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IF APPLICABLE Please contact Pall Corporation to verify that the product conforms to your national legislation and/or regional regulatory requirements for water and food contact use.

MEUCFSGENd April 2024

Pall Filter Selection Guide
UltiKleen™ Series
Finer Filtration for High Purity Chemicals

UltiKleen™ Series

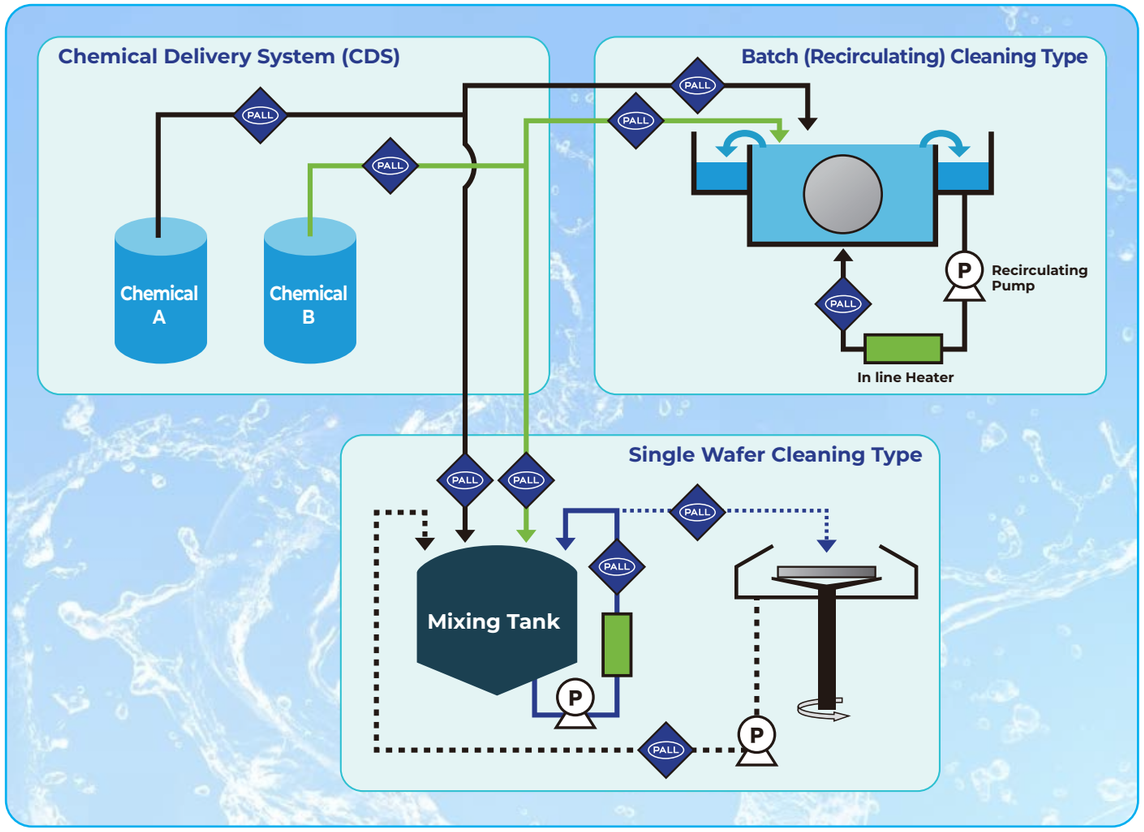
Filter Application

Chemicals / Application	Temperature Range	Product Name	Removal Ratings							Features
			50 µm	10 µm	0.2 µm	0.1 µm	50 nm	30 nm	20 nm	
SC-1 / APM (NH_3 / H_2O_2 / H_2O) SC-2 / HPM (HCl / H_2O_2) Chemical Delivery System	R.T. up to 90 ˚C R.T. up to 194 ˚F	UltiKleen™ KC			●	●	●			Filter design assures stable flow with excellent flow characteristics.
		UltiKleen™ G2 KC			●	●	●			Significantly improves flow performance with a larger diameter, G2 cartridge design that increases filter area.
		UltiKleen™ G2 Excellar KC					●	●		Incorporates a non-dewetting PTFE membrane filter. Achieves the flow performance equal to a conventional 50 nm filter with a 30 nm rated filter.
		UltiKleen™ G2 Excellar ER / Excellar ERL KC							●	Incorporates a non-dewetting PTFE membrane filter. Uses a high flow 20 nm membrane filter with retention established by Pall's proven rating methodology.
SPM / Piranha (H_2SO_4 / H_2O_2)	≦ 150 ˚C ≦ 302 ˚F	UltiKleen™ SPM G2 KC (DV Type)			●	●	●			Has improved filter media durability for use with high temperature chemicals. The optimized filter structure enables long term stable equipment operation.
		UltiKleen™ G2 Excellar ERL KC (DV Type)							●	Uses a non-dewetting PTFE membrane filter with a downstream vent structure designed to prevent the filter media from dewetting.
		UltiKleen™ G3 Excellar ER KC (DV Type)							●	Incorporates an improved Kleen-Change® structure with larger surface area. This achieves flow performance equal to or higher than a conventional 50 nm filter with a 20 nm rated filter.
H_3PO_4	≦ 170 ˚C ≦ 338 ˚F	UltiKleen™ SPM G2 KC			●	●	●			Designed to provide high and stable fluid flow performance with high viscosity chemicals.
Stripper	R.T. up to 90 ˚C R.T. up to 194 ˚F	UltiKleen™ STG KC	●	●	●	●				Uses a multilayer media structure that efficiently captures gel particles and significantly extends filter service life.
		UltiKleen™ STP KC			●	●	●			Reduces particle contamination by using an optimized media structure to prevent captured gel particles from passing downstream.
Single Wafer Tool	R.T. up to 120 ˚C R.T. up to 248 ˚F	UltiKleen™ JKC			●	●	●			A compact. space saving, and low pressure loss disposable assembly with a built-in high flow UltiKleen™ filter cartridge. Easily fits commonly used tools and equipment.
