

CTG-Klean™ FILTER SYSTEMS

The Clean, Totally Enclosed, Cost Effective, Operator Friendly
Alternative to Conventional Filter Change-Out



CTG-Klean™

FILTER SYSTEMS



The CTG-Klean System is a totally enclosed filtration system that uses a separate pressure vessel and disposable filter pack to isolate the product to be filtered from the housing. This exclusive design eliminates the extensive time and labor involved with filter change-outs and cleaning of conventional housings. Environmental concerns and operator exposure to product cleaning solvents are substantially reduced. The streamlined system, coupled with high performance, long-life filters, make CTG-Klean systems the clear choice for safe, environment friendly, cost effective filtration.

Features

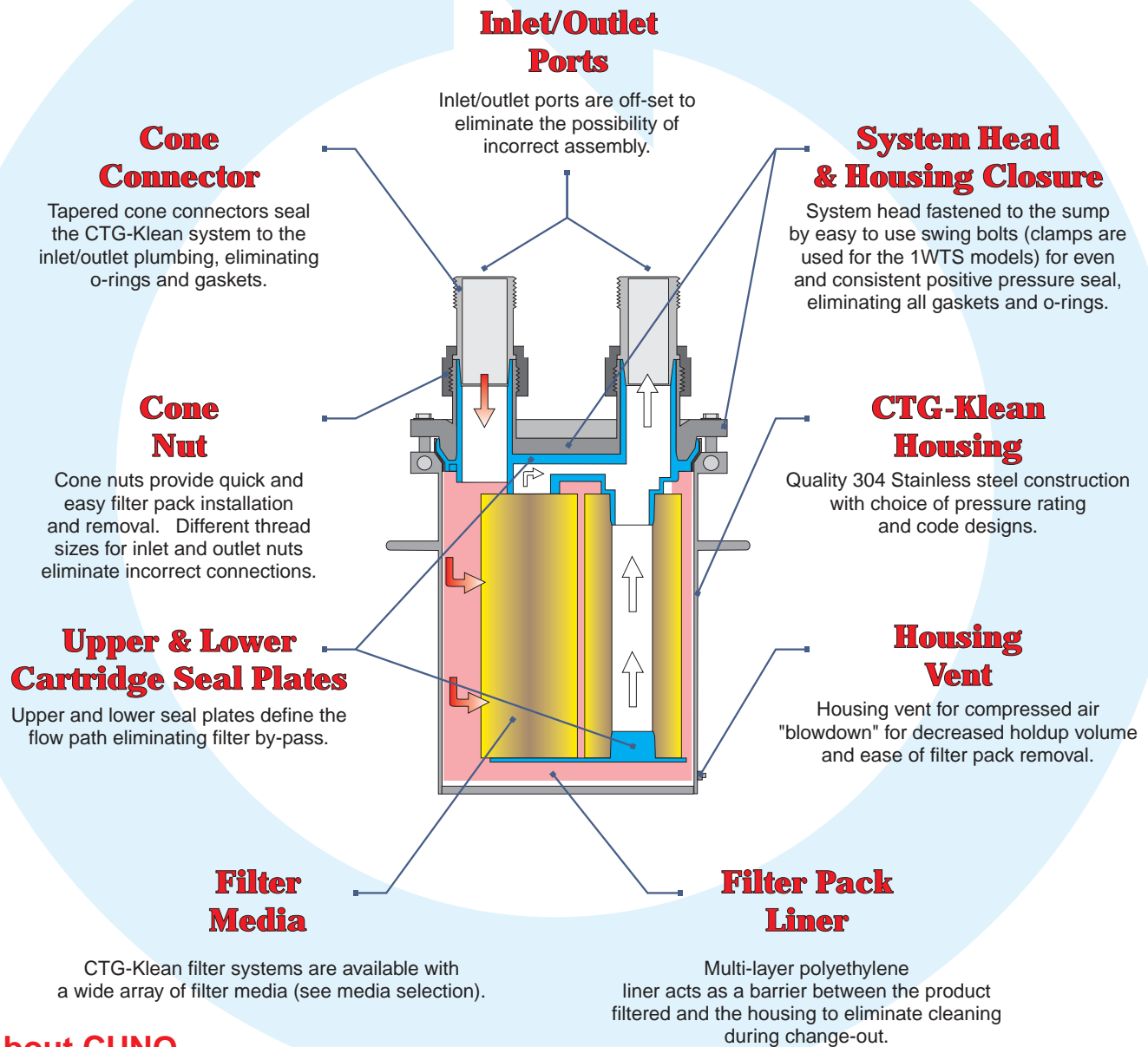
- ◆ Totally enclosed filter pack eliminates handling of used filter cartridges
- ◆ Design eliminates gaskets, posts, spring & seal assemblies, and seal plates
- ◆ Filter pack can be capped and reused
- ◆ Filter packs are factory sealed
- ◆ Easy to use design minimizes downtime

