


**Features:**

- Reduction of main harmonics
- Impedance at 4%
- Protection of motor drive electronics
- Limitations of inrush currents
- Prevention from nuisance tripping caused by power line voltage spikes.
- Reduce Power Distortion and Low Ripple
- Comply with Industry standards

**Applications:**

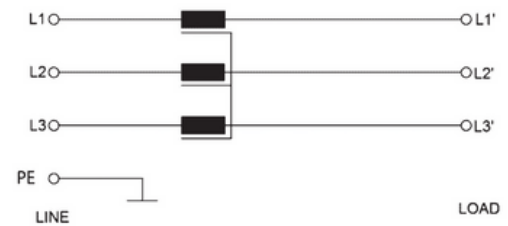
- Motor drives and Various adjustable speed drive systems, such as: Elevators, Robotics, and machinery
- Harmonics Reduction
- Process Automation Equipment

**DATASHEET**
**THREE PHASE AC LINE REACTOR  
TPQR-4**

These series range of AC line reactors are designed to be used in Power distribution (Line side of drive) and provide input impedance, which helps reduce harmonic distortion and increase VFD component lifetime

**Technical Specifications:**

Maximum Continuous Operating Voltage	:3x380 to 480 VAC $\pm$ 10 %
Operating Frequency	:50/60Hz
Current ratings	:1.76A to 1010A @ 45°C
Impedance	:4% at 400 VAC, 50 Hz at rated current
High Potential test voltage	:2000 VAC for 2 sec(L-G)
Overload Capability	:1.6 times of rated current for 1 Min/hr
Design Corresponding to	:EN 61558-2-20, EN 60076-6, UL 508
Temperature range	:-45°C to +100°C
Climatic Category	:45/100/21
Type of Cooling	:Natural Cooling AN
Protection Category	:IP 00
Insulation Class	:Class F
Voltage Drop	:9.2V ( $\pm$ 20%)

