

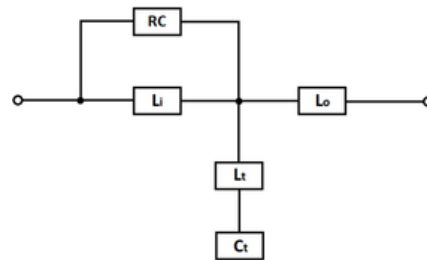
### Features:

- Increases system efficiency and equipment life
- Reduces losses
- Eliminates nuisance tripping
- High attenuation of individual harmonics
- Improves reliability of the system
- Reduce Operation and maintenance cost

### Applications:

- Motor Drives
- Factory automation Equipment
- Waste water treatment facilities.
- Fan & pump applications
- HVAC
- Mission-Critical processes

### Type Circuit Diagram:



Passive harmonic filter for rectifiers without DC-Link Choke

## DATASHEET

# Passive Harmonic filter - TPQH3411

Passive harmonic filter designed and manufactured to provide an economical solution in harmonic mitigation in Power Systems by maintaining THID in compliance with current and voltage requirements of IEEE 519.

### Technical Specifications:

Operating Voltage	: 3x380VAC to 415 VAC $\pm$ 10 %
Operating Frequency	: 50Hz
Type	: 3 Phase 3 Wire
Nominal motor drive input power rating	: 1.1 kW to 250 kW
Total harmonic current distortion THDi*	: 5% at rated power
Efficiency	: >98% for rated voltage and power
Overload capability	: 1.6x rated current for 1 minute, once per hour
High potential test voltage	: P -> E 2160 VAC (1 s)
Operational Temperature range	: -25°C to +45°C
Cooling	: External Cooling
Earthing System	: TN, TT, IT
Protection Category	: IP00/IP20(Optional)

Flammability corresponding to	: UL 94 V-0
Design corresponding to	: Filter: UL 61800-5-1, Chokes: EN 61558-2-20, UL508
Derating factor	: I derated = I nominal * $\sqrt{(70^{\circ}\text{C}-\text{Tamb})/25^{\circ}\text{C}}$

**\*NOTE:**

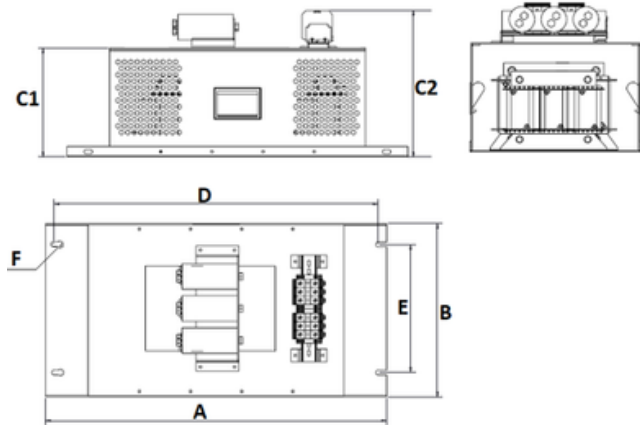
- System Requirements: THDv<2%, Line Voltage unbalance < 1%
- Performance specifications in this brochure refer to six-pulse diode rectifiers
- SCR rectifier front-ends will produce different Results, depend upon firing angle of the Thyristors
- IP20 is optional and this design will be provided on request