Benefits

- ◆ No cleaning required
- ◆ Limited operator exposure
- ◆ Reduced labor and faster turn-around
- ◆ Eliminates cross contamination of products
- ◆ No components to clean, lose, damage, or stock
- ◆ No gaskets or o-rings to damage, swell, or replace
- ◆ Reduces operating costs by eliminating unnecessary disposal of partially used filter cartridges
- ◆ Eliminates by-pass potential caused by improper cartridge installation
- ◆ Rapid filter change-out reduces labor and eliminates the need for duplex systems

The CTG-Klean™ System

The patented CTG-Klean System design is engineered to minimize operator exposure to the fluid and reduce the time and labor required for cleaning. The diagram below illustrates how the filter pack and housing work together to deliver quality filtration the first time.



About CUNO

CUNO is a world class manufacturer of innovative filtration products with offices worldwide. State-of-the-art technology coupled with continual safety enhancements rank CUNO as a leader in the production of filtration products today. Customer satisfaction and Quality Assurance are the foundations of CUNO's worldwide distribution network. (Customer satisfaction and product Quality Assurance are paramount to CUNO's manufacturing philosophy). With over 85 years of experience, the name CUNO is synonymous with superior performance in the coatings industry. CUNO filters have long been the industry standard for the processing of resins, coatings and intermediates.

How The CTG-Klean™ System Works

The Ultimate in Ease-Of-Use

CTG-Klean systems are available with all the components necessary for installation, including flexible hose, valves, and gauges. Set-up and subsequent filter pack replacement takes only minutes.*



5 To remove the filter pack: vent the system, lift the pack and head together and insert the spacer fork. Disconnect the lines. Remove the head. Cap the filter pack and remove the pack from the sump.



1 Remove the plastic inlet and outlet port caps from the filter pack. Open the housing and insert the filter pack. Place the housing head onto the filter pack.



4 Open the inlet and outlet valves. The system is now ready for start-up and operation!



2 Seal the housing head to the sump by tightening the bolts uniformly to the recommended torque.



3 Connect the inlet and outlet flexible lines to the inlet and outlet ports of the housing head.

* For safe and effective operation always follow manufacturer's operating instructions packaged with the product.

CTG-Klean™ System Capabilities



Satisfying Special Requirements

To continue to satisfy customer needs, CUNO Incorporated can modify the standard system design to suit specific application requirements. The inverted design (pictured left) was developed in response to a customer's requirement to "hard" plumb the system and enable rapid filter pack change-out (less than 1 minute). In addition to the changes in the housing design, the filter pack itself had to be modified, by integrating check valves, to prevent fluid from dripping from the inlet/outlet ports upon pack removal.

Another example of meeting customer driven requirements is the sanitary clamp closure design (pictured at right). This design simplified filter pack change-out while maintaining system integrity. The design's ease of use has proven popular and CUNO now offers a similar design as standard product.

CUNO takes great pride in providing innovative solutions to customer requirements. If you have an application with special or unusual demands, we're more than ready to provide the solution!



Applications Support - SASS

CUNO's Scientific Applications Support Services (SASS) is staffed by scientists and engineers, with a state-of-the-art laboratory to evaluate problems and recommend the proper filter solution. SASS staff, familiar with a wide range of filtration and quality requirements, work closely with customer applications to recommend the most effective and economical CUNO filtration system.

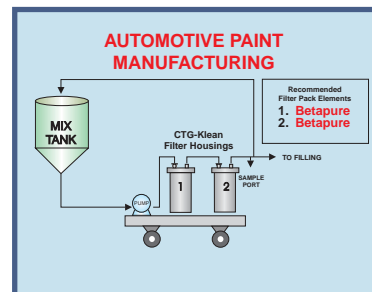
CTG-Klean™ System Applications

Automotive Paint Manufacturing

The CTG-Klean system provides a totally enclosed, factory sealed system addressing the needs of automotive paint producers. The design eliminates the need to clean housings and internal housing parts reducing labor, solvent use and waste. The combination of a totally enclosed filter pack and easy to clean housing design reduces the opportunity for contaminants to enter the process and ensures complete cleaning from batch-to-batch color changes.

