

# UltiKleen™ G2 Excellar ERL Filter and KC Assemblies



Data Sheet MEUKG2EXERLENF

## Description

### UltiKleen G2 Excellar ERL Filter

The enhanced retention (ER) and improved nondewetting properties of the UltiKleen G2 Excellar ERL filter have enabled semiconductor makers to meet the critical chemical process filtration requirements beyond the 45 nm manufacturing node. Designed for critical single-pass point-of-use filtration, the filter's high flow rate also makes it suitable for recirculation bath applications.

An advanced media support design maximizes the effective filter area of the cartridge. The larger filter area increases dirt-holding capacity, thereby extending service life. The liquid flow rate of the UltiKleen G2 Excellar ERL filter is more than 30% higher than that of the standard UltiKleen Excellar ER filter.

The UltiKleen G2 Excellar ERL filter medium is made using Pall's proprietary Molecular Surface Tailoring (MST) technology. MST imparts nondewetting properties to the PTFE membrane without adding a chemical layer to the surface of the medium. A hyperfine pore matrix inside the membrane provides significantly improved retention of particles down to 15 nm. The result is a robust, reliable and chemically clean filter suitable for use in aggressive high-temperature cleaning chemistries, including aqueous chemistries such as hot SPM, SC-1 and SC-2.

- Enhanced retention of particles
- Robust nondewetting PTFE medium
- High flow rates
- Hyperfine porous media matrix design
- All ultra-high-purity fluoropolymer construction
- Provided prewet, with Full-fill<sup>1</sup> ultrapure water package (standard)
- Low extractables (Single digit ppb<sup>2</sup> in a 5% HCL extraction of 1.5 liters for 24 hours)
- 100% integrity tested

### UltiKleen G2 Excellar ERL KC Assemblies

The Pall UltiKleen G2 KC assemblies, which are made of high-purity PFA, are completely disposable filter units that contain UltiKleen Excellar ERL cartridges. They are specifically designed and ideally suited for high-temperature process chemicals, particularly mixtures of sulfuric acid and hydrogen peroxide (SPM). The unique downstream venting-type assemblies allow bubbles to exhaust from chemicals efficiently and provide higher particle cleanliness levels.

- Downstream venting available
- Disposable filter unit with filter cartridge integrally sealed in housing
- Sealed assembly for safer handling and faster changeout



## Specifications

### Materials of Construction

Components	Materials
Filter Medium	Surface-modified PTFE
Media Support	PTFE / PFA
Core, Cage and End Caps	PFA
Sealing Method	Melt seal
Housing	PFA
O-ring	FEP-encapsulated fluoroelastomer

<sup>1</sup> Package is completely filled with ultrapure water.

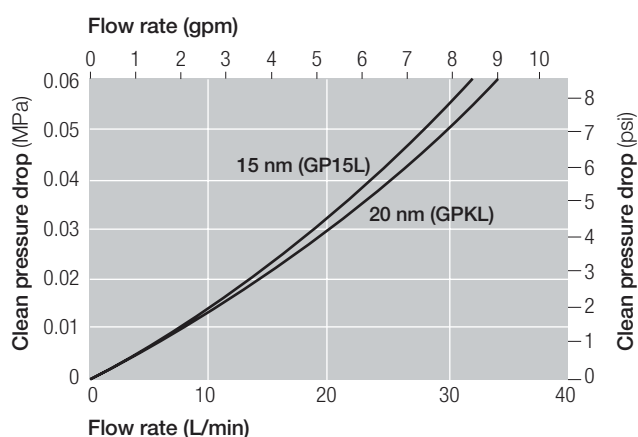
<sup>2</sup> Total metal concentrations in 13 elements: Li, Na, Mg, Al, K, Ca, Cr, Mn, Fe, Ni, Cu, Zn, Pb.

