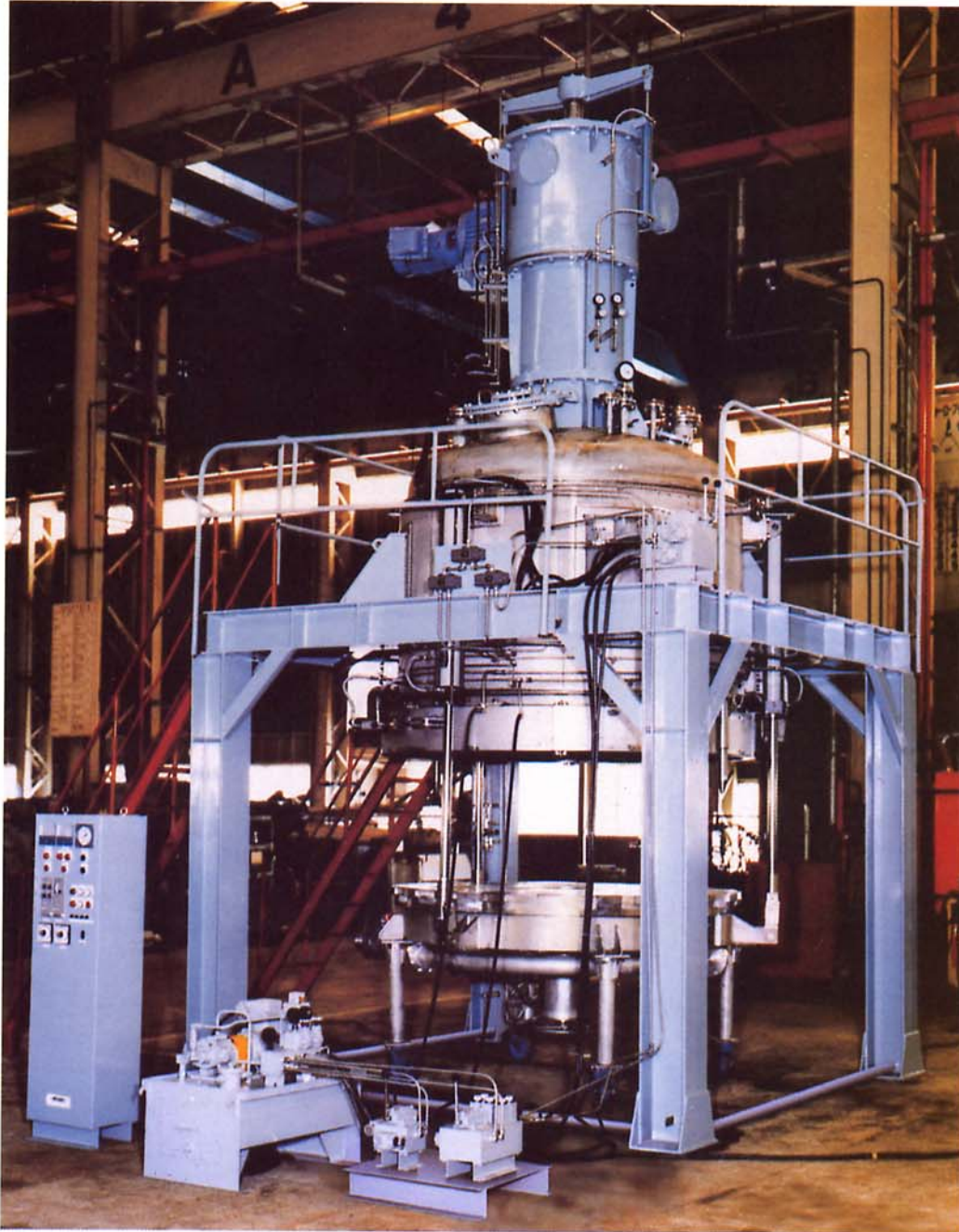




## WD Filter



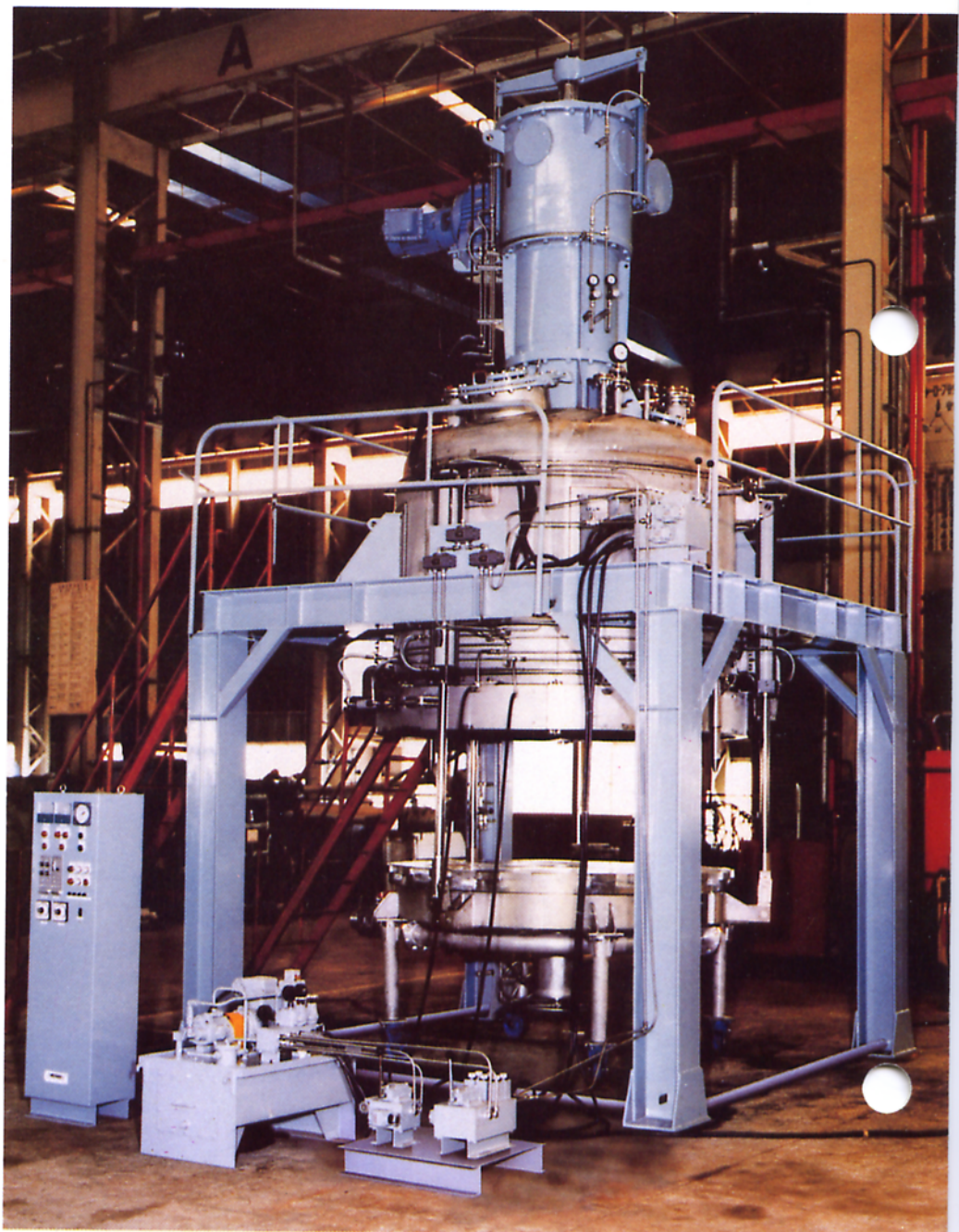
***An Automatic Nutsche Filter with Special  
Impeller Blades for Agitation and Cake Discharge***

# WD FILTER

The **WD Filter** is an automatic Nutsche filter equipped with special impeller blades for agitation and cake discharge. This single piece of equipment processes your product through filtration, washing, drying, and cake discharge operations, effectively replacing three pieces of process equipment, a filter agitator, and dryer. The **WD filter** simplifies process steps and minimizes transfer of materials and exposure of operators to toxic and hazardous materials. By using the **WD filter**, product quality and yield is maximized.