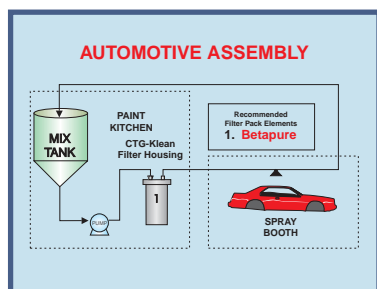
CTG-Klean System Advantages

- Ensures complete cleaning from batch-to-batch
- No housing exposure to the paint reducing cleaning time, solvent usage, and operator exposure
- Enclosed filter pack minimizes operator exposure to hazardous chemicals
- Eliminates gaskets and o-rings, posts and seal assemblies



Automotive Assembly Plants

The environmentally friendly CTG-Klean system design provides the cost effective solution to the growing industry concern to reduce solvent use and exposure of employees to hazardous chemicals. The CUNO assembled pack ensures a positive seal eliminating filter by-pass and providing quality product. The combination of the CTG-Klean design and state-of-the-art Betapure® filter cartridges provide significant cost savings through reduced rework.



CTG-Klean System Advantages

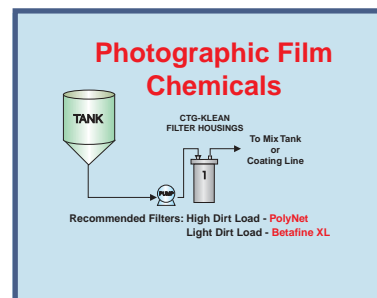
- Rapid filter pack change-out eliminates the need for duplex housing systems
- Enclosed filter pack eliminates operator exposure to hazardous chemicals
- No internal housing parts or o-rings eliminate cleaning, damage, and the need to stock replacement parts
- No housing exposure to the paint reducing cleaning time, solvent usage, and operator exposure

Coil Coating

Factory sealed and reusable packs eliminate by-pass and provide the highest quality coating possible. The self contained system simplifies the filter change-out process to reduce down time between color changes. The amount of solvents typically used to flush conventional housings can be reduced by as much as 80%. Installation of the CTG-Klean system in place of conventional housings and cartridges drastically reduces filtration costs, enhances productivity, and increases overall product quality.

CTG-Klean System Advantages

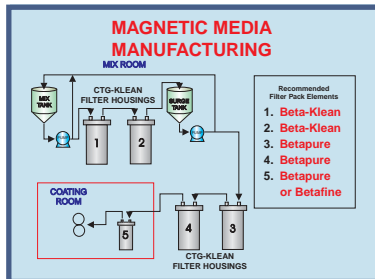
- Rapid filter pack change-out reduces system downtime and labor between color or product change
- Self contained cartridge packs can be capped and reused to avoid disposal of partially used filter cartridges
- No housing exposure to the coating reducing solvent use by up to 80%



CTG-Klean™ System Applications

Magnetic Media

CTG-Klean, coupled with CUNO's high quality Betapure filter packs, reduces drop-outs, increases both filter life and filtration efficiency, and lowers overall production/process costs. The CTG-Klean system simplifies change-out by eliminating clean up and reducing system downtime, therefore increasing total productivity.



CTG-Klean System Advantages

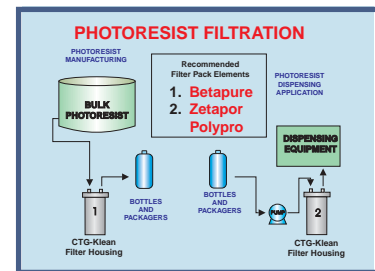
- Rapid filter pack change-out reduces downtime eliminating the need for a duplex system
- No housing exposure to the mix eliminating the need to clean the housing
- Enclosed filter pack eliminates operator exposure to hazardous solvents
- No housing components to clean, lose or stock

Photoresist

The totally enclosed CTG-Klean pack prevents contact of photoresist and photoresist chemicals with metal housings, reducing the possibility of metal ion contamination. The factory sealed system eliminates potential by-pass associated with conventional filter housings ensuring the greatest possible product quality. Filter packs are available with low extractable components.

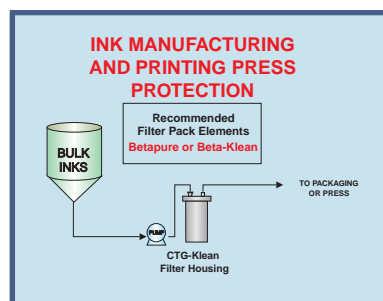
CTG-Klean System Advantages

- Eliminates contact with metal components lowering metal ion contamination
- Enclosed filter pack eliminates operator exposure to hazardous chemicals
- No housing exposure to the photoresist reduces cleaning solvent use and operator exposure



Ink Manufacturing and Printing

CTG-Klean system is ideal for use in the ink manufacturing industry and for printing press final quality. For both large and small volume runs, CTG-Klean systems can provide superior quality product while increasing both filter life and filtration efficiency. In addition, up to 95 % of the hold-up volume can be recovered from the system, the used filter pack can be capped and stored for repeated use, lowering overall production/process costs.



