



TORRENT

Cylindrical PFC Capacitor

Hercules Three Phase PFC Capacitors - Normal Duty

Non PCB, Soft Resin Impregnated • Stacked Winding • Tripple Safety System

General

Hercules capacitors are MPP (metalized polypropylene) capacitors from Havells which have been used for PFC applications for more than 7 years

The power range varies from 1.0 to 30.0 KVAR.

The **Hercules** capacitor is used for power factor correction in industrial applications.

Applications

- Power Factor Correction (PFC) • Automatic capacitor banks • Fixed PFC applications, e.g. motor compensation
- Detuned PFC systems • Dynamic PFC systems • Filter Application

Features

- Compact design in cylindrical aluminum can with stud • Stacked winding • MPP technology
- Voltage range 400 ... 525 V • Output range 1.0 ... 30.0 KVAR

Electrical

- Long life expectancy of up to 100000 hours • Max. transient inrush current handling capability is $200 \times I_R$

Mechanical and maintenance

- Reduced mounting costs • Easy installation and connection • Low weight and compact volume • Maintenance-free

Safety

- Self-healing • Overpressure disconnecter • Shock hazard protected optimized capacitor safety terminals above 6KVAR

TORRENT - Soft resin impregnated • Stacked winding • Tripple Safety System

Parameter	Unit	Hercules
Reference Standard		IS 13340 / IEC 60831
Power (Rated Capacitance)	Qn	1 – 30 KVAR
Tolerance		0 –10%
Connection		Delta
Rated voltage	V_R	400 – 525
Rated Frequency	f_R	50 / 60 Hz
Max. Ratings		
Max. Permissible Voltage	Vmax.	$V_R + 10\%$ (up to 8 h daily) $V_R + 15\%$ (up to 30 min daily) $V_R + 20\%$ (up to 5 min daily) $V_R + 30\%$ (up to 1 min daily)
Max. Permissible Current	I _{max} .	Up to $1.3 \times I_R$ (up to $1.5 \times I_R$ incl. combined effects of harmonics, over voltages and capacitance)
Max. Transient Inrush Current Handling Capacity	I _s	up to $200 \times I_R$
Test Data		
AC Test Voltage Terminal to Terminal	V_{TT}	$2.15 \times U_N$, 2 Sec.
Insulation Voltage Between Terminal & Container	V_{TC}	3600 V AC, 2 Sec.
Losses:		
– Dielectric		< 0.2 W/KVAR
– Total*		< 0.4 W/KVAR
Climatic Category		
Ambient Temperature	$^{\circ}C$	-25 / D; max. temp. 55 $^{\circ}C$; max mean 24h = 45 $^{\circ}C$; max. mean 1 year = 35 $^{\circ}C$; lowest temp. = -25 $^{\circ}C$
Max. humidity	H _{rel}	95%
Max. Permissible Altitude		4000 M above sea level
Design Data		
Case Material / Shape		Aluminium / Cylindrical
Dimensions		According to specification table page no. 33, 34
Dielectric		Polypropylene Film
Impregnation		Soft Resin
Fixing		Threaded Bolt M8 / M12
Max. Torque for Fixing	N _m	4 Nm / 10 Nm
Mounting Position		Upright. Horizontal mounting with additional head support possible.
Terminals		Upto 5KVAR fast on and above clamp
Degree of Protection Safety		IP20 optional IP54
Max. Torque for Connection Terminals (6 KVAR and above)	N _m	2.5 Nm
Safety		
Mechanical Safety		Tear of fuses, overpressure disconnector
Discharge Device		Resistor
Discharge Device Time	Sec.	≤60 Sec (50 V)
Cooling		Natural or Forced
Max. Switching Operations		Max. 5000 Nos. Per Year
Ordering Code		QHNTC*

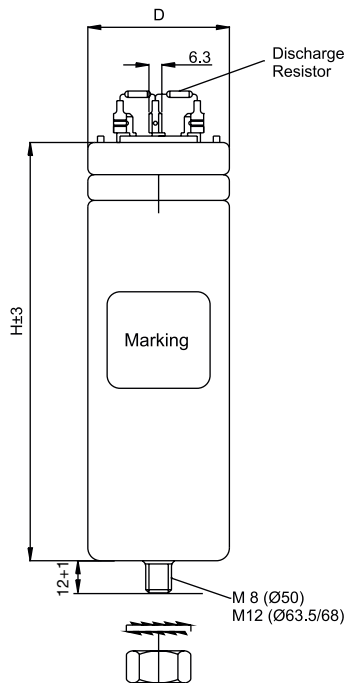
Note:

1. It should be noted that presence of harmonics produce over voltage & over current on capacitors. Resonance may cause serious damage to capacitor if a significant level of total harmonic distortion level exists for voltage or current. In such cases, series reactors must be considered.
2. Operating temperature class: In accordance with the reference standards, these temperatures are those measured on the surface on the capacitor.