**Ordering Information**

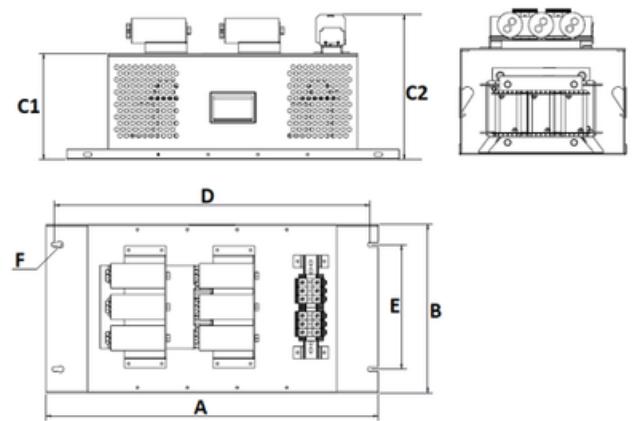
Model Number	Part Number	Rated Load Power [kW] @ 400VAC	Motor Drive Input current (A)	Rated filter Input current (A)	Termination	Min. Weight (Kgs)
TPQH3411-1.63-2	E107978-1	1.1	3	1.63	Connector – 4mm <sup>2</sup>	9
TPQH3411-3.26-2	E107979-1	2.2	5.5	3.26	Connector – 4mm <sup>2</sup>	13
TPQH3411-5.93-2	E107980-1	4	10	5.93	Connector – 6mm <sup>2</sup>	17
TPQH3411-8.17-2	E107981-1	5.5	13	8.17	Connector – 6mm <sup>2</sup>	20
TPQH3411-11.1-2	E107982-1	7.5	16	11.1	Connector – 6mm <sup>2</sup>	25
TPQH3411-16.3-2	E107983-1	11	24	16.3	Connector – 16mm <sup>2</sup>	32
TPQH3411-22.2-2	E107984-1	15	32	22.2	Connector – 16mm <sup>2</sup>	35
TPQH3411-28.2-2	E107985-1	19	38	28.2	Connector – 16mm <sup>2</sup>	38
TPQH3411-32.5-2	E107898-1	22	45	32.5	Connector – 35mm <sup>2</sup>	52
TPQH3411-44.4-2	E107899-1	30	60	44.4	Connector – 35mm <sup>2</sup>	55
TPQH3411-54.8-2	E107900-1	37	75	54.8	Connector – 35mm <sup>2</sup>	63
TPQH3411-66.7-2	E107986-1	45	90	66.7	Connector – 35mm <sup>2</sup>	72
TPQH3411-81.6-2	E107987-1	55	110	81.6	Connector – 50mm <sup>2</sup>	75
TPQH3411-111-2	E107988-1	75	150	111	Connector – 50mm <sup>2</sup>	123
TPQH3411-134-2	E107989-1	90	180	134	Connector – 50mm <sup>2</sup>	142
TPQH3411-164-3	E107990-1	110	210	164	Busbar – 30x5	165
TPQH3411-197-3	E107991-1	132	260	197	Busbar – 40x5	182
TPQH3411-240-3	E107992-1	160	320	240	Busbar – 40x5	210
TPQH3411-300-3	E107993-1	200	400	300	Busbar – 50x5	220
TPQH3411-376-3	E107994-1	250	530	376	Busbar – 50x8	330