CTG-Klean System Advantages

- Rapid color change-out reducing downtime and labor for increased productivity on expensive presses
- Helps eliminate ink agglomerates for enhanced quality printing
- Self-contained cartridge packs can be capped and reused to avoid disposal of partially used filter cartridges
- Ink never contacts the housing eliminating cleaning and operator exposure to cleaning solvents

Other Applications

- ◆ Power generation and dielectric oil treatment
- ◆ Ceramic Slurries
- ◆ Deep well injection
- ◆ Lubricating and cutting oils
- ◆ Photographic solutions
- ◆ Plating processes
- ◆ High quality chemicals
- ◆ Hazardous Chemicals

CTG-Klean™ Pack Filter Media

The CTG-Klean filter pack can accommodate a wide variety of CUNO filter media, including bicomponent depth filters, resin bonded depth filters, polypropylene depth and surface filters, and absolute rated membrane filters. This extensive offering ensures compatibility with most fluids in most applications. Each media type has a range of removal ratings allowing for optimum filtration for all applications.

Betapure® Filters

The Betapure cartridge is a state-of-the-art rigid, bicomponent fiber depth filter, available in absolute ratings from 2 to 190 μm , manufactured using the most advanced fiber technology to provide the ultimate in consistent classifying filtration performance. For more information about Betapure filters, ask your local CUNO distributor for literature number LITCBP.001.

- Excellent classification characteristics
- Rigid non-deformable structure to withstand high pressure drops
- Bonded rigid structure prevents fiber shedding and any possible media migration
- Consistent absolute filtration - batch to batch



Beta-Klean® Filters

Beta-Klean filters are rigid, graded-density cartridges with absolute ratings from 5 to 70 microns at beta ratio ratings of 1000. For more information about Beta-Klean filters, ask for literature LITCBK.001 and LITCBK.002.

- Absolute ratings for consistent production yields and product quality throughout the filter's life
- Graded density structure for long service life
- Rigid structure provides consistent filtration at high operating pressure
- Bonded structure to prevent fiber shedding and media migration
- Cost effective filtration with optimized yields

PolyKLEAN™ Filters

CUNO's new PolyKLEAN filters feature all polypropylene rigid thermal bonded construction and are available with nominal ratings from 1 to 75 μm . With up to ten times the service life of competitive filter products, the economy of PolyKLEAN filters provides clear advantages. For more information about PolyKlean filters, ask for literature number LITCPOLYKLN.

- Consistent filtration throughout the life of the filter
- Up to ten or more times the service life of competitive filter
- Low operating pressure drop achieves the required flow using fewer filter elements



CTG-Klean™ Pack Filter Media



Betafine® D & Betafine XL Filters

The Betafine family of industrial filter cartridges are pleated polypropylene available with absolute ratings from 0.2 to 70 µm. For more information, ask your local CUNO distributor for literature number LITCBFXL and LITBFD2.

- Consistent absolute rated pleated polypropylene media
- High surface area for excellent flow characteristics
- Long service life
- Excellent clarification characteristics
- Chemically and mechanically clean

PolyNet® Filters

PolyNet filter elements are 100% polypropylene absolute-rated depth filters. PolyNet filters are available with absolute removal ratings from 0.5 to 70 microns. For more information, ask your local CUNO distributor for literature number LITCPN1.

- Consistent absolute rated media
- Superior service life
- Excellent flow permitting smaller housings
- Excellent chemical compatibility
- Chemically and mechanically clean



Micro-Wynd® II Filters

The Micro-Wynd II cartridge is a “blanket” structure representing a major advance over conventional wound cartridges. The unique winding process provides up to 2 ½ times more open area than conventional wound filters for increased flow and longer service life. Micro-Wynd II filters are available with nominal ratings from 0.5 to 350 µm. For more information about Micro-Wynd II filters, ask your CUNO distributor for literature number LITCMW001.

- Higher filtration efficiency at the selected micron rating
- Better flow characteristics than conventional wound filters
- Consistent filtration efficiency
- Long service life

Other Media

CUNO offers virtually all its industry leading filter media in CTG-Klean filter packs - from pleated cellulose based paper to nylon 66 and PTFE membrane, to economical string-wound filters - with new products constantly added, For more information about CUNO filter media and CTG-Klean systems in your application, consult your local CUNO Distributor.

CTG-Klean™ Hardware and Options

CTG-Klean hardware and options simplify system installation and provide flexibility. All components are manufactured from high quality stainless steel for extended service life, exceptional durability, and ease of cleaning.

Flexible Line Plumbing Kit

The system is designed with the inlet and outlet ports on housing head that must be removed to allow access for installation and for removal of the pack. High pressure stainless steel flexible plumbing should be used instead of “hard” piping. CUNO offers a standard plumbing kit that includes the threaded hose, ball-valves, all connectors, and pressure gauges.



