



### DIMENSION & WEIGHT

Model No.	Capacity (KVAR)	Dimensions (mm) ± 10 (mm)			Approx. Weight (Kg) ± 5%
		L	D	H	
QP05033V4	50	900	500	1250	200
QP10033V4	100	1000	500	1450	250
QP15033V4	150	1100	600	1550	300
QP20033V4	200	1400	700	1550	350

Special: The design of QUAL POWER is tailor made to specific project requirement

### COMPARISON OF QUALPOWER WITH CAPACITOR BASED VAR COMPENSATOR

SI No.	Feature	QUALPOWER	Capacitor based VAR compensator
1	Reliability	High	Low
2	Life	> 25 years	< 5 years
3	Power Factor (Pf)	Pf > 0.99 is achievable with all types of loads even with high frequency & fast changing loads	Cannot improve pf with high frequency & fast changing loads
4	Harmonic Compensation	Achievable up to 33rd order	Not possible
5	3Ø Load Balancing	Possible	Not possible
6	Maintenance	Negligible	High maintenance with frequent capacitor failure

## SIGNOTRON

SIGNOTRON (INDIA) PRIVATE LIMITED  
SIGNOTRON TOWER, Plot: J 1-6, Block: EP, Sector - V,  
Salt Lake Electronics Complex, Kolkata - 700091, INDIA  
signomail@vsnl.net | sabyasachi@signotron.com | sibajig@signotron.com  
+91 33 23573481, +91 33 23573869  
S. Das: +91 9831290695 | S. Ghosh: +91 8420061978

# QUALPOWER

STATIC SYNCHRONOUS COMPENSATOR



AVOID PF PENALTY  
**UPTO 7%**  
OF ENERGY COST

EARN PF REBATE  
**UPTO 9%**  
OF ENERGY COST

ELEMINATE  
HARMONIC PENALTY  
**UPTO 15%**  
OF ENERGY COST

# QUALPOWER



Most of the Industrial loads consist of induction machines which draws magnetizing current to produce magnetic field and hence work at low Pf, which is even lower (0.2-0.3) at light loads. Other inductive machines such as transformers, generators, AC lamps & non-linear loads like diode rectifiers, electric furnaces work at low Pf too. Non-linear loads also cause non-sinusoidal current wave forms which inject high percentage of harmonics to the system and may damage other sensitive equipments. Poor Power Factor and/or harmonics are severely penalised by Power Supply Agencies. So installation of equipments to mitigate PF and harmonics usually have payback of less than a year, which means a ROI of more than 100%.

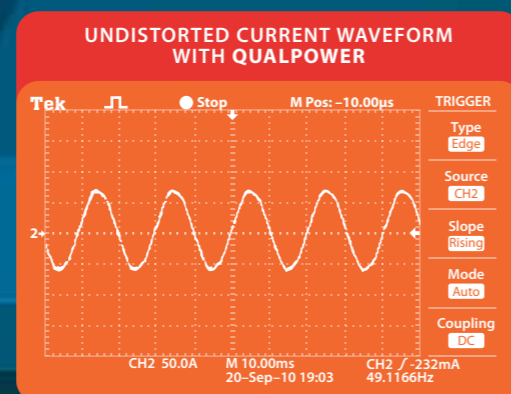
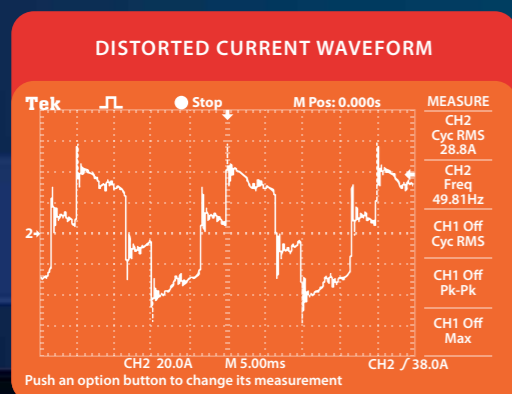
## POWER OPTIMIZATION

- Provides steady state reactive and dynamic compensation for fast changing loads like welding, ARC furnace etc.
- Eliminate harmonics up to the 33rd order
- Restricts input current THD<5%
- Ensures a steady Power Factor of almost unity for all types of loads (leading & lagging) and eliminates penalty imposed by Power utilities for low power factor
- Mitigates voltage fluctuation & light flickers
- Ensures Load balancing between phases
- Ensures maximum rebate benefit offered by power utility boards which can be up to 9%\* of the total cost of energy.
- Ensures longer service life for equipments that consumes power where QUALPOWER is connected