## DESIGN FEATURES

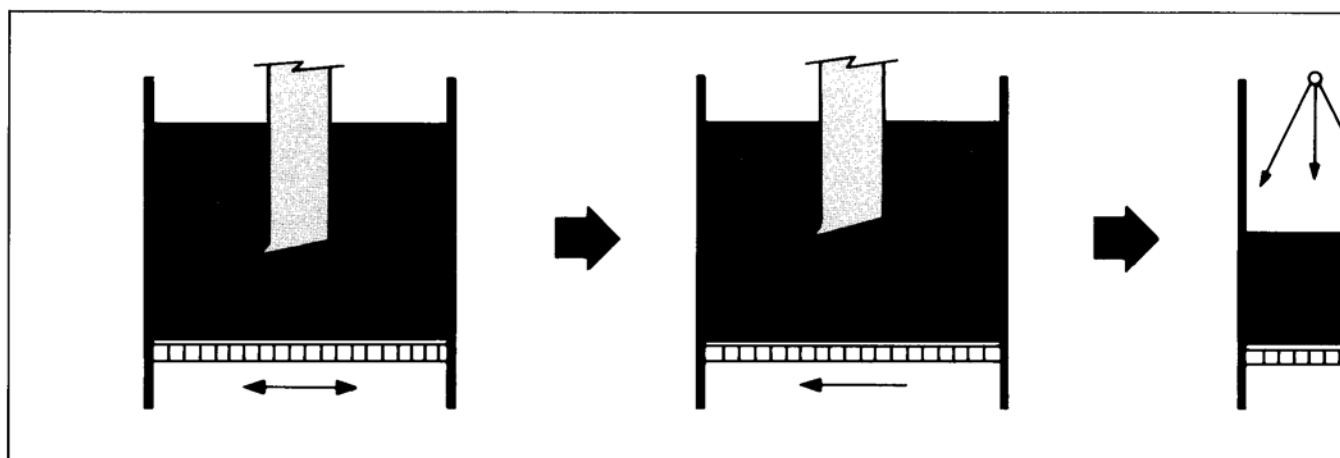
- Highly precise washing results are obtained by either reslurrying or displacement washing of the filtered cake.
- After washing, the cake is smoothed by the impeller so that residual moisture is minimized.
- Dewatered and dried cake is discharged from the outlet at the center of the filter plate automatically.
- Either pressure or vacuum filtration is possible so that operations are safely performed on toxic or hazardous material.
- Filter media is easily removed and replaced since the bottom vessel structure allows quick dismantling of the filter plate.
- Simple structural design makes maintenance easy.



Model : WD-30

## THE WD FILTER PROVIDES DIVERSIFIED FUNCTIONS

By means of rotation with an electric motor and vertical motion with a hydraulic cylinder driving special impeller, the WD Filter provides five (5) different functions as illustrated below.



### 1. FILTRATION

Pressure or vacuum filtration is obtained by uniform mixing when the special impeller rotates at these optional positions.