**Type Circuit Diagram:**


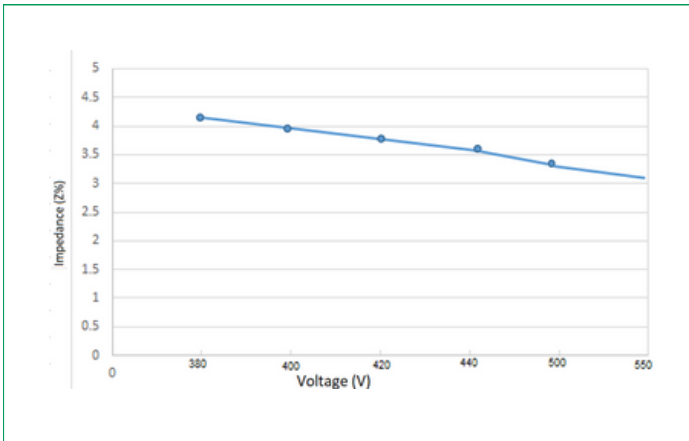
## Ordering Information

Model Number	Part Number	Rated Current@45°C (A)	Rated Power@250V (KW)	Rated Power (HP)	Inductance (mH)	Termination	Min.Weight (Kgs)
TPQR-43400-1.8-C3	E109348-1	1.76	1.32	1.77	16.7	Connector-2.5mm2	1.3
TPQR-43400-2.4-C3	E109349-1	2.41	1.8	2.42	12.23	Connector -2.5mm2	1.3
TPQR-43400-3.5-C3	E109350-1	3.53	2.64	3.54	8.34	Connector -2.5mm2	1.4
TPQR-43400-5-C3	E109351-1	5	3.74	5.02	5.88	Connector -2.5mm2	1.4
TPQR-43400-6-C3	E109352-1	6	4.49	6.02	4.9	Connector - 4mm2	1.5
TPQR-43400-6.5-C3	E109353-1	6.42	4.8	6.44	4.6	Connector - 4mm2	1.5
TPQR-43400-9-C3	E109354-1	8.82	6.6	8.85	3.34	Connector - 4mm2	1.6
TPQR-43400-10-C3	E109355-1	10	7.48	10.03	2.94	Connector - 4mm2	1.8
TPQR-43400-12-C3	E109356-1	12.03	9	12.07	2.45	Connector - 4mm2	1.9
TPQR-43400-13-C3	E109357-1	13	9.73	13.04	2.27	Connector - 4mm2	1.9
TPQR-43400-15-C3	E109358-1	15	11.22	15.05	1.96	Connector - 4mm2	3
TPQR-43400-16-C3	E109359-1	16	11.97	16.05	1.84	Connector - 4mm2	3
TPQR-43400-18-C3	E109360-1	17.64	13.2	17.69	1.67	Connector - 4mm2	3
TPQR-43400-20-C3	E109361-1	20	14.96	20.06	1.47	Connector - 4mm2	3
TPQR-43400-24-C3	E109362-1	24.06	18	24.13	1.22	Connector - 6mm2	3.5
TPQR-43400-25-C3	E109363-1	25	18.71	25.08	1.18	Connector - 6mm2	3.5
TPQR-43400-26-C3	E109364-1	26	19.45	26.08	1.13	Connector - 6mm2	3.5
TPQR-43400-30-C3	E109365-1	29.67	22.2	29.76	0.99	Connector - 6mm2	3.5
TPQR-43400-32-L3	E109366-1	32	23.94	32.1	0.92	Cable Lugs - 16mm2	8
TPQR-43400-35-L3	E109367-1	35.28	26.4	35.39	0.83	Cable Lugs - 16mm2	8
TPQR-43400-40-L3	E109368-1	40	29.93	40.12	0.74	Cable Lugs - 16mm2	8.2
TPQR-43400-45-L3	E109369-1	45	33.67	45.14	0.65	Cable Lugs - 16mm2	8.2
TPQR-43400-48-L3	E109370-1	48.11	36	48.25	0.61	Cable Lugs - 16mm2	8.2
TPQR-43400-55-L3	E109371-1	55	41.15	55.17	0.53	Cable Lugs - 16mm2	8.2
TPQR-43400-59-L3	E109372-1	59.34	44.4	59.52	0.5	Cable Lugs - 35mm2	8.5
TPQR-43400-65-L3	E109373-1	65	48.64	65.2	0.45	Cable Lugs - 35mm2	8.5
TPQR-43400-70-L3	E109374-1	70	52.38	70.21	0.42	Cable Lugs - 35mm2	8.7
TPQR-43400-72-L3	E109375-1	72.17	54	72.39	0.41	Cable Lugs - 35mm2	8.7
TPQR-43400-75-L3	E109376-1	75	56.12	75.23	0.41	Cable Lugs - 35mm2	8.7
TPQR-43400-80-L3	E109377-1	80	59.86	80.24	0.37	Cable Lugs - 35mm2	8.7
TPQR-43400-85-L3	E109378-1	85	63.6	85.26	0.35	Cable Lugs - 35mm2	9
TPQR-43400-90-L3	E109379-1	88.21	66	88.48	0.33	Cable Lugs - 35mm2	9
TPQR-43400-100-B3	E109380-1	100	74.82	100.3	0.29	Busbar - 20x4	15.5
TPQR-43400-110-B3	E109381-1	110	82.31	110.33	0.27	Busbar - 20x4	15.5
TPQR-43400-115-B3	E109382-1	115	86.05	115.35	0.26	Busbar - 20x4	15.5
TPQR-43400-120-B3	E109383-1	120.28	90	120.64	0.24	Busbar - 20x4	15.5
TPQR-43400-125-B3	E109384-1	125	93.53	125.38	0.24	Busbar - 25x4	15.5
TPQR-43400-130-B3	E109385-1	130	97.27	130.39	0.23	Busbar - 25x4	15.5
TPQR-43400-145-B3	E109386-1	144.34	108	144.77	0.2	Busbar - 25x4	15.5
TPQR-43400-160-B3	E109387-1	160	119.72	160.48	0.18	Busbar - 25x4	25
TPQR-43400-180-B3	E109388-1	176.41	132	176.94	0.17	Busbar - 25x4	25
TPQR-43400-200-B3	E109389-1	200	149.65	200.6	0.15	Busbar - 30x5	25
TPQR-43400-215-B3	E109390-1	211.7	158.4	212.34	0.14	Busbar - 30x5	25
TPQR-43400-220-B3	E109391-1	220	164.61	220.66	0.13	Busbar - 40x5	25

