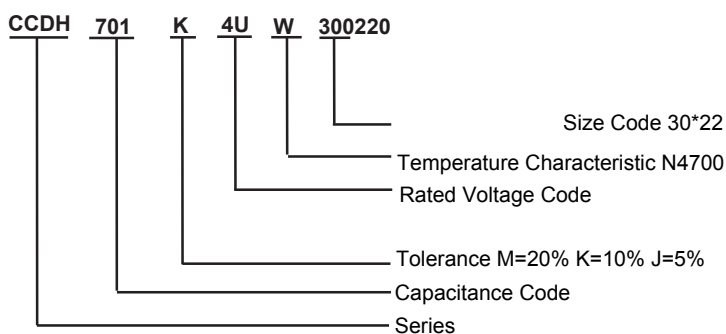
- Smart grid
- High voltage power supplies
- CO₂ lasers
- X-ray equipment
- Welding equipment

■ **Range Of Capacity** 10 pF to 10,000pF

■ **Dimensional Drawing**



PART NUMBER EXAMPLE



CCDH SERIES DOORKNOB HV CAPACITOR



■ Specification

Type	Rated Voltage kVdc	Test Voltage kVdc	Corona Inception Voltage (kVrms) ($<10\mu\text{C}$)	Capacitance (pF)	Dimensions millimeters (mm)				Terminal Type
					D $\pm$ 1	L $\pm$ 1	H $\pm$ 2	d	
CCDH701K4UW300220	30	45	12	700	30	22	17	12	ISO M5
CCDH102K4UW300220				1000	30			12	
CCDH122K4UW400220				1200	40			14.5	
CCDH152K4UW400220				1500	40			14.5	
CCDH472K4UW550220				4700	55			14.5	
CCDH781K4UW300250				780	30	25	20	12	
CCDH102K4UW400250				1000	40			12	
CCDH112K4UW400250				1100	40			14.5	
CCDH172K4UW450250				1700	45			14.5	
CCDH182K4UW450250				1800	45			14.5	
CCDH202K4UW500250				2000	50			14.5	
CCDH252K4UW550250				2500	55			14.5	
CCDH272K4UW550250				2700	55			14.5	
CCDH302K4UW550250				3000	55			14.5	
CCDH332K4UW550250				3300	55			14.5	
CCDH362K4UW600250				3600	60			14.5	
CCDH103K4UW900250				10000	90			14.5	
CCDH591K4UW330280				590	30	28	23	12	
CCDH941K4UW400280				940	40			14.5	
CCDH172K4UW500280				1700	50			14.5	
CCDH401K4GW300350	40	60	16	400	30	35	30	12	ISO M5
CCDH202K4GW600350				2000	60	30	25	14.5	
CCDH441K4GW300300				440	30			12	
CCDH571K4GW300300				570	30			12	
CCDH751K4GW400300				750	40			14.5	
CCDH102K4GW500300				1000	50			14.5	
CCDH122K4GW450300				1200	45			14.5	
CCDH142K4GW500300				1400	50			14.5	
CCDH172K4GW550300				1700	55			14.5	
CCDH202K4GW550300				2000	55			14.5	
CCDH242K4GW600300				2400	60			14.5	
CCDH272K4GW600300				2700	60			14.5	
CCDH332K4GW700300				3300	70			14.5	

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					D ± 1	L ± 1	H ± 2	d	
CCDH281K4HW300370	50	75	20	280	30	37	32	12	ISO M5
CCDH341K4HW300330				340	30			12	
CCDH561K4HW400330				560	40			14.5	
CCDH851K4HW400330				850	40	33	28	14.5	
CCDH102K4HW450330				1000	45			14.5	
CCDH212K4HW600330				2100	60			14.5	
CCDH221K4HW600330	50	75	20	2200	60	33	28	14.5	ISO M5
CCDH332K4HW700330				3000	70			14.5	
CCDH602K4HW800800				6000	80	80	75	14.5	
CCDH501K4IW400400	60	90	24	500	40			14.5	ISO M5
CCDH701K4IW450400				700	45			14.5	
CCDH851K4IW500400				850	50	40	35	14.5	
CCDH102K4IW450400				1000	45			14.5	
CCDH122K4IW550400				1200	55			14.5	
CCDH202K4LW600400	70	100	28	2000	60	40	35	14.5	ISO M5
CCDH751K5AW600460	100	150	40	750	60	46	41	14.5	ISO M5
CCDH102K5AW600460				1000	60			14.5	
CCDH102K5BW600530	120	180	48	1000	60	53	48	14.5	ISO M5
CCDH251K5RW300530	150	220	60	250	30	53	48	12	ISO M5
CCDH801K5RW600530				800	60			14.5	