### 2. RESLURRYING

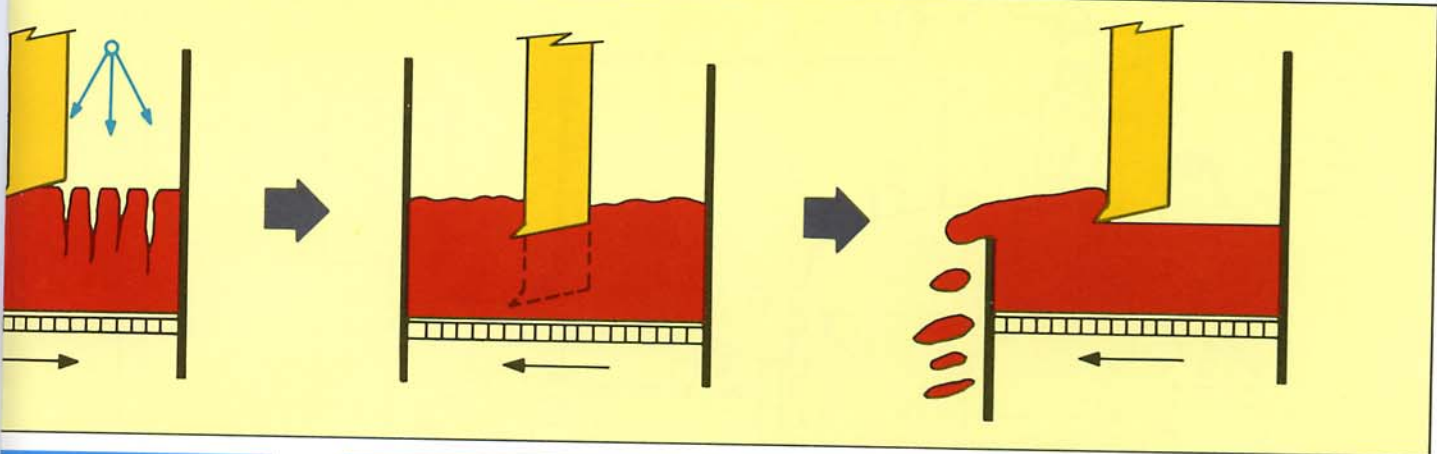
After adding wash liquor, the special impeller at slow rotations scrapes solids in strata with blade tips for reslurrying.

### 3. WASHING

The adjustment of the special impeller cracking procedure on the nozzles above highly effective solvents.

## STANDARD SPECIFICATIONS

Design code	ASME SEC V111 DIV I
Max. design pressure	Shell side 75 psig Jacket side 40 psig Filter plate 50 psig
Max. design temperature	350 ° F
Impeller rotational speed	9 – 36 rpm
Impeller up down speed	Upward 500 mm/min Downward 10 – 500 mm/min
Shaft seals	Stuffing box with dust seals
Plate tightening method	Swing bolt & nuts
Cake discharge unit	Manual swing valve
Filter media	Filter cloth, Wire mesh, Wedge wire
Materials of construction	Carbon steel, Stainless steel, Hastelloy, Titanium, etc.
Hydraulic unit	Pressure 1000 psi Motor 2.2 kw
Electricity	Voltages 230-460 V, 60 Hz., 3 phase. T.E.F.C. Standard, Explosion Proof Optional