		UltiKleen™ JKC Excellar ER							●	Incorporates a non-dewetting PTFE membrane. A compact disposable assembly with a built-in 20 nm membrane filter.
		UltiKleen™ G2 Excellar KC					●	●		Incorporates a high flow non-dewetting PTFE membrane. This achieves flow performance equal to or higher than a conventional 50 nm filter with a 30 nm rated filter.
		UltiKleen™ G2 Excellar ER KC							●	Incorporates a high flow design 20 nm non-dewetting PTFE membrane filter. Filter retention is established by Pall's proven rating methodology.

Specifications

Filter	UltiKleen™			UltiKleen™ G2			UltiKleen™ G2 Excellar		UltiKleen™ G2 Excellar ER	UltiKleen™ G2 Excellar ERL	UltiKleen™ G3 Excellar ER	UltiKleen™ SPM-G2		
Typical Application	SC-1, SC-2			SC-1, SC-2			SC-1, SC-2		SC-1, SC-2, SPM	SC-1, SC-2, SPM	SC-1, SC-2, SPM	SPM, H_3PO_4		
Removal Ratings	50 nm	0.1 µm	0.2 µm	50 nm	0.1 µm	0.2 µm	30 nm	50 nm	20 nm	20 nm	20 nm	50 nm	0.1 µm	0.2 µm
Media Material	PTFE			PTFE			Surface Modified PTFE		Surface Modified PTFE	Surface Modified PTFE	Surface Modified PTFE	PTFE		
Filter Areas	1.2 m^2 / 12.9 ft^2 (10"Cartridge)			2.2 m^2 / 23.7 ft^2 (10"Cartridge)			2.2 m^2 / 23.7 ft^2 (10"Cartridge)		1.9 m^2 / 20.5 ft^2 (10"Cartridge)	3.0 m^2 / 32 ft^2 (10"Cartridge)	4.4 m^2 / 47 ft^2 (10"Cartridge)	1.7 m^2 / 18 ft^2 (10"Cartridge)		
Air Bubble Removal (Downstream Vent Construction)	N/A			Available			Available		Available	Available	Available	Only available for 50 nm		
Features & Benefits	Improved flow characteristics with enlarged filtration area. This increases fluid turnover rate for improved cleaning bath performance.			Significantly improved flow characteristics for largediameterwafer fabrication process. Copes with larger pump capacity.			Adopts non-dewetting PTFE membrane. Prevents filter media from drying, enabling stable circulating flow rate. Achieves flow characteristics equal to conventional 50 nm filter with a 30 nm filter.		20nm filter proven by Pall's original rating method. Highly durable filter for high-temperature, high-viscosity fluid contributes to long-term stable operation of equiment.	Improved filter cartridge structure increases effective filtration area. The result is significantly higher flow performance suitable for the demands of large diameter wafer fabrication processes.	Kleen-Change® structure redesigned for larger filtration area than ever and high flow rate. 20nm microfiltration and increased circulating flow rate inside the bath contribute to significantly improved in-bath replacement speed.	Structure for improving filter media durability at high temperatures and preventing damages to filter media. Enables long-term stable equipment operation.		

