

# TAP CHANGER

The ESI Tap Changer Filter Unit was developed in response to the utility industry's desire to reduce operation and maintenance costs and increase system reliability. On-line oil filtration has proven to be an effective means of combating LTC problems. Tap Changers retrofitted with an ESI Tap Changer Filter Unit enjoy the following:

- Consistent high oil dielectric strength
- Extended maintenance / inspection intervals
- Reduce contact wear and coking
- Extended oil life
- Reduced contact erosion via reduced re-strikes during tap changing

ESI's Tap Changer Filter Unit is recommended for installation on tap changers that:

- Perform a high number of operations
- Exhibit consistent slugging conditions
- Have a high tap-to-tap voltage difference
- Require frequent attention

Quality components and comprehensive design features have made ESI's Tap Changer Filter Unit and industry standard for on-line filtration. All components are fully enclosed in a weather proof cabinet. Operation of the unit is unattended (and controlled by a mechanical timer). A flow rate of 580 Litres/hour keeps turbulence in the LTC reservoir to a minimum and allows for maximum filter life.

## Features

### Automatic Shut-Off:

A pressure switch turns the system off when the filter is blocked. A relay can be wired to trigger remote alarms or indicator light.

### Remote Start / Timer operate:

Filter operations can be initiated by contacts activated by a tap changer operation.. If a tap changer operation has not occurred with a pre-set time, the filter will operate as programme by the timer settings.

## Applications

- SD-718P3 Superdri® dissolved water removal particulate filter cartridge comes standards for Tap Changer filtration

Other Velcon 718 series cartridges can be used in this unit for various applications. These include:

- Superdri® SD718 for maintaining low moisture levels in transformers or oil storage tanks. Each cartridge will remove 1Litre of free, emulsified and dissolved moisture.
- Aquacon AC718P4D to remove particles, free and emulsified water in transformer and lubrication oils.
- Fullers Earth LA71801B and Activated Alumina LA71801 cartridges remove acidic compounds, gums, soaps and surfactants in transformers and lubrication oils.
- Pleated filter FO718PLP3 and FO718PL05 cartridges for maximum particulate removal from circuit breakers, tap-changer and lubrication oils.



## Specifications

### Mechanical

**Flow Rate:**

580 Litres / hour

**Cabinet:**

Heavy gauge weatherproof enclosure; stainless steel construction, lift off top for easy cartridge change-out. Complete with mounting brackets.

**Dimensions:**

Depth: 360mm Width: 600mm Height: 700mm

**Pump:**

Tuthill® heavy duty self-priming positive displacement pump with built in pressure relief valve and proprietary mechanical seal designed for long leak free service life.

**Piping:**

Stainless steel tubing, JIC hydraulic fittings. External connections are ½" female BSP.

**Filter Vessel:**

Stainless steel tubing with manual vent and static pressure gauge which is epoxy coated internally and externally. No tools required for filter change out.

**Sight Glass:**

Paddle wheel type sight glass 150psi maximum working pressure for oil flow indication.

### Electrical

**Motor:**

½ hp, 115V, single phase, 1740rpm, TEFC.

**Control Box:**

NEMA 12 with high pressure switch, latching relay, magnetic contractor, with push button control and overload protector.

**Wiring:**

16ga, XLPE grade, all terminal connection. Wire lists and full electrical documentation provided with each system.

**Power Requirements:**

230VAC, single phase, 7amps

**Recommended Spares:**

SD-718P3 Superdri® Cartridge (Carbon and dissolved water removal).

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