

KLEERFLO

**FULLY AUTOMATIC SELF-CLEANING FILTER/STRAINERS...
TO STOP PROBLEMS CAUSED BY BLOCKAGES ...RELIABLY**

KLEERFLO SERVES

**AEROSPACE
AUTOMOBILE
BREWING
CHEMICAL
DAIRY
DEFENCE
DISTILLING
ELECTRICAL
FOOD
GOLF COURSES
IRRIGATION
MEMBRANES
MINERALS
MINING
MUNICIPAL WATER
MUNICIPAL SEWAGE
NUCLEAR
OIL AND GAS
PETROCHEMICAL
PHARMACEUTICALS
PLASTICS
POWER GENERATION
REFINING
RUBBER
STEEL
TEXTILES
TYRE
WIRE DRAWING**



KLEERFLO PROTECTS

**SEA AND FRESH WATER
COOLING SYSTEMS.
PLANT SUPPLY WATER.
PUMP GLAND SEAL, HEAT
EXCHANGER AND NOZZLE
PROTECTION.
EFFLUENT SYSTEMS FOR
POLYMER MAKE-UP,
SPRAY BAR PROTECTION
AND SITE USE.
MEMBRANE PRE-
FILTRATION.**

KLEERFLO FEATURES

**MINIMUM OF MOVING PARTS
WITH NO ROTATING OR
SPINNING PARTS THUS
MINIMUM OF WEAR AND
LOW MAINTENANCE.
SIMPLE ACCESS TO
SCREENING ELEMENTS
AND MORE MANAGEABLE
SIZING
MEANS EASY MAINTENANCE.
WIDE RANGE OF SCREENING
APERTURES, PRESSURES,
MANUFACTURING MATERIALS
AND CODES AVAILABLE.**

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KLEERFLO FILTERS

1. INTRODUCTION

The Kleerflo self-cleaning filter is designed to remove suspended solids from water utilising an integral backwash system. It can be supplied in a wide range of pipeline sizes, flow rates and element apertures.

A unique control system, which can be electrically or pneumatically operated, allows for automatic backwashing of the filter elements. The backwashing cycle can be initiated by pressure differential, by a timer, an external command or manually. Actuation for backwashing can be achieved utilising either compressed air or the water line pressure where this is above 200kPa.

2. PRINCIPLE OF OPERATION

Contaminated water entering at the filter inlet is allowed to pass freely through the tubular filter elements, (B), which consist of stainless steel inverted wedge wire wound spirally onto support bars and with a pitch that defines the aperture and hence the size of suspended particles that are retained. The filtered water exits at the outlet flange.

When the filter is dirty, water flow is restricted and the pressure differential between the inlet and the outlet increases. By fitting a differential pressure switch, which is fed from both

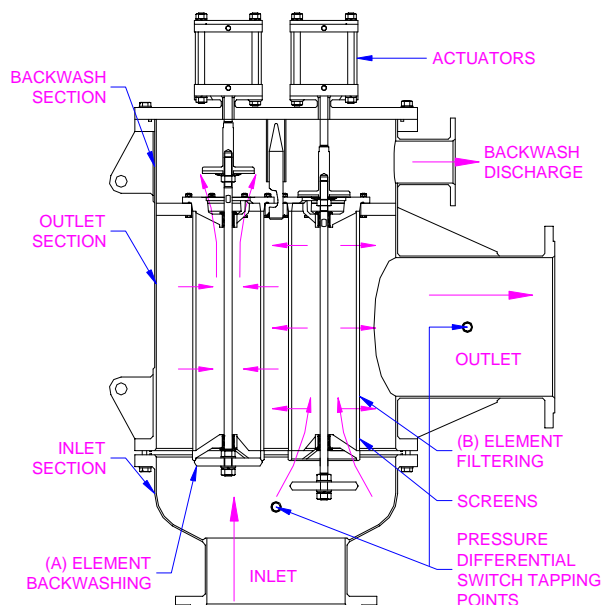
inlet and outlet pressures, the degree of dirt in the filter can be determined. A micro-switch energises the control system which automatically backwashes the filter elements. The pressure differential switch will override the built-in timer during heavy dirt loading periods. In this case the timer is reset automatically.

Backwash is achieved by simultaneously sealing the water inlet to the filter element (A) and opening the top of the element to the backwash outlet. This causes a reversal of flow on the element being backwashed with filtered water from the other element(s) passing from the outside to the inside of the element lifting the contaminate and discharging it through the backwash outlet to atmosphere. After a pre-set time the element is re-opened at the inlet and sealed at the backwash outlet. On completion of this

operation the control system causes the backwash operation to be carried out on each of the other filter elements in with a suitable dwell period between each element backwashing to allow for system recovery. A minimum of two elements is always fitted into a filter

so that during backwashing a minimal flow loss is achieved.

Units are available for flowrates up to 4,000m³/hr with line sizes up to 700mm and can be manufactured in a variety of materials and codes.



KLEERFLO FULLY AUTOMATIC SELF-CLEANING FILTER/STRAINERS

FEATURES AND ADVANTAGES

- **MINIMUM OF MOVING PARTS / NO ROTATING PARTS-SO MINIMUM WEAR**
- **MINIMUM MAINTENANCE REQUIREMENTS**
- **MINIMUM FLOW LOSS AND INTERRUPTION DURING BACKWASHING – NEVER GOES OFF LINE**
- **MINIMUM WASTED BACKWASH WATER**
- **COMPACT DESIGN – MINIMAL INSTALLATION SPACE REQUIRED**
- **CAN BE INSTALLED IN ANY POSITION / ORIENTATION**
- **SCREENING ELEMENTS ARE EASILY ACCESSED WITHOUT REMOVING FILTER BODY FROM PIPELINE**
- **AUTOMATIC INITIATION OF BACKWASH CYCLE**
- **EASY ALTERATION OF OPERATING PARAMETERS VIA DEDICATED KEYPAD CONTROLLER**
- **SIMPLE DESIGN GIVES RELIABLE PERFORMANCE**
- **REVERSAL OF FLOW FOR BACKWASHING PURPOSES GIVES POSITIVE CLEANING ACTION**
- **WIDE RANGE OF SCREENING APERTURES AVAILABLE**
- **EASY INSTALLATION INTO EXISTING PIPEWORK**
- **HAS FACILITY FOR OPERATION OF AUTOMATIC VALVES FOR USE ON SYSTEMS WITH LOW LINE PRESSURE OR WHERE IT IS DESIRABLE TO USE AN EXTERNAL SOURCE OF BACKWASH WATER**

KLEERFLO TYPICAL APPLICATIONS



Municipal WTW UK 24 m³/hr River Water Pump Gland Seal Cooling



Platinum Mine South Africa 650 m³/hr each Protection of Pump Gland Seal Cooling and Instrumentation



Chemical Industry UK Duty/Standby 1400 m³/hr each Sea Water Cooling



Automobile Industry South Africa 300 m³/hr Spray Test Facility



Municipal STW UK 109 m³/hr Final Effluent

TYPICAL SOLIDS REMOVAL