Application at wet cleaning process



Specificationsprocess

Filter	UltiKleen™ STG				UltiKleen™ STP			UltiKleen™ JKC		
Typical Application	Stripper for Photo Resist				Stripper for Photo Resist			Compact size for small flow		
Removal Ratings	0.1 μm	0.2 μm	10 μm	50 μm	50 nm	0.1 μm	0.2 μm	50 nm	0.1 μm	0.2 μm
Media Material	PTFE				PTFE			PTFE		
Filter Areas	Refer to datasheet				1.2 m² / 12.9 ft² (10" type) 1.7 m² / 18.3 ft² (G2 type)			0.13 m² / 1.4 ft²		
Air Bubble Removal (Downstream Vent Construction)	Only available for G2 Type				Only available for G2 Type			N/A		
Features & Benefits	Optimized pore size and thickness of prefilter layer to capture large quantities of large-size gel particles. Demonstrates high foreign particle filtering capacity and significantly extends filter life.				Optimized structural design for significantly improved gel particle removal performance. Reduces particles on a wafer and extends filter life.			Compact, low pressure loss filter with space-saving footprint, suitable for use as a chemical filter for wafer cleaning equipment or spin coater immediately before fluid is discharged.		

Flow Characteristics - 10" Kleen-Change® Assembly

Product Name (Kleen-Change®)	Removal Ratings					Liquid Flow Rate [L / min] (at 30 kPa)						
	20 nm	30 nm	50 nm	0.1 μm	0.2 μm	10	5	20	25	30	35	40
UltiKleen™			●	●	●			●	●	●		
UltiKleen™ G2			●	●	●					●	●	●
UltiKleen™ SPM G2			●	●	●				●		●	●
UltiKleen™ G2 Excellar		●	●						●	●		
UltiKleen™ G2 Excellar ER	●						●					
UltiKleen™ G2 Excellar ERL	●							●				
UltiKleen™ G3 Excellar ER	●									●		

* Liquid Flow Rate : In case of 3/4" T-Flow, Only UltiKleen G3 Excellar-ER 1" T-Flow

Flow Characteristics - 5" Kleen-Change® Assembly

Product Name (Kleen-Change®)	Removal Ratings					Liquid Flow Rate [L / min] (at 30 kPa)						
	20 nm	30 nm	50 nm	0.1 μm	0.2 μm	0	2	4	6	8	10	12	14
UltiKleen™			●	●	●					●	●	●	
UltiKleen™ Excellar		●	●						●	●			
UltiKleen™ Excellar ER	●								●				

* Liquid Flow Rate : In case of 1/2" Inline Flow

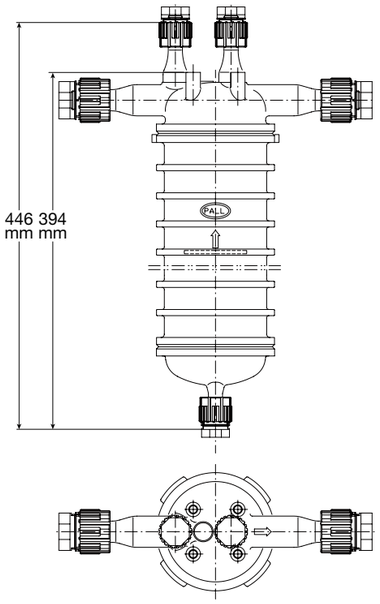
Flow Characteristics - JKC Assembly

Product Name (Kleen-Change®)	Removal Ratings					Liquid Flow Rate [L / min] (at 30 kPa)					
	20 nm	30 nm	50 nm	0.1 μm	0.2 μm	0	1	2	3	4	5
UltiKleen™ JKC			●	●	●			●	●		●
UltiKleen™ Excellar ER	●						●				