System Flushing Elbow

Cleaning conventional filter housings requires solvent use. With the CTG-Klean system, the process liquid never comes in contact with the housing so it is only necessary to flush the inlet and outlet plumbing. These lines, connected by the flushing elbow, can be flushed with the CTG-Klean system off-line. The stainless steel flushing elbow is available for all CTG-Klean housing configurations and is supplied with one or two Viton o-rings.

Tilting Device

The tilting mechanism allows for greater ease of use and the recovery of up to 95% of the hold-up volume from the filter pack. In addition, the tilting device eliminates lifting the potentially heavy used filter pack for safe and easy removal. The durable stainless steel construction makes the tilting device ideal for stand-alone or skid mounted service.



CTG-Klean™ Hardware and Options



Housing Volume Reducer

In processes where the batch size can vary or where process changes reduce the contaminant load, fewer filter cartridges could be used if a smaller housing were available. Using the CTG-Klean Volume Reducer drives down the cost of filtration by allowing the use of shorter filter packs to cut the total filtration cost. The volume reducer is available for the 3WTS and 7WTS configurations to allow use of a single high filter pack in the two-high housing (3WTS2 and 7WTS2) or a two-high filter pack in the three-high housing (3WTS3 and 7WTS3).

Mounting Bracket (1WTS)

The 1WTS filter housing is available with an optional mounting bracket (see ordering guide). Ideal for installations using flexible hose connections.



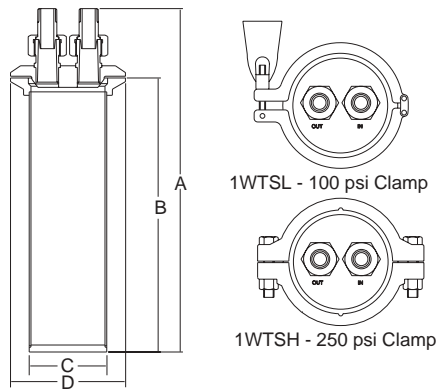
Test Kits

CUNO has assembled two filtration test kits for on-site evaluation of various filter media. Available for either constant flow (uses an electric pump) or constant pressure (uses air or inert gas), both kits are designed to provide a simple solution for the selection of media and grade to optimize filtration off-line. Off-line testing using product provides “real life” performance data that can lead to higher quality product without the risks associated with production evaluation. The test kits are available for customer completed evaluations (Contact CUNO for more information).

The CUNO SASS group can also perform on-site testing and more extensive services in their state-of-the-art laboratory. Contact your local CUNO representative for more information about SASS services.

CTG-Klean™ System Dimensions

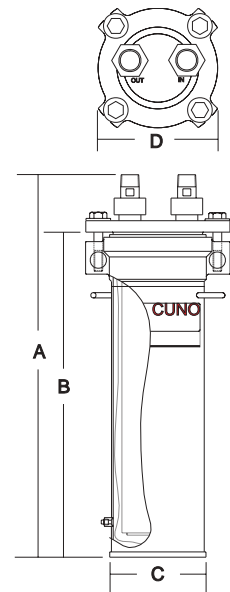
MODEL 1WTS (1 Around x 10" or 20" Cartridge)



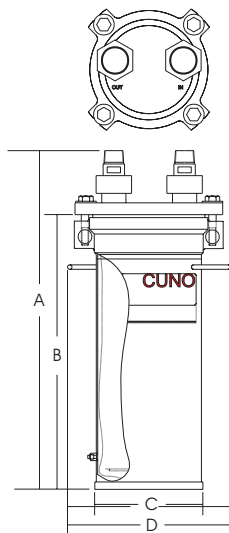
Model	1WTSL1	1WTSH1	1WTSL2	1WTSH2
Part Number	47838-01	47900-01	47838-02	47900-02
Dimensions				
A. Overall Height (in. - cm)	15 ⁹ / ₁₆ - 39.5		25 ¹⁹ / ₃₂ - 65	
B. Vessel Height (in. - cm)	12 ¹³ / ₃₂ - 31.5		22 ⁷ / ₁₆ - 57	
C. Vessel Diameter (in. - cm)	3 ¹ / ₂ - 8.9		3 ¹ / ₂ - 8.9	
D. Without Clamp (in. - cm)	5 ³ / ₁₆ - 13.2		5 ³ / ₁₆ - 13.2	
Other Information				
Connection Thread	½" NPT			
Weight (lb. - Kg)	13 - 5.9		15 - 6.9	
System Flow Rate (gpm - lpm)	9 - 34 *			
Maximum Operating Pressure (psig - bar)	100 - 6.9	250 - 17.2	100 - 6.9	250 - 17.2
Maximum Operating Temperature (°F - °C)	140 - 60			
<small>* Based on 10' per second velocity through the inlet and outlet fittings. System operating pressure, temperature and flow are dictated by the filter cartridge used in the filter pack</small>				