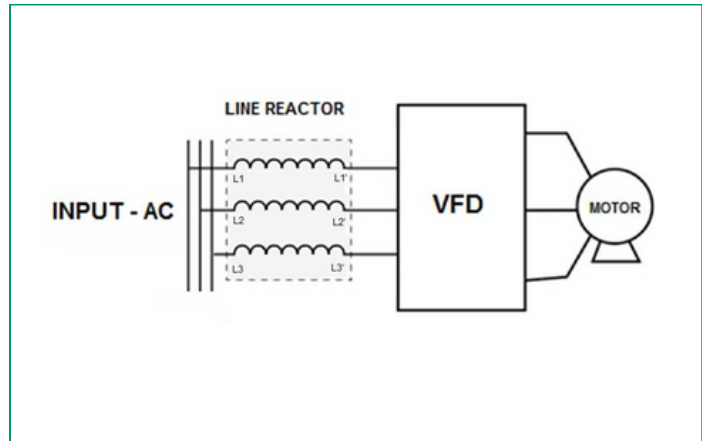
**Note:** Rated Power (KW) is calculated for rated current, 250VAC and Cos $\phi$  = 0.9

Model Number	Part Number	Rated Current@45°C (A)	Rated Power@250V (KW)	Rated Power (HP)	Inductance (mH)	Termination	Min.Weight (Kgs)
TPQR-43400-260-B3	E109392-1	256.6	192	257.37	0.11	Busbar – 40x5	40
TPQR-43400-300-B3	E109393-1	300	224.47	300.9	0.1	Busbar – 40x5	40
TPQR-43400-320-B3	E109394-1	320.75	240	321.72	0.09	Busbar – 40x5	40
TPQR-43400-400-B3	E109395-1	400.94	300	402.15	0.07	Busbar – 50x5	40
TPQR-43400-510-B3	E109396-1	505.18	378	506.7	0.06	Busbar – 50x5	70
TPQR-43400-570-B3	E109397-1	569	425.75	570.71	0.05	Busbar – 50x8	70
TPQR-43400-600-B3	E109398-1	600	448.95	601.81	0.05	Busbar – 50x8	70
TPQR-43400-645-B3	E109399-1	645	482.62	646.94	0.05	Busbar – 50x8	90
TPQR-43400-700-B3	E109400-1	700	523.77	702.11	0.04	Busbar – 50x8	90
TPQR-43400-750-B3	E109401-1	750	561.18	752.26	0.04	Busbar – 50x8	110
TPQR-43400-800-B3	E109402-1	802	600.09	804.41	0.04	Busbar – 50x8	110
TPQR-43400-850-B3	E109403-1	850	636.01	852.56	0.03	Busbar – 50x8	110
TPQR-43400-900-B3	E109404-1	900	673.42	902.71	0.03	Busbar – 50x8	125
TPQR-43400-1000-B3	E109405-1	1010	756.73	1013.04	0.03	Busbar – 50x8	125