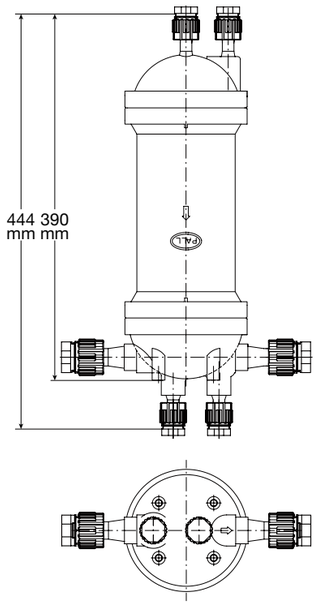
For liquids with a different viscosity from water, multiply the pressure drop by the viscosity in centipoise.

Dimensions

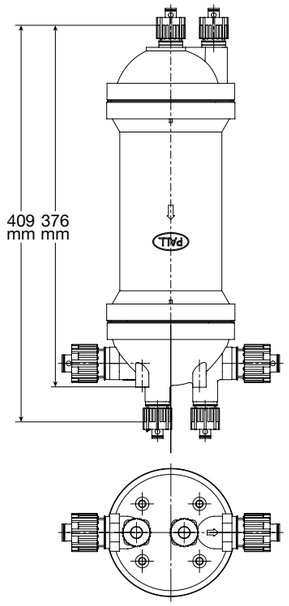
UltiKleen™ KC
(3/4" Pillar Super 300P Series)



UltiKleen™ G2 KC DV (Downstream Vent) Type
(3/4" Pillar Super 300P Series)



UltiKleen™ G2 KC DV (Downstream Vent) Type
(3/4" Pillar Super 300P Series)
Male connections



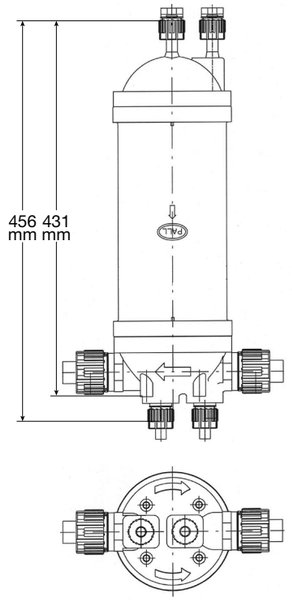
UltiKleen™ KC
(Non connection)

UltiKleen™ G2 KC DV (Downstream Vent) Type
(3/4" Pillar Super 300P Series)

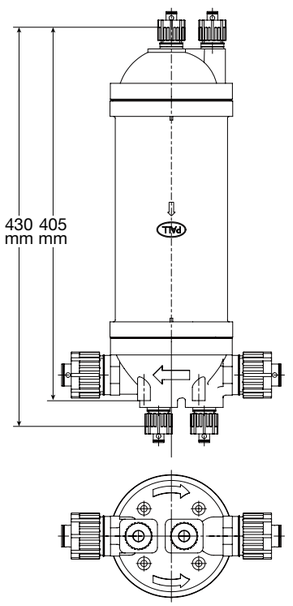
UltiKleen™ G2 KC DV (Downstream Vent) Type
(3/4" Pillar Super 300P Series)
Male connections

Dimensions

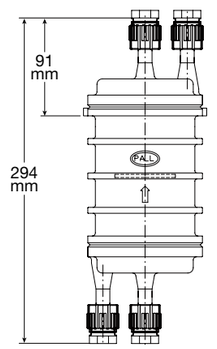
UltiKleen™ G3 KC DV (Downstream Vent) Type
(1" Pillar Super 300P Series)



UltiKleen™ G3 KC DV (Downstream Vent) Type
(1" Pillar Super 300P Series)
Male connections



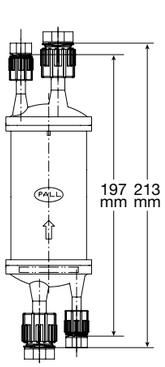
5 inch Size UltiKleen™ KC
(3/4" Pillar Super 300P Series)



5 inch Size UltiKleen™ KC
(Non connection)

UltiKleen™ G3 KC DV (Downstream Vent) Type
(1" Pillar Super 300P Series)

UltiKleen™ JKC
(3/8" Pillar Super 300P Series)



* Pillar is a trademark of Nippon Pillar Packing Co.