

# ICMseries Accessories: Filters

## HV Filters

Partial discharge measurements are conducted in frequency ranges, which are partly covered by radio transmission. Further, impulse noise interference hamper sensitive measurements. Besides using small filters in the acquisition chain, power filters allow removing such disturbance from the high voltage supply. Power Diagnostix offers a range of different high voltage filters.

$\pi$ -Filters are for three-phase systems up to 2 kV, whereas the single-phase T-filters are used for testing with higher voltages. Those filters are installed inline between voltage source and device under test.

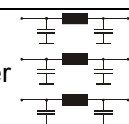
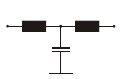
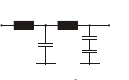
T-filters with a built-in coupling capacitor are also referred to as TCC-filters. They are very useful for onsite tests with the *ICMcompact*. They serve to block noise resulting from the voltage source (e. g. a VLF source or a generator). In addition, those TCC-filters can be used as a decoupling unit.

For gating purposes, filters that are used in combination with an *ICMflex* can be equipped with a high frequency current transformer (HF CT) and a BNC output.



HV filter T100/100

Examples for standard filters:

Type	Name	$U_{N,rms}$	$I_{N,rms}$	Size (W x H x D) cm
3x $\pi$ -Filter 	3PI1/20	1 kV	20 A	40 x 17 x 46
	3PI1/50	1 kV	50 A	40 x 17 x 46
	3PI2/20	2 kV	20 A	40 x 17 x 46
T-Filter 	T30/1	30 kV	1 A	35 x 67 x 35
	T30/100	30 kV	100 A	50 x 67 x 35
	T50/1	50 kV	1 A	35 x 80 x 35
	T50/100	50 kV	100 A	50 x 80 x 45
	T100/1	100 kV	1 A	35 x 100 x 35
	T100/100	100 kV	100 A	50 x 100 x 45
T-Filter incl. coupling capacitor 	TCC30/1	30 kV	1 A	50 x 67 x 35
	TCC50/1	50 kV	1 A	50 x 80 x 35
	TCC100/1	100 kV	1 A	50 x 100 x 45

HV filters of different ratings ( $U_N$ ,  $I_N$ ) are available on request.



3PI 2/20 Filter



T 50/1



T100/100



TCC100/1  
Filter & Coupler

### GF50 Ground Filter

Partial discharge (PD) measurement requires a reasonable noise-free environment. Power Diagnostix' GF50 filter box is designed to reduce high frequent disturbance signals from the ground leads. It can be used for HF separation of the test specimen from the ground potential of the power supply or other HV equipment within the environment without influencing the power frequency. The efficiency strongly depends on the general earthing within the laboratory. A splitted ground lead or copper band can be connected to the multi contact connectors or alternatively to the wing screws beside.



Ground filter GF50

### Filter Models for Special Applications

Besides the standard HV filters, Power Diagnostix offers various filters for special high voltage applications, including e. g. line filters for cable testing, ground filters to block noise transmission via the earthing system, and filters with AC current and AC voltage measurement. With the latter a high voltage filter is combined with a high voltage divider and a high current transformer in one unit; conventionally on rolls, or upside-down, as shown.



Line filter LF350 with  
built-in blocking impedance



HV filter TVC100/123  
with voltage and current measurement

The versatility of the Power Diagnostix line of PD detection equipment is due in large part to the range of accessories available for the ICMseries instruments. Each ICMseries data acquisition unit can be combined with different accessories to suit specific applications.