## Removal Ratings and Operating Conditions

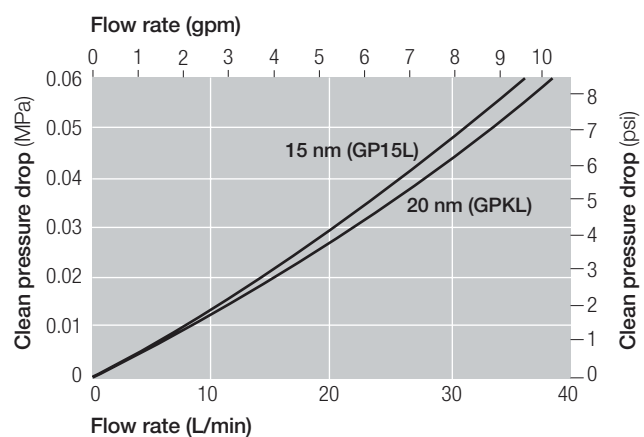
	UltiKleen G2 Excellar ERL Filter			UltiKleen G2 Excellar ERL KC Assemblies
	ABFG1	ABFG2	ABFG3	T-flow, in-line, L-flow (10")
Removal Ratings	15 nm, 20 nm			
Filter Area	3 m <sup>2</sup> / 32.3 ft <sup>2</sup>	6 m <sup>2</sup> / 64.6 ft <sup>2</sup>	9 m <sup>2</sup> / 96.9 ft <sup>2</sup>	3 m <sup>2</sup> / 32.3 ft <sup>2</sup>
Maximum Operating Temperature	180 °C / 356 °F			
	Maximum Forward Differential Pressure			Maximum Operating Pressure
	0.59 MPaG (85.6 psig) @ 50 °C (120 °F)			0.5 MPaG (72.5 psig) @ 25 °C ( 77 °F) 0.4 MPaG ( 58 psig) @ 60 °C (140 °F) 0.34 MPaG (50.7 psig) @ 90 °C (194 °F) 0.20 MPaG ( 29 psig) @ 120 °C (248 °F) 0.15 MPaG (21.8 psig) @ 150 °C (302 °F) 0.12 MPaG (17.4 psig) @ 170 °C (338 °F)

## Typical Flow Characteristics - 1cP fluid, 20 °C

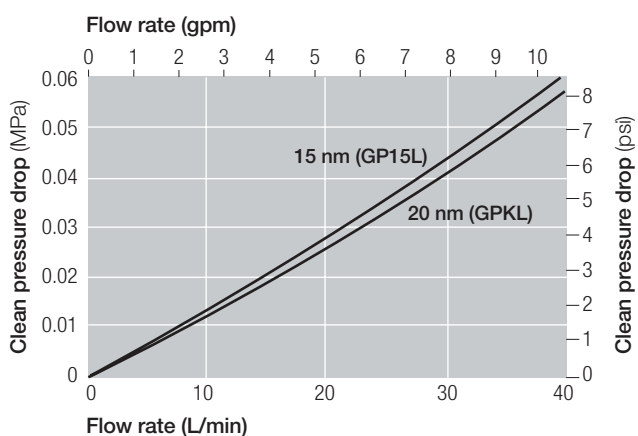
### T Flow, L Flow (19 mm / 3/4 ")



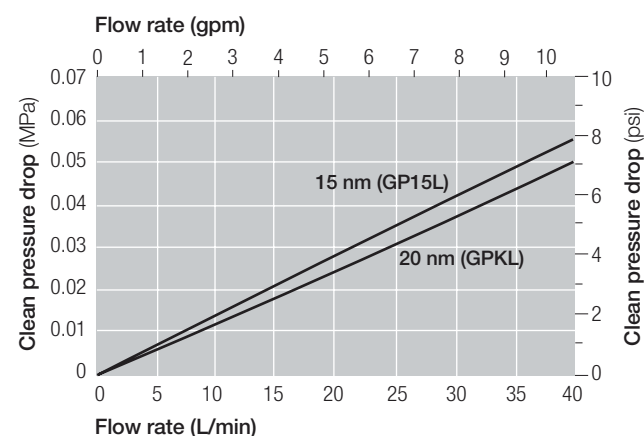
### In-line (19 mm / 3/4 ")



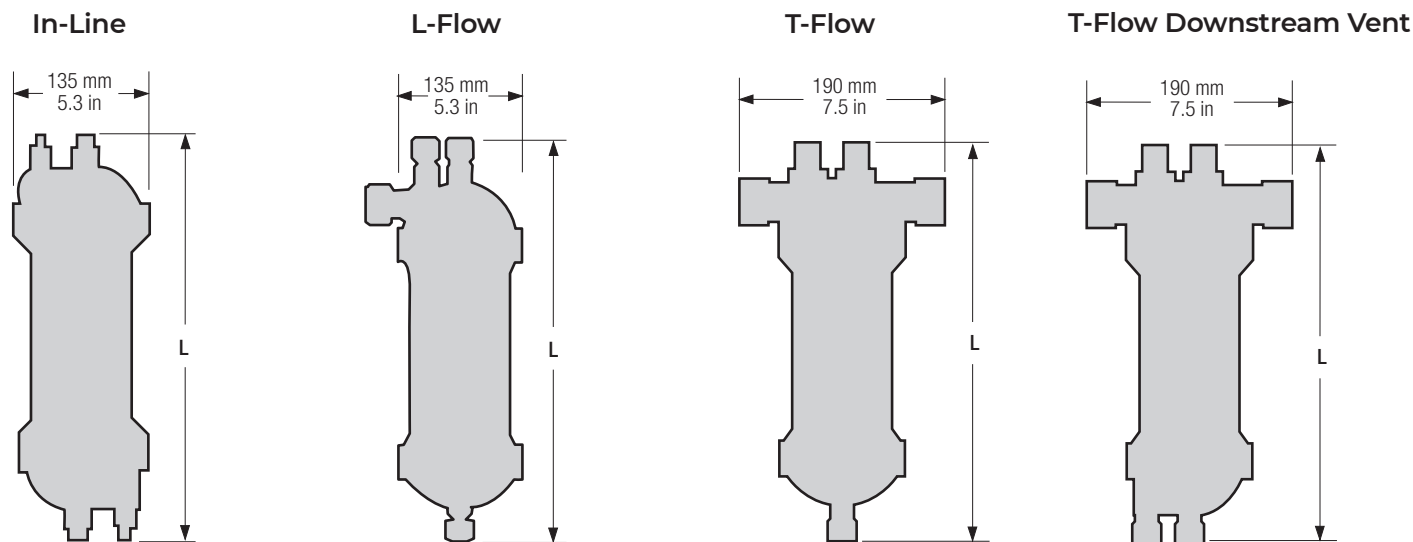
### T Flow, In-line (254 mm / 1 ")



