

Field Report



Optical Lens Generation Coolant Clarification US Optical LLC & Filtertech, Inc. Find an Economic Solution

APPLICATION

Newer optical lens material such as polycarbonate, CR39, trivex and high index plastics create new challenges in lens processing. The high solids generated from grinding, edging and surfacing greatly contaminates the cutting solution used in most lens generating systems. Clarification of the solution to an acceptable degree is a must.

PROBLEM

The present day lens generating coolant filtration systems available on the market are typically very expensive to purchase, maintain and too complex to operate. US Optical, LLC in Syracuse, NY was eager to streamline their new production lab installation and see what alternatives were available to improve the overall production processes. Filtertech was selected for their reputation as an innovator in the area of solids liquids separation and willingness to work closely with US Optical to provide an economical alternative with superior performance to the conventional filtering systems.

SOLUTION

Preliminary studies showed that the conventional means of filtration required that the solids first be classified prior to removal. The larger solids are removed by a separate device, leaving the finer particulate to be removed by multiple other devices. Based on their past experiences in other industries, Filtertech chose to use technology which allows the larger solids to be used as a filter aid for the removal of the finer particulate.

Figure 1
Model L-GEN Filter
with extended discharge ramp



A pilot test unit was designed, manufactured and installed at US Optical. The final and complete filter system was developed based on the successful trial results and fine tuned in the field. As seen in figure 1, the system includes the newly developed Filtertech L-GEN

Figure 2
Optical lens generation coolant discharge
for two machines into the bed of the filter



filter with extended drying ramp, integral coolant reservoir, clean coolant supply pumps, polishing filters and system control panel. The system has a single discharge point where all solids are collected together in a hopper.