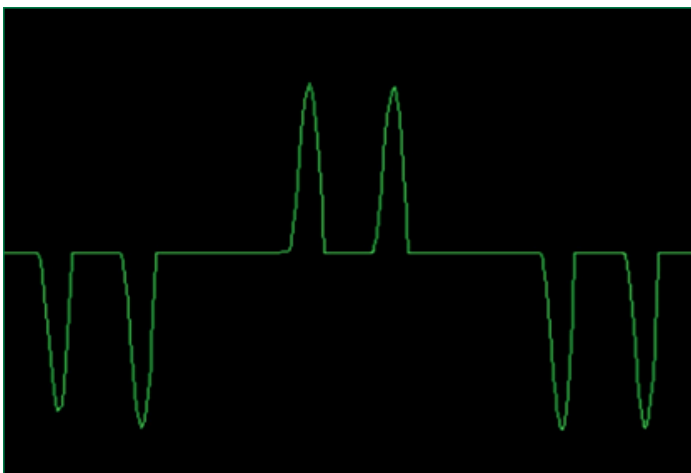
### Impedance versus Voltage Plot



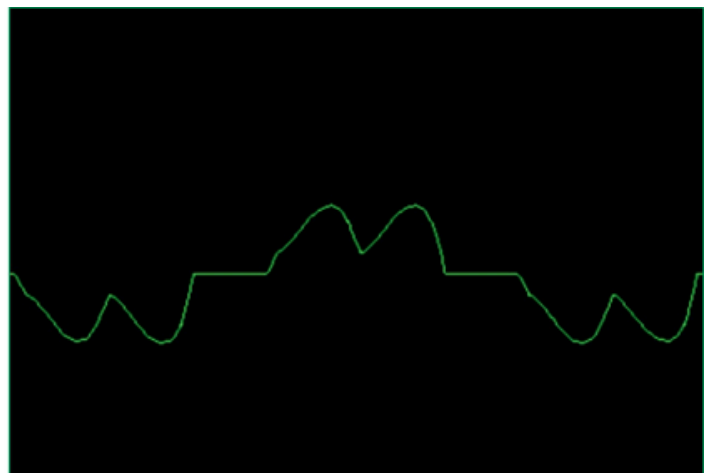
### Connection Diagram



### Advantages of having Line Reactor