* Without Discharge Resistor

TORRENT

Technical data, specifications & dimensional drawing of plastic top capacitor series up to 5 KVAR



Diameter D (Ø) 50 / 63.5 / 68mm

Expansion α max. 12 mm

Mounting

M 12

M8

(Ø 63.5 mm / 68 mm)

(Ø 50 mm)

Torque T = 10 Nm

T = 4 Nm

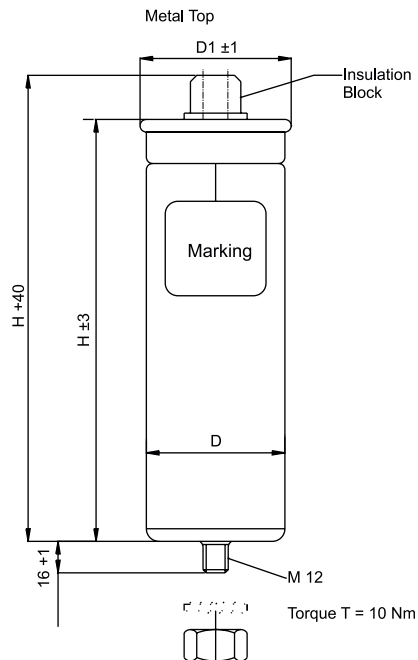
Toothed Washer 12.5

8.0

Hex nut 12

8

Technical data, specifications & dimensional drawing of Metal top capacitor series above 5 KVAR



Diameter D₁ (Ø) 79.5 mm / 89.5 mm / 94.5 mm

Diameter D (Ø) 75.0 mm / 85.0 mm / 90 mm

Expansion α max. 13 mm

Mounting

M 12

Torque T = 10 Nm

Toothed Washer 12.5

Hex nut 12



Terminal Cover for IP 54

HERCULES

Three phase power capacitor (Normal Duty)

KVAr	Current (A)	KVAr	Current (A)	Capacitance (3XμF)	D (mm)	H (mm)	Pack Unit*	Product Code
50Hz		60Hz						
Rated Voltage 400 V AC								
1	1.4	1.2	1.7	6.6	50	157	16	QHNTCQ5001X0
2	2.9	2.4	3.5	13.3	50	157	16	QHNTCQ5002X0
2.5	3.6	3	4.3	16.6	50	157	16	QHNTCQ5002X5
3	4.3	3.6	5.2	19.9	50	157	16	QHNTCQ5003X0
4	5.8	4.8	6.9	26.5	50	157	16	QHNTCQ5004X0
5	7.2	6	8.7	33.2	63.5	157	16	QHNTCQ5005X0
6	8.7	7.2	10.4	39.8	75	165	8	QHNTCQ5006X0
7	10.1	8.4	12.1	46.4	75	165	8	QHNTCQ5007X0
7.5	10.8	9	13	49.7	75	165	8	QHNTCQ5007X5
10	14.4	12	17.3	66.3	75	195	8	QHNTCQ5010X0
12.5	18	15	21.7	82.9	85	195	8	QHNTCQ5012X5
15	21.7	18	26	99.5	85	195	8	QHNTCQ5015X0
20	28.9	24	34.6	132.6	85	270	4	QHNTCQ5020X0
25	36.1	30	43.3	165.8	85	270	4	QHNTCQ5025X0
Rated Voltage 415 V AC								
1.0	1.4	1.2	1.7	6.2	50	157	16	QHNTCB5001X0
2.0	2.8	2.4	3.3	12.3	50	157	16	QHNTCB5002X0
2.5	3.5	3.0	4.2	15.4	50	157	16	QHNTCB5002X5
3.0	4.2	3.6	5.0	18.5	50	157	16	QHNTCB5003X0
4.0	5.6	4.8	6.7	24.6	50	157	16	QHNTCB5004X0
5.0	7.0	6.0	8.3	30.8	63.5	157	16	QHNTCB5005X0
6.0	8.3	7.2	10.0	37.0	75	195	8	QHNTCB5006X0
7.0	9.7	8.4	11.7	43.1	75	195	8	QHNTCB5007X0
7.5	10.4	9.0	12.5	46.2	75	195	8	QHNTCB5007X5
10.0	13.9	12.0	16.7	61.6	75	195	8	QHNTCB5010X0
12.5	17.4	15.0	20.9	77.0	85	270	8	QHNTCB5012X5
15.0	20.9	18.0	25.0	92.4	85	270	8	QHNTCB5015X0
20.0	27.8	24.0	33.4	123.2	85	345	4	QHNTCB5020X0
25.0	34.8	30.0	41.7	154.0	85	345	4	QHNTCB5025X0
Rated Voltage 440 V AC								
1.0	1.3	1.2	1.6	5.5	50	157	16	QHNTCC5001X0
2.0	2.6	2.4	3.1	11.0	50	157	16	QHNTCC5002X0
2.5	3.3	3.0	3.9	13.7	50	157	16	QHNTCC5002X5
3.0	3.9	3.6	4.7	16.4	50	157	16	QHNTCC5003X0
4.0	5.2	4.8	6.3	21.9	50	157	16	QHNTCC5004X0
5.0	6.6	6.0	7.9	27.4	63.5	157	16	QHNTCC5005X0
6.0	7.9	7.2	9.4	32.9	75	165	8	QHNTCC5006X0
7.0	9.2	8.4	11.0	38.4	75	195	8	QHNTCC5007X0
7.5	9.8	9.0	11.8	41.1	75	195	8	QHNTCC5007X5
8.0	10.5	9.6	12.6	43.8	75	195	8	QHNTCC5008X0
10.0	13.1	12.0	15.7	54.8	75	195	8	QHNTCC5010X0
12.5	16.4	15.0	19.7	68.5	85	195	8	QHNTCC5012X5
15.0	19.7	18.0	23.6	82.2	85	270	4	QHNTCC5015X0
20.0	26.2	24.0	31.5	109.6	85	270	4	QHNTCC5020X0
25.0	32.8	30.0	39.4	137.0	85	345	4	QHNTCC5025X0