**4. DRYING**

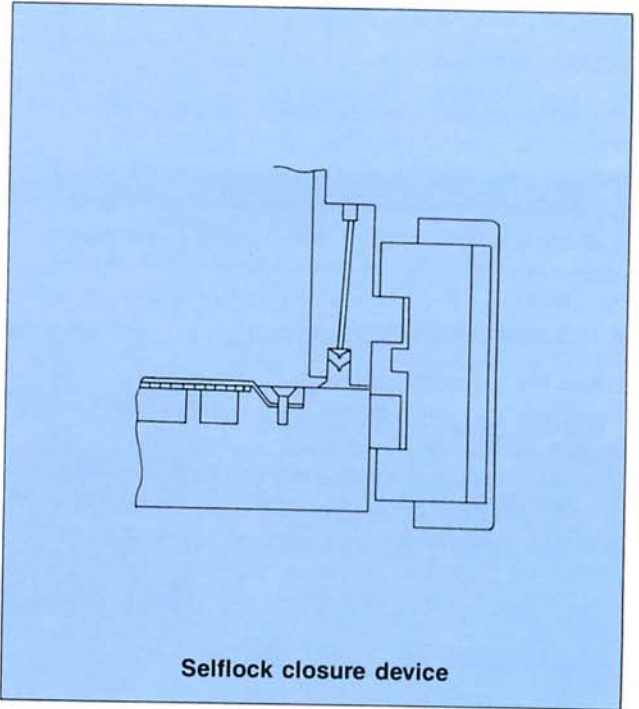
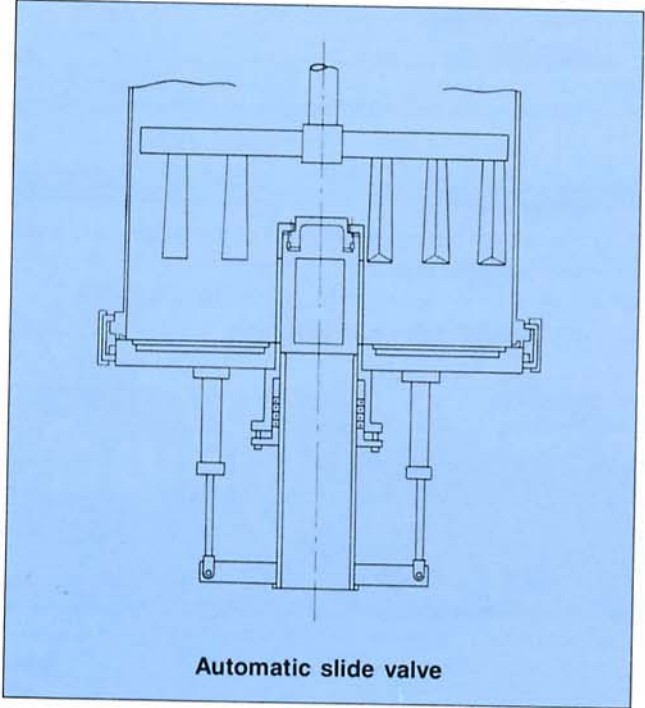
Effective cake drying, under hot air flow or vacuum, is achieved as the result of the stirring action produced by simultaneous vertical and rotating motion of the impellers.