# Mechanical Drawing

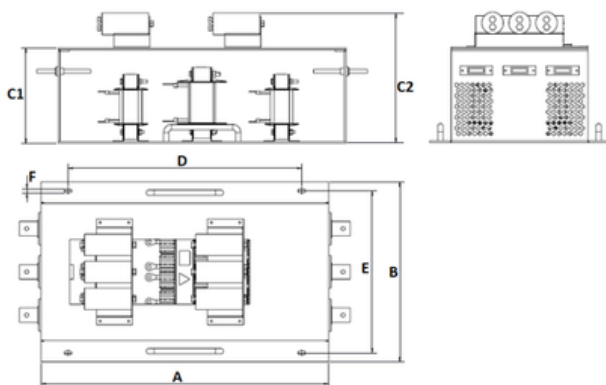
1.1kW to 55kW



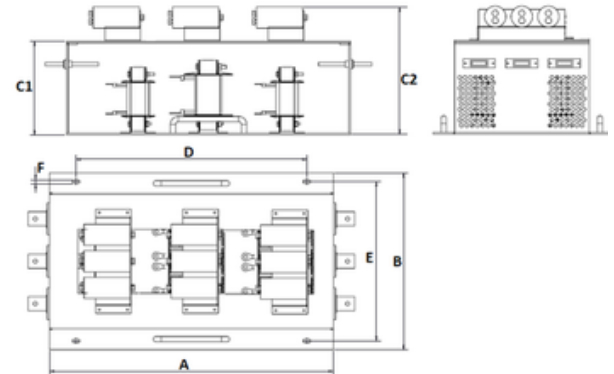
75kW & 90kW



110kW & 132kW



160kW to 250kW



## Mechanical dimensions

Model Number	Part Number	A	B	C1	C2 (Max)	D	E	F
TPQH3411-1.63-2	E107978-1	360	160	150	220	340	120	7
TPQH3411-3.26-2	E107979-1	360	160	150	220	340	120	7
TPQH3411-5.93-2	E107980-1	425	180	180	260	405	120	7
TPQH3411-8.17-2	E107981-1	483	210	180	260	460	150	7
TPQH3411-11.1-2	E107982-1	483	210	180	260	460	150	7
TPQH3411-16.3-2	E107983-1	560	260	200	300	540	180	11
TPQH3411-22.2-2	E107984-1	560	260	200	300	540	180	11
TPQH3411-28.2-2	E107985-1	560	260	200	300	540	180	11
TPQH3411-32.5-2	E107898-1	705	290	260	380	680	220	11
TPQH3411-44.4-2	E107899-1	705	290	260	380	680	220	11
TPQH3411-54.8-2	E107900-1	705	290	260	380	680	220	11
TPQH3411-66.7-2	E107986-1	705	290	260	380	680	220	11
TPQH3411-81.6-2	E107987-1	705	290	260	380	680	220	11
TPQH3411-111-2	E107988-1	960	353	350	450	920	280	11
TPQH3411-134-2	E107989-1	960	353	350	450	920	280	11
TPQH3411-164-3	E107990-1	1150	462	380	500	1115	390	11
TPQH3411-197-3	E107991-1	1150	462	380	500	1115	390	11
TPQH3411-240-3	E107992-1	1150	462	380	500	1115	390	11
TPQH3411-300-3	E107993-1	1150	462	380	500	1115	390	11
TPQH3411-376-3	E107994-1	1400	550	480	600	1348	480	11

### NOTE:

- All dimensions are in mm. Tolerance Applicable ( $\pm 10$ mm).
- Drawings/Dimensions provided above are for reference only. Exact dimensions will be provided at the time of production.

## Filter Power Terminals

Rated Load Power (kW)	Screw Thread (Metric)	Connector (mm <sup>2</sup> )	Flex Wire (mm <sup>2</sup> )	Screw Torque value (Nm)
1.1 and 2.2	M3	4	2.5-4	0.5
4 to 7.5	M4	6	4-6	0.8
11 to 19	M4	16	6-16	1.2
22 to 45	M6	35	10-50	2.5
55 to 90	M6	50	10-70	3

## Inlet air flow required for cooling

Rated Load Power (kW)	Minimum air Volume (m <sup>3</sup> /h)
1.1 to 7.5	0
11 to 19	130
22 to 55	210
75 & 90	410
110 to 200	620
250	820

## Filter Earth Terminals

Rated Load Power (kW)	Screw Thread (Metric)	Screw Torque value (Nm)
1.1 to 7.5	M5	2.2
11 to 19	M6	4
22 to 45	M8	9
55 to 200	M10	17
250	M12	25

Note: External air flow required for filter configurations without embedded ventilation

## Filter installation

In order to ensure sufficient air flow, keep a clearance between the device, wall and other components of minimum 150mm above, 100mm on the side and for floor mounted ones 150mm below the filter. Additional work to access the device, caused by not respected clearance distances, will be accounted separately. It must be ensured that the environmental temperature is kept below the maximum allowed temperature with appropriate thermal management (e.g. cabinet cooling).