HERCULES

Three phase power capacitor (Normal Duty)

KVAr	Current (A)	KVAr	Current (A)	Capacitance (3XμF)	D (mm)	H (mm)	Pack Unit*	Product Code
50Hz		60Hz						
Rated Voltage 480 V AC								
1.0	1.2	1.2	1.4	4.6	50	157	16	QHNTCD5001X0
2.0	2.4	2.4	2.9	9.2	50	157	16	QHNTCD5002X0
2.5	3.0	3.0	3.6	11.5	50	157	16	QHNTCD5002X5
3.0	3.6	3.6	4.3	13.8	50	157	16	QHNTCD5003X0
4.0	4.8	4.8	5.8	18.4	63.5	157	16	QHNTCD5004X0
5.0	6.0	6.0	7.2	23.0	63.5	157	16	QHNTCD5005X0
6.0	7.2	7.2	8.7	27.6	75	165	8	QHNTCD5006X0
7.0	8.4	8.4	10.1	32.2	75	195	8	QHNTCD5007X0
7.5	9.0	9.0	10.8	34.5	75	195	8	QHNTCD5007X5
8.0	9.6	9.6	11.5	36.8	75	195	8	QHNTCD5008X0
10.0	12.0	12.0	14.4	46.0	85	270	8	QHNTCD5010X0
12.5	15.0	15.0	18.0	57.6	85	270	8	QHNTCD5012X5
15.0	18.0	18.0	21.7	69.1	85	270	4	QHNTCD5015X0
20.0	24.1	24.0	28.9	92.1	90	270	4	QHNTCD5020X0
25.0	30.1	30.0	36.1	115.1	85	345	4	QHNTCD5025X0
30.0	36.1	36.0	43.3	138.1	90	345	4	QHNTCD5030X0
Rated Voltage 525 V AC								
1.0	1.1	1.2	1.3	3.8	50	157	16	QHNTCF5001X0
2.0	2.2	2.4	2.6	7.7	50	157	16	QHNTCF5002X0
2.5	2.7	3.0	3.3	9.6	50	157	16	QHNTCF5002X5
3.0	3.3	3.6	4.0	11.5	50	157	16	QHNTCF5003X0
4.0	4.4	4.8	5.3	15.4	63.5	157	16	QHNTCF5004X0
5.0	5.5	6.0	6.6	19.2	63.5	157	16	QHNTCF5005X0
6.0	6.6	7.2	7.9	23.1	75	195	8	QHNTCF5006X0
7.0	7.7	8.4	9.2	26.9	75	195	8	QHNTCF5007X0
7.5	8.2	9.0	9.9	28.9	75	195	8	QHNTCF5007X5
8.0	8.8	9.6	10.6	30.8	75	195	8	QHNTCF5008X0
10.0	11.0	12.0	13.2	38.5	75	195	8	QHNTCF5010X0
12.5	13.7	15.0	16.5	48.1	85	195	8	QHNTCF5012X5
15.0	16.5	18.0	19.8	57.7	85	270	8	QHNTCF5015X0
20.0	22.0	24.0	26.4	77.0	85	270	4	QHNTCF5020X0
25.0	27.5	30.0	33.0	96.2	90	270	4	QHNTCF5025X0

*Packing units for capacitors equal minimum order quantity. Orders will be rounded up to packing unit or multiple thereof.

Note:

Customized products available upon request. Minimum Order Quantity 50 Nos.

All Hercules -type capacitors may be used for 60Hz, the output will be 1.2 times higher

Replace **X** with **E** for export orders.