



## Lab Scale ZWAG Nutsche Filter

Lab Scale ZWAG Nutsche filters are compact, enclosed systems designed for pressure filtration and vacuum drying in laboratory and pilot-scale environments. With integrated agitation, heating, and drying capabilities, these units provide a controlled platform for process development, scale-up validation, and small-batch production.

Manufactured in the United States, ZWAG lab filters combine proven filtration technology with flexible configuration to support evolving process requirements.

### ALL-IN-ONE OPERATION WITH ULTIMATE CONTROL

The ZWAG lab filter integrates all critical batch operations — pressure and vacuum filtration, agitation, replaceable filter media, temperature measurement and control, and contained discharge — into a single compact system designed for controlled lab and pilot-scale processing.

### FULLY ENCLOSED FOR MAXIMUM SAFETY & PURITY

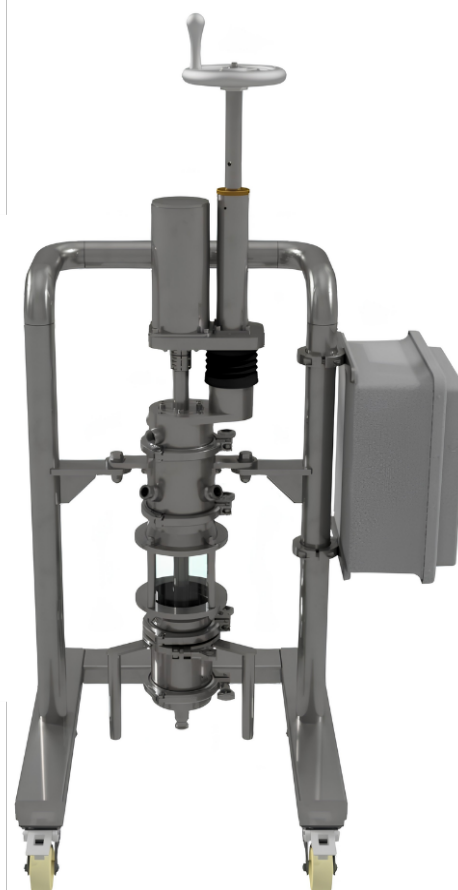
Through all operation stages, the process remains fully contained, a critical requirement when handling hazardous or sensitive materials. The vessel can be kept inert through nitrogen blanketing, preventing solvent vapors from escaping and ensuring a safe, controlled operating environment.

### DESIGNED FOR LAB & PILOT PROCESSES

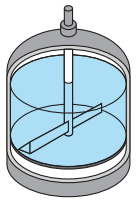
ZWAG lab filters provide a flexible platform for process development, pilot trials, and scale-up validation. Sanitary tri-clamp connections and clean-in-place (CIP) capability support repeatable testing while maintaining high standards of cleanliness and process integrity.

### PRECISE CONTROL OF CRITICAL PROCESS VARIABLES

ZWAG lab systems provide precise control over agitation, pressure/vacuum, and temperature to accurately simulate production conditions. This level of control enables consistent cake formation, efficient washing, and reliable drying performance at lab scale.

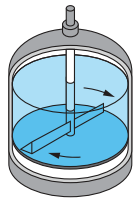


## STEP-BY-STEP FOR QUALITY PERFORMANCE



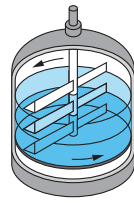
### 1 ALL-IN-ONE OPERATION

Sized for your production batch, your ZWAG is never a bottleneck.



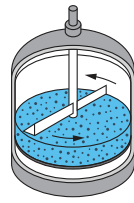
### 2 STIRRING FOR SLOW-FILTERING PRODUCTS

After filling, continuous stirring just above the filter plate reduces filtration time.



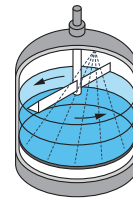
### 3 UNIFORMITY FOR QUICK-FILTERING PRODUCTS

The cake is layered with evenly distributed particles by progressively raising the agitator blades.



### 4 PRESS FOR QUALITY

The agitator smooths down the cake to close cracks and create a uniformly permeable structure.



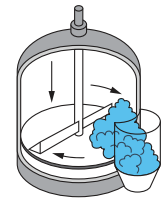
### 5 WASH FOR QUALITY

Liquid is sprayed evenly over the cake for thorough diffusion washing, and can be easily re-slurried for greater purity.



### 6 UNIFORM DRYING

Solids are kept moving over the heated bottom for speedy, complete drying.



### 7 TOP DOWN DISCHARGE

The agitator blades scrape the cake through the side door from top to bottom.

## CAPACITIES

Your ZWAG filter is customer-configured to your specifications from standard components that have been proven effective many times over. It's the surest way to bring a new system on-line quickly and without problems. With a complete range of off-the-shelf options plus engineering applications know how, a Lab-Scale ZWAG Filter by Steri can meet your special needs.

SIZE*	SURFACE AREA	VESSEL DIAMETER	NOMINAL WORKING VOLUME**	TOTAL VOLUME**	SOLID VOLUME	AGITATOR STROKE
m <sup>2</sup>	m <sup>2</sup>	mm	liters	liters	liters	mm
0.005	0.006	90	2	2.5	.5	100
0.01	0.009	108	3	3.5	1	100
0.1	0.11	368	30	40	16	150
0.25	0.27	600	150	189	75	300
0.50	0.49	800	300	352	150	300
0.75	0.76	1,000	450	572	225	300
1.0	1.13	1,200	1,000	1,190	500	500
1.6	1.77	1,500	1,600	1,930	800	500
2.0	2.26	1,700	2,000	2,510	1,000	500
3.0	3.14	2,000	3,000	3,680	1,500	500
4.0	4.15	2,300	4,000	5,030	2,000	500
5.0	5.31	2,600	5,000	6,430	2,500	500
6.0	6.15	2,800	6,000	7,800	3,000	500

\* Larger size units can be designed, contact factory.

\*\* Vessel height can be extended to increase batch volume.



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