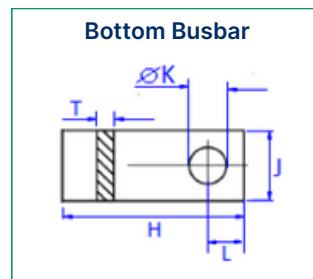
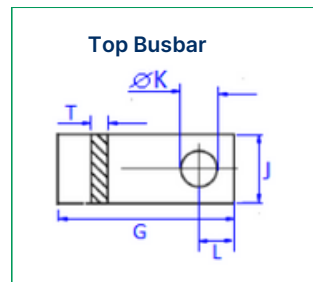
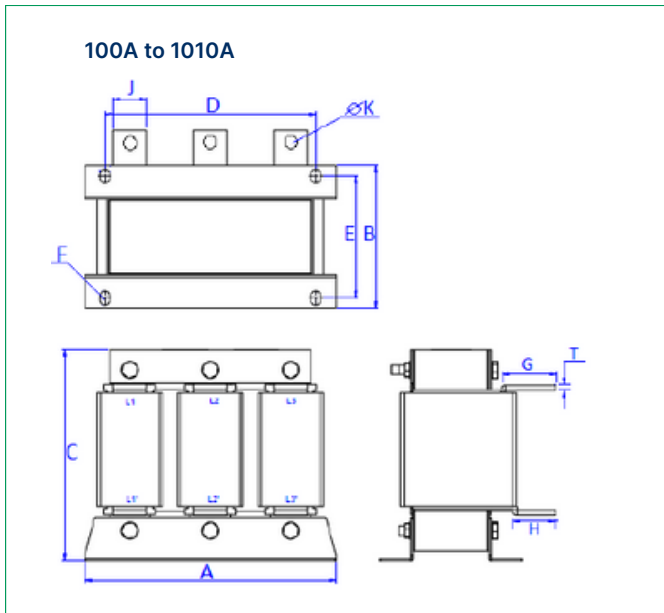
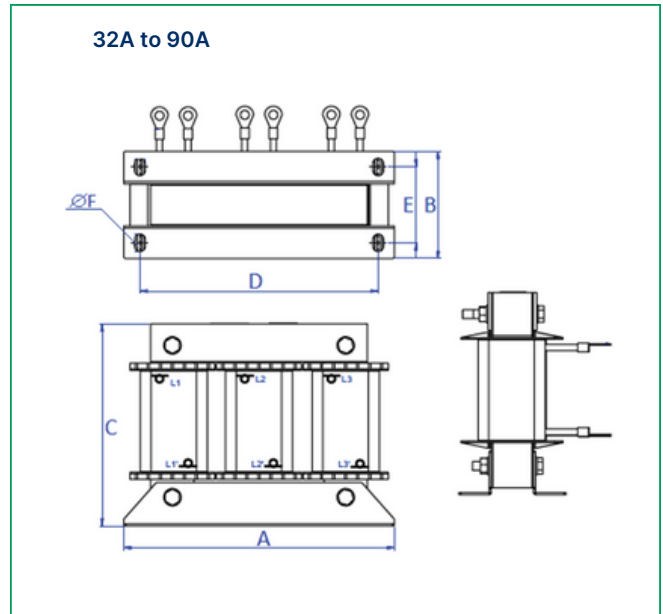
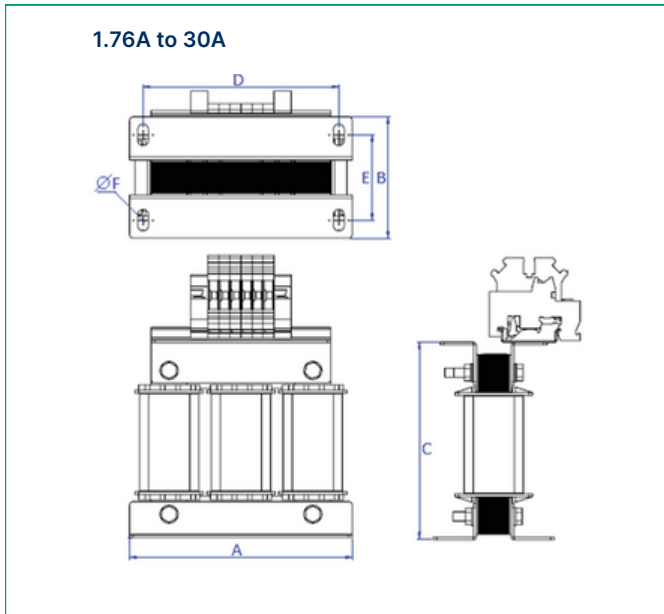


