

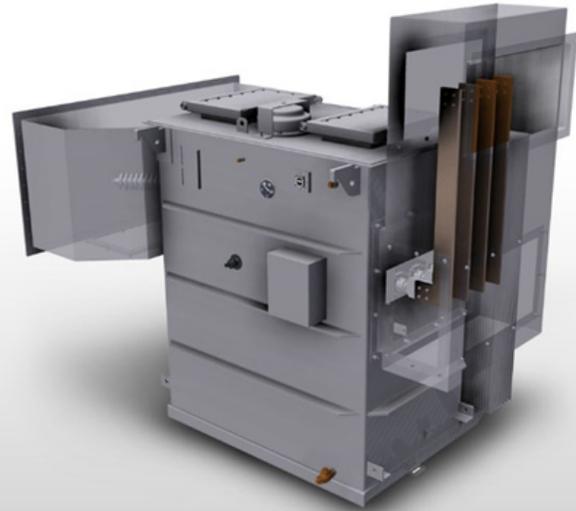
PQI adds Medium Voltage, Liquid-Filled Power Transformers

PQI is pleased to announce that it has added a complete line of ultra-efficient, medium voltage class, liquid-filled power transformers to its product lineup. These transformers are also available in pad mount, submersible and pole mounted configurations. The three-phase version of each transformer variant is also available as a TransFilter™, making PQI the only manufacturer of harmonic mitigating, liquid-filled transformers.

Power Transformers and **TransFilters™** are available in standard ratings between 500kVA and 15MVA, with primary voltages up to 72kV, at standard BIL ratings for each voltage class.

Like their dry-type and cast coil Type PV alternatives, **Type PVL Power TransFilters™** are specifically designed to mitigate both positive- and negative-sequence harmonic currents, generated by three-phase nonlinear loads, and the additional zero-sequence harmonic currents, generated by single-phase-to-neutral connected nonlinear loads.

Similarly, **Type PYL Power TransFilters™** are specifically designed to mitigate positive- and negative-sequence harmonic currents generated by three-phase nonlinear loads.



Power TransFilter™
configured for a primary and secondary switchboard lineup



Three-Phase, Dead Front Power Transformer or TransFilter™



Power Transformer or TransFilter™
configured for an open primary and secondary cable connection

Utilities often require utility- or customer-owned medium voltage power transformers, which supply power to a facility, to be wye:wye connected, with their H_0 and X_0 terminals solidly grounded. This is their medium voltage feeder circuit protection scheme requirement.

The secondary voltage of a wye:wye connected utility transformer is normally 480/277V or 208/120V. In either case, their 277V or 120V phase-to-neutral-connected nonlinear loads-generate zero-sequence harmonic currents will pass through the wye:wye connection to pollute the utility's' medium voltage distribution system.

Customer owned facilities sometimes include distribution system devices that present a low zero-sequence impedance to these utility-side harmonic currents. The low zero-sequence impedance device will shunt these currents, causing an increase in 'penalty losses' in the wye:wye-connected power transformer and its secondary circuit, between the power transformer and the low impedance device. These unpredictable zero-sequence current magnitudes will sometimes burden the distribution system beyond its capacity.

To remedy this power quality and energy efficiency problem, PQI offers its **Type ZYL Power TransFilter™** that blocks all utility-side zero-sequence harmonic currents from entering the customer-owned distribution system while providing solidly grounded primary and secondary systems to meet the utilities' feeder protection requirements.

To solve the utility distribution system harmonic pollution problem, PQI also offers the **Type YZL Power TransFilter™**. This transformer is designed to block all utility-customer-generated zero-sequence harmonics from entering the utility's medium voltage distribution system. Again, its H_0 and X_0 terminals are solidly grounded.

The primary and secondary windings of PQI's three-phase pad mounted, pole mounted and submersible transformers can be configured to match the harmonic mitigating characteristics of its various Power TransFilters™.

As an alternative to DOE 2016 efficiencies, PQI also offers Z3 (DOE CSL3), Z3+ and Z4 (DOE CSL4) efficiencies, which, under certain operating conditions, can provide an attractive financial benefit.



Power Transformer or TransFilter™
configured for primary and secondary cable connection



Three-Phase, Live Front Power Transformer or TransFilter™



Three-Phase Pole Mounted Transformer or TransFilter™



Three-Phase Submersible Transformer or TransFilter™