Figure 3
Model L-GEN Filtration System

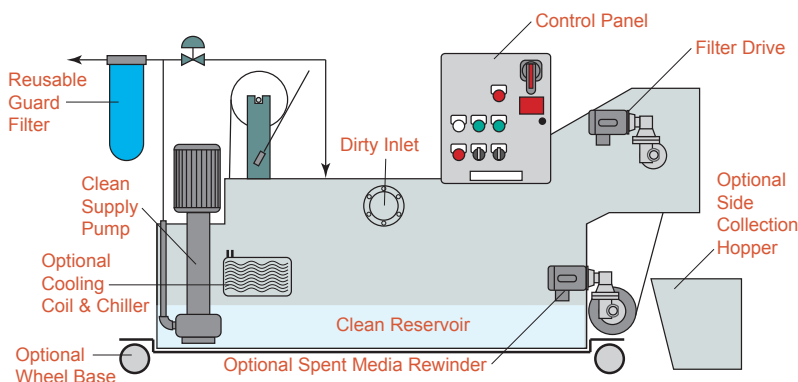
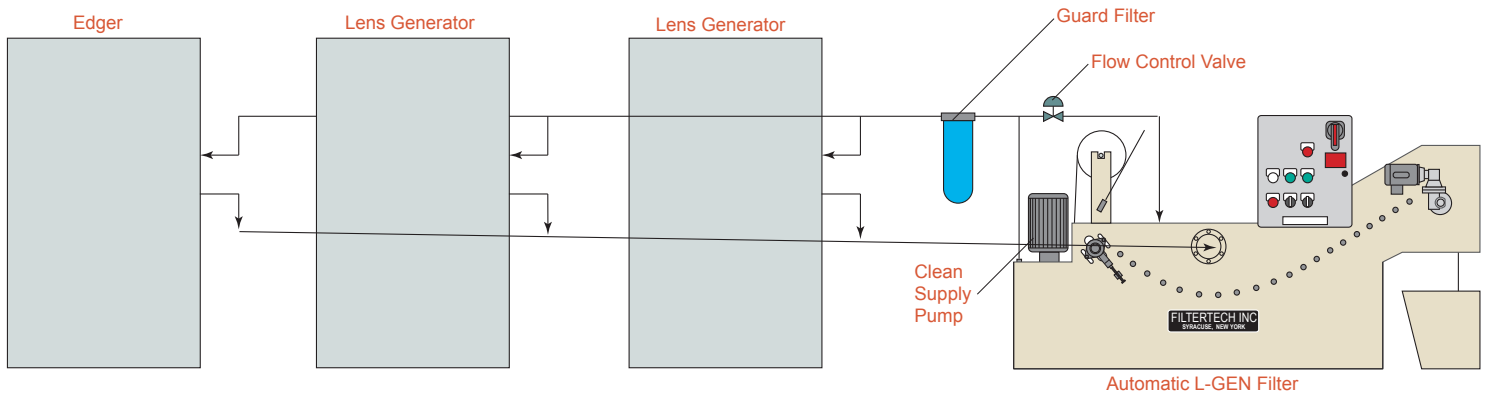
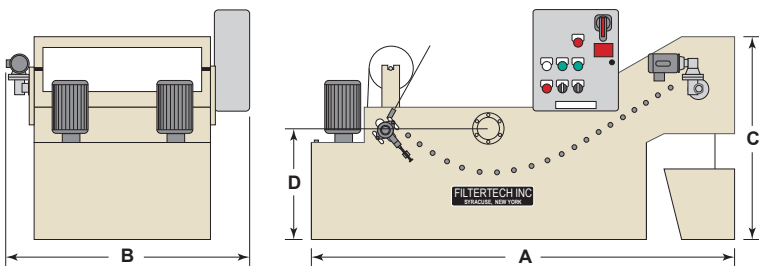
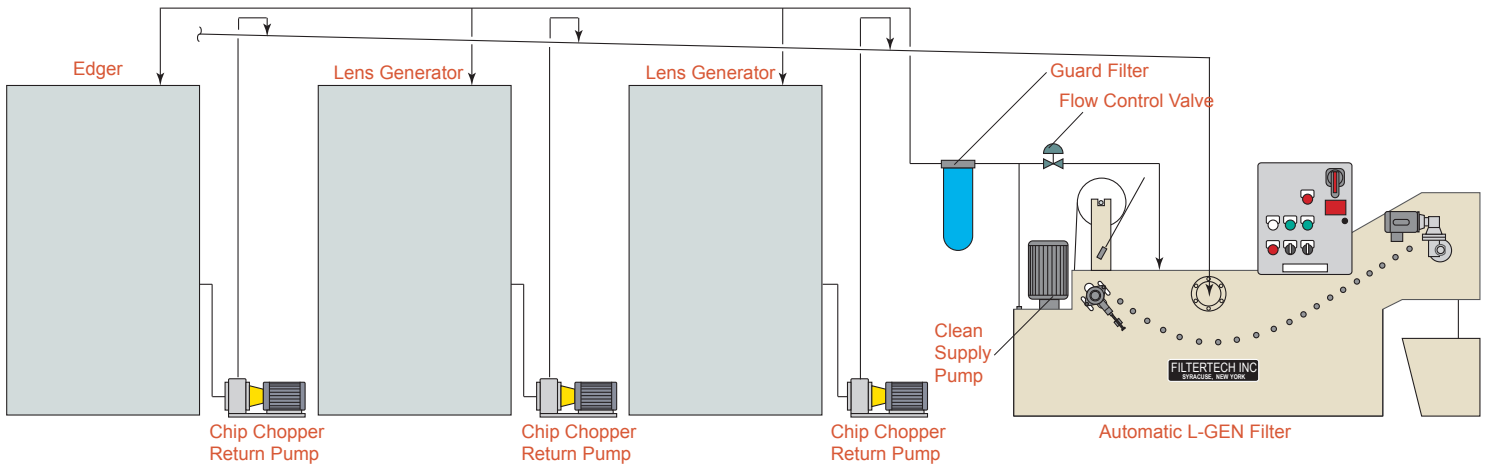


Figure 4
Filtration System Located Near Machines



Filtration System Located Remote From Machines



SPECIFICATIONS

Model†	Number of Machines	Flowrate GPM	Dimensions (cm)			
			A	B	C	D
L-GEN2-300	1	10-20	9'-3"	3'-0"	4'-6"	2'-6"
L-GEN3-440	1-2	20-60	9'-3"	5'-3"	4'-6"	2'-6"
L-GEN4-630	2-3	60-100	9'-3"	6'-6"	4'-6"	2'-6"
L-GEN6-890	3-5	100-160	9'-3"	8'-3"	4'-6"	2'-6"

Consult factory for other requirements.

* Specifications and dimensions where applicable are subject to change without notice.

RESULTS AND CONCLUSIONS

US Optical reports that the new filter system is continuously providing very clean coolant to the lens generators. The polish filters require minimal cleaning, production rates have increased and cutting tool life has been extended. Coolant life has been greatly extended and has not required change out since the system was put on line.

In this highly competitive environment, this new and proven filter system affords an initial equipment savings, simple maintenance free operation and an on-going improved bottom line.

Please contact Filtertech directly and we will be glad to provide a customized and economical filtration system alternative for your lens generating process.

FILTERTECH

Main Office/Factory
113 Fairgrounds Drive, P.O. Box 527
Manlius, NY 13104-0527
TEL: 315-682-8815; FAX: 315-682-8825
Web Site: www.filtertech.com
e-mail: info@filtertech.com

West Region Office
8400 S. Kyrene Rd., Suite 227, Tempe, AZ 85284
TEL (480) 775-1111; FAX (480) 775-0604