MODEL 3WTS (3 Around x 10", 20" or 30" Cartridges)

Model	3WTS1	3WTS2	3WTS3
Dimensions			
A. Overall Height (in. - cm)	17 - 43.18	27 - 68.58	37 - 93.98
B. Vessel Height (in. - cm)	12 ³ / ₄ - 32.38	22 ³ / ₄ - 57.78	32 ³ / ₄ - 83.18
C. Vessel Diameter (in. - cm)	6 ⁵ / ₈ - 16.83	6 ⁵ / ₈ - 16.83	6 ⁵ / ₈ - 16.83
D. Overall Diameter (in. - cm)	8 ¹ / ₂ - 21.59	8 ¹ / ₂ - 21.59	8 ¹ / ₂ - 21.59
Other Information			
Connection Thread	1" NPT		
Approximate Shipping Weight (lb. - Kg)	35 - 16	53 - 24	62 - 28
Closure Torque (ft-lbs. - N-m)	30 - 40.7		
System Flow Rate (gpm - lpm)	24 - 91 *		
Standard Housings - Part Number	47513-01	47513-02	47513-03
Maximum Operating Pressure (psig/bar)	150 - 10		
Maximum Operating Temperature (°F - °C)	160 - 71		
150 lb ASME Code Housings Part Number	47514-01	47514-02	47514-03
Maximum Operating Pressure (psig - bar)	150 - 10		
Maximum Operating Temperature (°F - °C)	160 - 71		
300 lb ASME Code Housings Part Number	47515-01	47515-02	47515-03
Maximum Operating Pressure (psig/bar)	300 - 20		
Maximum Operating Temperature (°F - °C)	160 - 71		
<small>* Based on 10' per second velocity through the inlet and outlet fittings. System operating pressure and flow are dictated by the filter cartridge used in the filter pack</small>			



MODEL 7WTS (7 Around x 10", 20" or 30" Cartridges)



Model	7WTS1	7WTS2	7WTS3
Dimensions			
A. Overall Height (in. - cm)	18 ¹ / ₂ - 46.99	28 ¹ / ₂ - 72.39	38 ¹ / ₂ - 97.79
B. Vessel Height (in. - cm)	13 - 33.02	23 - 58.42	33 - 83.82
C. Vessel Diameter (in. - cm)	8 ⁵ / ₈ - 22.54	8 ⁵ / ₈ - 22.54	8 ⁵ / ₈ - 22.54
D. Overall Diameter (in. - cm)	10 ¹ / ₄ - 26.04	10 ¹ / ₄ - 26.04	10 ¹ / ₄ - 26.04
Other Information			
Connection Thread	1 1/4" NPT		
Shipping Weight (lb. - Kg)	66 - 30	82 - 37	96 - 43
Closure Torque (ft-lbs. - N-m)	30 - 40.7		
System Flow Rate (gpm/lpm)	34 - 128 *		
Standard Housings	47516-01	47516-02	47516-03
Maximum Operating Pressure (psig - bar)	232 - 16		
Maximum Operating Temperature (°F/°C)	160 - 71		
150 lb ASME Code Housings - Part Number	47517-01	47517-02	47517-03
Maximum Operating Pressure (psig - bar)	150 - 10		
Maximum Operating Temperature (°F - °C)	160 - 71		
300 lb ASME Code Housings - Part Number	47518-01	47518-02	47518-03
Maximum Operating Pressure (psig/bar)	300 - 20		
Maximum Operating Temperature (°F - °C)	160 - 71		
<small>* Based on 10' per second velocity through the inlet and outlet fittings. System operating pressure and flow are dictated by the filter cartridge used in the filter pack</small>			

CTG-Klean™ Filter Pack Ordering Guide

Ordering CTG-Klean Filter Systems

Housing Model	1 High Filter Pack	2 High Filter Pack	3 High Filter Pack	Number of EQSLs**
1WTSH1 & 1WTSL1	X			1
1WTSH2 & 1WTSL2		X		2
3WTS1	X			3
3WTS2	X*	X		6
3WTS3		X*	X	9
7WTS1	X			7
7WTS2	X*	X		14
7WTS3		X*	X	21

* Use with optional volume reducer. ** Equivalent single length cartridges

CUNO CTG-Klean Filter Systems are available in a wide range of sizes. Please consult your local CUNO Distributor for other housing and pack sizes, and filter pack liner materials other than polyethylene.