Without Line Reactor



With Line Reactor

## Mechanical Dimensions



## Termination Details

Connector				
Rated Current (A)	mm <sup>2</sup>	Wire Range	Stripping Length (mm)	Tightening Torque (Nm)
1.76A to 5A	2.5	22 to 12AWG	8	0.4
6A to 20A	4	22 to 10AWG	8	0.5
24A to 29.67A	6	22 to 8AWG	9	0.8

Cable Lugs			
Rated Current (A)	mm <sup>2</sup>	Hole Ø (mm)	Termination Lead Length (mm)
32A to 55A	16	8.2	100
59.34A to 88.21A	35	10.2	100

## Mechanical dimensions

Model Number	A	B	C	D	E	F	G	H	J	T	L	ØK
TPQR-43400-1.8-C3	124	68	115	109	48	12x6	-	-	-	-	-	-
TPQR-43400-2.4-C3	124	68	115	109	48	12x6	-	-	-	-	-	-
TPQR-43400-3.5-C3	124	68	115	109	48	12x6	-	-	-	-	-	-
TPQR-43400-5-C3	124	68	115	109	48	12x6	-	-	-	-	-	-
TPQR-43400-6-C3	124	68	115	109	48	12x6	-	-	-	-	-	-
TPQR-43400-6.5-C3	124	68	115	109	48	12x6	-	-	-	-	-	-
TPQR-43400-9-C3	124	68	115	109	48	12x6	-	-	-	-	-	-
TPQR-43400-10-C3	124	68	115	109	48	12x6	-	-	-	-	-	-
TPQR-43400-12-C3	124	68	115	109	48	12x6	-	-	-	-	-	-
TPQR-43400-13-C3	124	68	115	109	48	12x6	-	-	-	-	-	-
TPQR-43400-15-C3	139	88	115	124	68	12x6	-	-	-	-	-	-
TPQR-43400-16-C3	139	88	115	124	68	12x6	-	-	-	-	-	-
TPQR-43400-18-C3	139	88	115	124	68	12x6	-	-	-	-	-	-
TPQR-43400-20-C3	139	88	115	124	68	12x6	-	-	-	-	-	-
TPQR-43400-24-C3	144	70	140	129	50	12x6	-	-	-	-	-	-
TPQR-43400-25-C3	144	70	140	129	50	12x6	-	-	-	-	-	-
TPQR-43400-26-C3	144	70	140	129	50	12x6	-	-	-	-	-	-
TPQR-43400-30-C3	144	70	140	129	50	12x6	-	-	-	-	-	-
TPQR-43400-32-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-35-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-40-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-45-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-48-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-55-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-59-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-65-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-70-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-72-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-75-L3	200	101	165	186	80	15x8.5	-	-	-	-	-	-
TPQR-43400-80-L3	250	99	186	220	70	16x10	-	-	-	-	-	-
TPQR-43400-85-L3	250	99	186	220	70	16x10	-	-	-	-	-	-
TPQR-43400-90-L3	250	99	186	220	70	16x10	-	-	-	-	-	-
TPQR-43400-100-B3	300	110	206	250	81	16x10	60	40	20	4	15	8
TPQR-43400-110-B3	300	110	206	250	81	16x10	60	40	20	4	15	8
TPQR-43400-115-B3	300	110	206	250	81	16x10	60	40	20	4	15	8
TPQR-43400-120-B3	300	110	206	250	81	16x10	60	40	20	4	15	8
TPQR-43400-125-B3	300	110	206	250	81	16x10	60	40	25	4	15	10
TPQR-43400-130-B3	300	110	206	250	81	16x10	60	40	25	4	15	10
TPQR-43400-145-B3	300	110	206	250	81	16x10	60	40	25	4	15	10
TPQR-43400-160-B3	320	147	260	275	110	20x15	60	40	25	4	15	10
TPQR-43400-180-B3	320	147	260	275	110	20x15	60	40	25	4	15	10
TPQR-43400-200-B3	320	147	260	275	110	20x15	60	40	30	5	15	10
TPQR-43400-215-B3	320	147	260	275	110	20x15	60	40	30	5	15	10
TPQR-43400-220-B3	320	147	260	275	110	20x15	60	40	40	5	20	12
TPQR-43400-260-B3	375	163	315	315	129	20x15	60	40	40	5	20	12
TPQR-43400-300-B3	375	163	315	315	129	20x15	60	40	40	5	20	12
TPQR-43400-320-B3	375	163	315	315	129	20x15	60	40	40	5	20	12
TPQR-43400-400-B3	375	163	315	315	129	20x15	60	40	50	5	20	12

Model Number	A	B	C	D	E	F	G	H	J	T	L	ØK
TPQR-43400-510-B3	375	203	315	315	170	20x15	60	40	50	5	20	12
TPQR-43400-570-B3	375	203	315	315	170	20x15	60	40	50	8	20	12
TPQR-43400-600-B3	375	203	315	315	170	20x15	60	40	50	8	20	12
TPQR-43400-645-B3	375	231	315	315	195	20x15	60	40	50	8	20	12
TPQR-43400-700-B3	375	231	315	315	195	20x15	60	40	50	8	20	12
TPQR-43400-750-B3	375	255	315	315	218	20x15	60	40	50	8	20	12
TPQR-43400-800-B3	375	255	315	315	218	20x15	60	40	50	8	20	12
TPQR-43400-850-B3	375	255	315	315	218	20x15	60	40	50	8	20	12
TPQR-43400-900-B3	375	255	315	315	218	20x15	60	40	50	8	20	12
TPQR-43400-1000-B3	375	255	315	315	218	20x15	60	40	50	8	20	12

**Note:** All dimensions are in mm. Tolerance Applicable for A,B,C,D,E,G,H ( $\pm 5\text{mm}$ ).