**5. DISCHARGE**

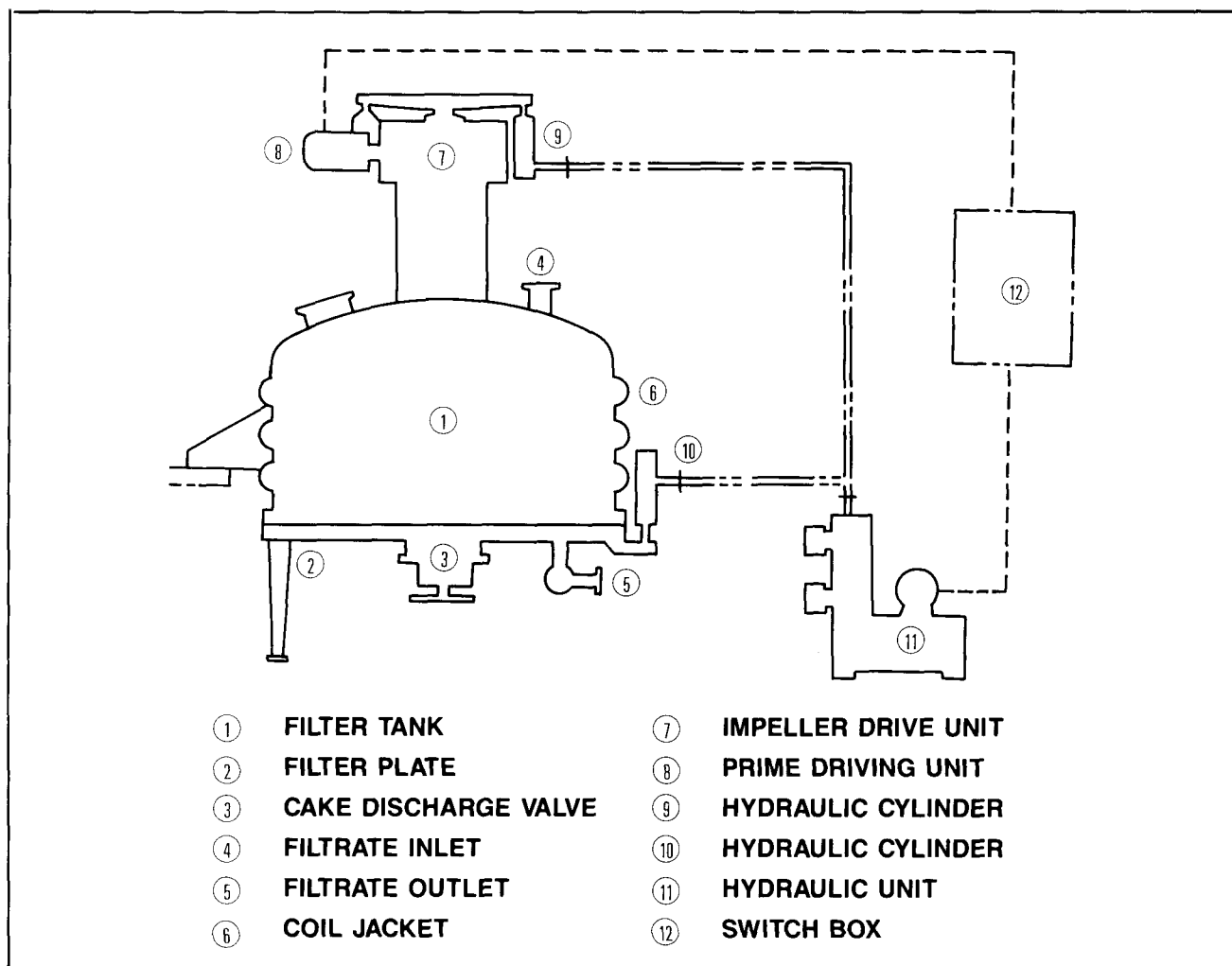
After completion of processes such as washing, dewatering, drying, etc., the resulting cake is automatically discharged through the cake discharge outlet positioned in the center of the unit.

... movement and rota-  
... special impeller prevents  
... problems which may oc-  
... cake surface. Spray  
... the cake provide  
... washing with

**CUSTOM FEATURES OF THE WD FILTER**



## SCHEMATIC OF WD FILTER SYSTEM



### MANUAL OPERATION

The **WD Filter** is manually operated by hand control of the hydraulic unit to raise or lower the impeller and manual switching of the primary electrical drive mechanism to produce rotary motion. Therefore, the operator has full control of the impeller position and rotation.

### AUTOMATIC OPERATION

When the automatic hydraulic unit, cake discharge valve, and remote controller are attached to the unit, all operations from charging liquids to discharging of the cake are under automatic control. Further automation is achieved by replacing manual valves with automatic valves on the piping external to the **WD Filter**.

### SPECIAL FEATURES

The standard **WD Filter** finds application in a wide range of industries. In addition to standard units, Sparkler can provide custom designs and sizes for special applications.