Betapure Filter Pack - z Grades

Number of Cartridges Around	Pack Designation	Cartridge Length	Cartridge Type	Insert Media Type	Grade Designation	
					Code	Absolute Rating (µm)
1	GPK - CTG-Klean Pack	1 - 1 High	AU - Betapure	Z13 - Polyolefin/Glass	020	2
3		2 - 2 High			030	3
7		3 - 3 High			050	5
				Z11 - Polyolefin	060	6
					070	7
					080	8
					100	10
					120	12
					150	15

Betapure Filter Pack - Standard Grades

Number of Cartridges Around	Pack Designation	Cartridge Length	Cartridge Type	Equivalent Single Length	Grade Designation		
					Code	Nominal Rating (µm)	Absolute Rating (µm)
1	GPK - CTG-Klean Pack	1 - 1 High	AU - Betapure	09	B	5	20
3		2 - 2 High			C	10	30
7		3 - 3 High			E	20	40
					G	30	70
					L	50	90
					Q	75	100
					V	100	140
					W	150	160
					X	175	190

Beta-Klean Filter Pack

Number of Cartridges Around	Pack Designation	Cartridge Length	Cartridge Type	Grade Designation		Surface Type
				Code	Absolute Rating (µm)	
1	GPK - CTG-Klean Pack	1 - 1 High	BK - Beta-Klean	Z8050	5	G - Grooved U - Ungrooved
3		2 - 2 High		Z8070	7	
7		3 - 3 High		Z8100	10	
				Z8140	14	
				Z8150	15	
				Z8200	20	
				Z8300	30	
				Z8400	40	
				Z8500	50	
				Z8700	70	
				Z2100	10	
				Z2200	20	
				Z2300	30	
				Z2400	40	
				Z2600	60	

CTG-Klean™ Filter Pack Ordering Guide

Micro-Klean III Filter Pack

Number of Cartridges Around	Pack Designation	Cartridge Length	Surface Type	Type	Grade Designation		Formulation
					Code	Nominal Rating (µm)	
1	GPK - CTG-Klean Pack	1 - 1 High	G - Grooved	78	Y	1	2 - Cellulose/Melamine* 3 - Cellulose/Phenolic* 8 - Acrylic/Phenolic
3		2 - 2 High	U - Ungrooved		A	3	
7		3 - 3 High			B	5	
					C	10	
					F	25	
					L	50	
					Q	75	
					V	100	
					W	125	
					X	150	

* Available in A, B, F, and L Grades

Micro-Wynd II Filter Pack

Number of Cartridges Around	Pack Designation	Cartridge Length	Type	Media	Core Material	Grade Designation	
						Code	Nominal Rating (µm)
1	GPK - CTG-Klean Pack	1 - 1 High	D	PP - Polypropylene CC - Cotton	P - Polypropylene	Z	0.5
3		2 - 2 High				Y	1
7		3 - 3 High				A	3
						B	5
						C	10
						F	25
						L	50
						Q	75
						V	100
						W	350

PolyNet Filter Pack

Number of Cartridges Around	Pack Designation	Cartridge Length	Cartridge Type	Grade Designation	
				Code	Absolute Rating (µm)
1	GPK - CTG-Klean Pack	1 - 1 High	NT - PolyNet	T005	0.5
3		2 - 2 High		T010	1
7		3 - 3 High		T020	2
				T030	3
				T050	5
				T100	10
				T200	20
				T400	40
				T500	50
				T700	70

Betafine D & Betafine XL Filter Pack

Number of Cartridges Around	Pack Designation	Cartridge length	Cartridge Type	Cartridge Code	Grade Designation	
					Code	Absolute Rating (µm)
1	GPK - CTG-Klean Pack	1 - 1 High	DP - Betafine D	09	002	0.2
3		2 - 2 High	XL - Betafine XL		005	0.5
7		3 - 3 High			010	1
					025	2.5
					050	5
					100	10
					200	20
					400	40
					700	70

PolyKLEAN Filter Pack

Number of Cartridges Around	Pack Designation	Cartridge length	Cartridge Type	Grade Designation		Material	Surface
				Code	Rating (µm)		
1	GPK - CTG-Klean Pack	1 - 1 High	RT - PolyKLEAN	Y	1	16 - Polypropylene	G - Grooved
3		2 - 2 High		B	5		
7		3 - 3 High		C	10		
				F	25		
				L	50		
				Q	75		