Marking

	① Manufacturer Marking
	② Temperature Characteristic
	③ Rated Capacitance
	④ Tolerance of Capacitance
	⑤ Rated Voltage

■ Specification and Test Method

Item		Specifications	Testing Method					
Appear- ance	1 Appearance and Dimensions	No marked defect	Shall be visually examined or Venire calipers.					
	2 Marking	To be easily legible	Shall be visually examined.					
	3 Material	Capacitor elements made from N4700 ceramic in a molded epoxy case. Screw terminals: Terminals silver-plated.						
	4 Thread	ISO M5	Check with ISO M5 bolts					
Electrical perform- ance	5 Capacitance	Within the specified tolerance	The capacitance shall be measured at 20°C with 1 ±0.2kHz and AC5V(r.m.s) max..					
	6 Dissipation Factor (D.F)	0.2%Max.	The capacitance shall be measured at 20°C with 1 ±0.2kHz and AC5V(r.m.s) max.					
	7 Insulation Resistance (I.R)	200,000MΩ.min.	The insulation resistance shall be measured with DC 500V within 60±2 s. of charging.					
	8 Power frequency withstand voltage	Between terminal	150% of rated voltage (In oil) ,1min.					
	9 Temperature Characteristics	-4700±1000ppm/°C	The capacitance should be measured at each step as below table.					
			Step	1	2	3	4	5
				20±2°C	-40±2°C	20±2°C	70±2°C	20±2°C
	10 Corona limit	<10pC	at 40% rated AC voltage (In oil) .					

Item		Specifications		Testing Method	
Climatic Tests	11 Humidity (under Steady State)	Capacitance	$\leq 10\%$	Set the capacitor for 100h at $40 \pm 2^\circ\text{C}$ in 90 to 95% humidity.	
		D.F	$< 1\%$		
		I.R	$> 10^9 \Omega$		
	12 Temperature cycle test	The Capacitor should be normal, the requirement in item 5 to 10 of the table shall be met.		Pass through the atmosphere -40°C , 1h $\rightarrow$ RT, 0.5h $\rightarrow$ $+80^\circ\text{C}$, 1h; 10 cycles.	
	13 Life Test	Capacitance change	$\pm 5\%$	Apply a DC voltage of 125% of the rated voltage for 100+24/-0 h in oil at $85 \pm 2^\circ\text{C}$. Post-treatment : capacitor shall be stored for 24 ± 2 h at room condition. (charge/discharge current: 50mA max.)	
		D.F	1.0% max.		
		I.R	1,000M		
Mechanical Performance Test	14 Strength of Terminal	Torque strength	Capacitor shall not be broken.	When mounting the capacitors on equipment, be sure to mount them within the torque strength values shown in the table below.	
				size	torque (N • m)
				M5	1.5
		pull	No unusual	Fix the body of capacitor apply a tensile weight gradually to each terminal in the radial direction of capacitor up to table below.	
				size	pull (N)
				M5	5.0



Announcements:

(1) Handling and storage

Please avoid handling and storage in high temperature, humidity and rain.

Collision avoidance.

Do not expose to H_2SO_4 , HCL , HNO_3 and other toxic gases.

(2) Operating Collision avoidance.

Please do not get sweat and other electrolytes. Please do not operate with bare hands.

Do not weld on the screw terminals.

Do not rework the terminals.

(3) Using

Avoid as much as possible the transfer of radioactive heat from mechanical piping, etc., to the capacitor.