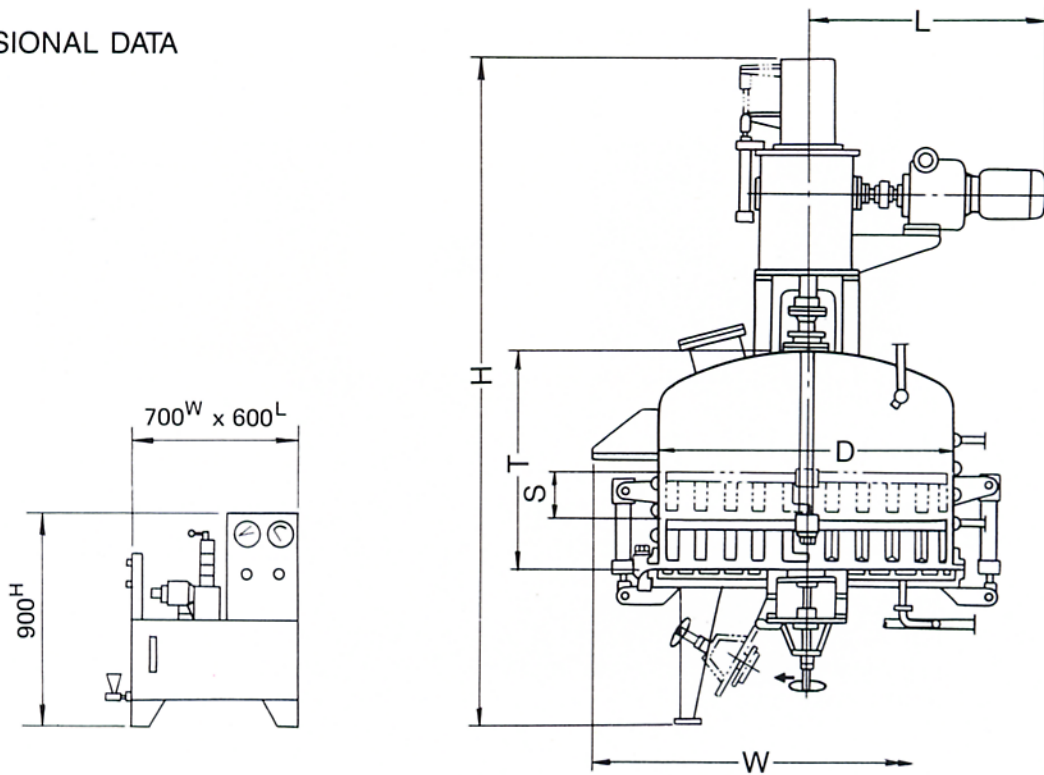
Please call our representatives or the factory to discuss your specific needs.

### FIELDS OF APPLICATION

- Specialty chemicals
- Pharmaceutical products
- Dyes & Pigments
- Agrochemicals
- Food products

# THE WD FILTER STRUCTURAL DRAWING

## DIMENSIONAL DATA



Model	Filter area m <sup>2</sup>	Volume m <sup>3</sup>	Motor power kW	D	H	L	S	T	W
WD-06	0.6	0.8	2.2	1000	4225	1010	400	1100	1350
WD-10	1	1.0	3.7	1200	4500	1150	400	1250	1580
WD-20	2	3.5	5.5	1800	5440	1420	500	1800	2340
WD-30	3	4.0	7.5	2000	5735	1520	500	1870	2540
WD-40	4	6.5	11	2400	6120	1660	500	2000	2940
WD-50	5	8.0	11	2600	6360	1860	500	2090	3140

SPARKLER also manufactures a complete line of Vertical Plate Filters, Rotating Plate Filters, Horizontal Plate Filters, Trap Filters and Manual Nutsche Filters.

**sparkler**

**Filters Incorporated**

Box 19 Conroe, Texas 77305-0019  
Tel: 409/756-4471; TWX 910-880-4183  
FAX 409/539-1165; Cable: SPAFILTCO

Subsidiary: Sparkler International Ltd.  
P.O. Box 4142, Amsterdam - Holland  
Licensed manufacturing facilities in:  
Conroe, Texas; England; Holland; Spain;  
Italy; Japan; India; Mexico; Brazil;  
and Argentina.

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