CTG-Klean™ System Ordering Guide

CTG-Klean Housing Ordering Guide

Housing Model	Catalog Number	Inlet/Outlet	Material	Maximum Operating Pressure and Temperature	Filter Pack Configuration	Nominal Cartridge Length (Inches)
Standard Design						
1WTSH1	47900-01	1/2" NPT	304 S.S.	250 psi @ 140°F (9.8 bar @ 60°C)	1 Cartridge by 1 High	10
1WTSH2	47900-02				1 Cartridge by 2 High	20
1WTSL1	47838-01			100 psi @ 140°F (6.9 bar @ 60°C)	1 Cartridge by 1 High	10
1WTSL2	47838-02				1 Cartridge by 2 High	20
3WTS1	47513-01	1" NPT	304 S.S.	150 psi @ 160°F (10 bar @ 71°C)	3 Cartridge by 1 High	10
3WTS2	47513-02				3 Cartridge by 2 High	20
3WTS3	47513-03				3 Cartridge by 3 High	30
7WTS1	47516-01	1 1/4" NPT	304 S.S.	232 psi @ 160°F (16 bar @ 71°C)	7 Cartridge by 1 High	10
7WTS2	47516-02				7 Cartridge by 2 High	20
7WTS3	47516-03				7 Cartridge by 3 High	30
150 lb ASME Code Designed and "U" Stamped						
3WTS1	47514-01	1" NPT	304 S.S.	150 psi @ 160°F (10 bar @ 71°C)	3 Cartridge by 1 High	10
3WTS2	47514-02				3 Cartridge by 2 High	20
3WTS3	47514-03				3 Cartridge by 3 High	30
7WTS1	47517-01	1 1/4" NPT	304 S.S.	150 psi @ 160°F (10 bar @ 71°C)	7 Cartridge by 1 High	10
7WTS2	47517-02				7 Cartridge by 2 High	20
7WTS3	47517-03				7 Cartridge by 3 High	30
300 lb ASME Code Designed and "U" Stamped						
3WTS1	47515-01	1" NPT	304 S.S.	300 psi @ 160°F (20 bar @ 71°C)	3 Cartridge by 1 High	10
3WTS2	47515-02				3 Cartridge by 2 High	20
3WTS3	47515-03				3 Cartridge by 3 High	30
7WTS1	47518-01	1 1/4" NPT	304 S.S.	300 psi @ 160°F (20 bar @ 71°C)	7 Cartridge by 1 High	10
7WTS2	47518-02				7 Cartridge by 2 High	20
7WTS3	47518-03				7 Cartridge by 3 High	30

Plumbing Kit Ordering Guide

Hose Length (ft.)	Pressure Gauge	Material	Catalog Number	
			For 3WTS	For 7WTS
2	200 psi	Stainless Steel	86938-01	86938-04
4			86938-02	86938-05
6			86938-03	86938-06
2	400 psi		86938-07	86938-10
4			86938-08	86938-11
6			86938-09	86938-12

Flushing Elbow Ordering Guide

Housing Model	Flushing Elbow Catalog Number
1WTS1, 1WTS2	67416-04
3WTS1, 3WTS2, 3WTS3	73570-02
7WTS1, 7WTS2, 7WTS3	73570-03

Mounting Bracket Ordering Guide

Housing Model	Catalog Number
1WTS models*	60363-31

* Part Numbers 47838-01, 47838-02, 47839-01, and 47839-02 only.

Tilting Device Ordering Guide

Housing Model	Tilting Device Catalog Number
3WTS1, 3WTS2, 3WTS3	67994-01
7WTS1, 7WTS2, 7WTS3	67995-01

Volume Reducer Ordering Guide

Housing Model	For Use When	Catalog Number
3WTS2	Reducing 2 High to 1 High	47335-01
3WTS3	Reducing 3 High to 2 High	
7WTS2	Reducing 2 High to 1 High	47270-01
7WTS3	Reducing 3 High to 2 High	

WARRANTY

Seller warrants its equipment against defects in workmanship and material for a period of 12 months from date of shipment from the factory under normal use and service and otherwise when such equipment is used in accordance with instructions furnished by Seller and for purposes disclosed in writing at the time of purchase, if any. Any unauthorized alteration or modification of the equipment by Buyer will void this warranty. Seller's liability under this warranty shall be limited to the replacement or repair, F.O.B., point of manufacture, of any defective equipment or part which, having been returned to the factory, transportation charges prepaid, has been inspected and determined by Seller to be defective. THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR USE, OR ANY OTHER MATTER. Under no circumstances shall Seller be liable to Buyer or any third party for any loss of profits or other direct or indirect costs, expenses, losses or consequential damages arising out of or as a result of any defects in or failure of its products or any part or parts thereof or arising out of or as a result of parts or components incorporated in Seller's equipment but not supplied by the Seller.



The CTG-Klean™ System Advantage

- ✔ No housing or components to clean
- ✔ Change-out labor and down-time are reduced
- ✔ Operator exposure to hazardous materials is reduced
- ✔ Filter packs can be used, stored, and reused
- ✔ Media available to fit a wide range of applications
- ✔ No internal housing parts to stock, damage or replace

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about CUNO Products or the location of your local sales office



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