## BENEFITS

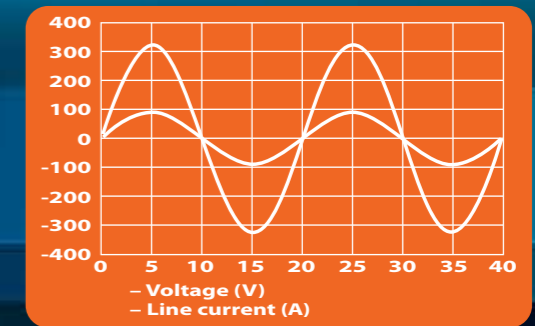
### REDUCTION OF HARMONICS

Non-linear loads generate harmonic currents. The harmonics current loads the network and voltage distortions. Distorted voltage may cause malfunctions in sensitive computerised devices & other process control equipment



### NEAR UNITY POWER FACTOR

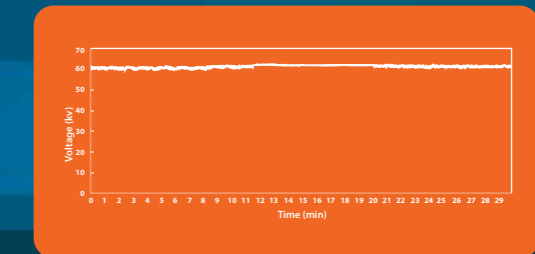
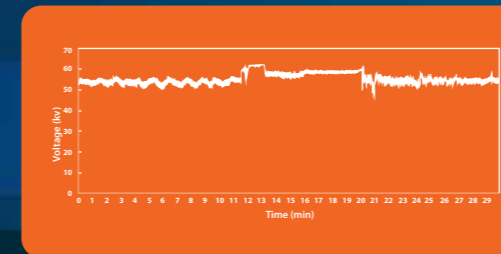
Qualpower ensures almost unity power factor for all types of load (lagging and leading) which not only avoids penalty for low power factor but also ensures maximum rebate benefit for near unity power factor as offered by respective power utility boards.



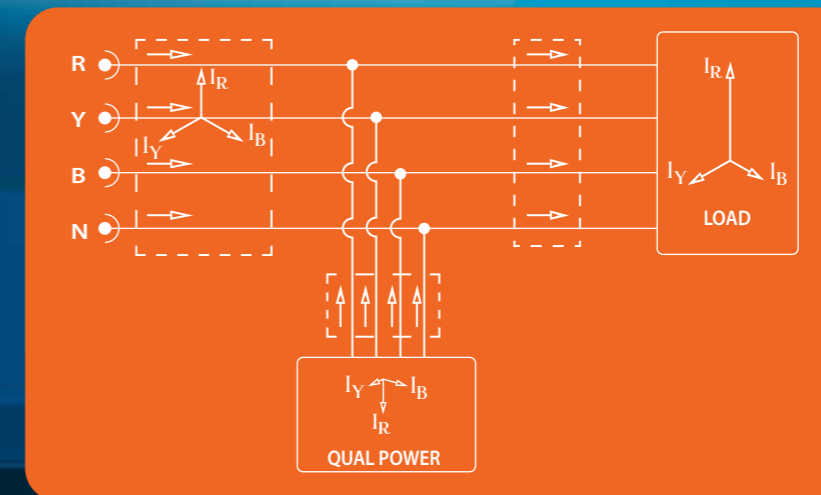
### FLICKER REDUCTION

Rapidly varying reactive power causes voltage fluctuations at the point of common coupling. The human eye perceives this frequency of voltage fluctuations as flickering lights. Qualpower reduces the flicker.

(Applying only reactive power compensation results in stabilizing the voltage level and decreasing voltage fluctuations significantly)



### LOAD BALANCING BY COMPENSATION OF UNBALANCE CURRENT



### APPLICATIONS

- All kind of bulk power consumers with heavy motor loads
- Offices, hospital, Shopping Malls (Harmonic cancellation)
- Industries with electrical welding system, induction furnaces, Arc furnaces and variable speed drives
- Any other industries having non-linear loads like Diode rectifiers/chargers, SMPS, Servers, Drives etc. and inductive and capacitive load
- Plastic Industries (Extruders, injection moulders)