### G2 cartridges (254 mm / 10 ")



## Dimensions



## Dimensions by Configuration

UltiKleen G2 Excellar ERL KC Assembly (LDFG / LDFV)

In-Line	Nominal Length(L) (mm / in)	T-Flow	Nominal Length(L) (mm / in)	VT style	Nominal Length(L) (mm / in)	L-flow	Nominal Length(L) (mm / in)	VL style	Nominal Length(L) (mm / in)
12E2	396.5 / 15.6	12E2	408 / 16.1	12E2	377 / 14.8	12E2	408 / 16.1	12E2	440 / 17.35
12E51	412 / 16.2	12E71	403 / 15.9	128E2	385 / 15.2				
124E51	412 / 16.2	13E0	495 / 19.5	12E71	377 / 14.8				
16E8	428 / 16.9	13E1	432 / 17						
16E51	436 / 17.2	13E2	442 / 17.4	128E71	402 / 15.8				
17E0	448 / 17.6	13E6	416 / 16.4	128E72	402 / 15.8				
17E1	445 / 17.7	13E9	433 / 17.1	13E1	445 / 17.5				
17E51	442 / 17.4	13E51	473 / 18.6	13E51	444 / 17.4				
17E71	462 / 18.2	13E71	444 / 17.5	168E71	403 / 15.9				
				168E72	403 / 15.9				

## Part Numbers / Ordering Information

### UltiKleen G2 Excellar ERL Filter

ABFG **1** GP **2** L3EH1 **3**

Table 1

Code	Length (Nominal) mm / in
1	244 / 10
2	487 / 20
3	726 / 30

Table 2

Code	Removal Ratings
15	15 nm
K	20 nm

Table 3

Code	Prewet Option
-K3	Prewet filter (packaged in DI water)
-K7	Prewet filter (packaged in DI water), low metal extractables <sup>3</sup>

<sup>3</sup> Contact your local Pall representative for information about extractables.

## UltiKleen G2 Excellar ERL KC Assemblies<sup>4</sup>

LDF 1 2 IGP 3 L 4 E 5 6

**Table 1**

Code	Downstream Venting
G	N / A
V	Available

**Table 2**

Code	Flow
T	T-flow
N	In-line
L	L-flow

**Table 3**

Code	Removal Rating
15	15 nm
K	20 nm

**Table 4**

Code	Inlet / Outlet	Vent / Drain		Type
		Head End	Bowl End	
12	3/4" male	1/2" male	1/2" male	T-flow / L-flow
12	3/4" male	1/2" male	1/2" female	Downstream venting-type
12	3/4" male	3/8" male	3/8" male	In-line
124	3/4" male	1/4" male	1/4" male	In-line
128	3/4" male	1/2" male	1/2" male	Downstream venting-type
13	3/4" female	1/2" female	1/2" female	T-flow
16	1" male	1/2" male	1/2" male	T-flow
16	1" male	1/2" male	1/2" female	Downstream venting-type
16	1" male	3/8" male	3/8" male	In-line
164	1" male	1/4" male	1/4" male	In-line
168	1" male	1/2" male	1/2" male	Downstream venting-type
17	1" female	1/2" female	1/2" female	In-line

**Table 5**

Code	Connections
0	None
1	Flowell <sup>5</sup> 20 series
2	Super Pillar <sup>6</sup> type
51	Flare style
6	FinalLock <sup>7</sup>
71	Super Pillar 300 P series
72	Super Pillar 300 P series L type
8	Flowell 60 series
9	Flowell 11CR series

**Table 6**

Code	Prewet Option
-K3	Prewet filter (packaged in DI water)
-K7	Prewet filter (packaged in DI water), low metal extractables <sup>3</sup>

<sup>4</sup> Disposable capsules are not available with every option. (Refer to codes for options.) Contact your local Pall representative for option availability.

<sup>5</sup> Flowell is a trademark of Flowell Corporation.

<sup>6</sup> Super Pillar is a trademark of Nippon Pillar Packing Co., Ltd.

<sup>7</sup> FinalLock is a trademark of Kurabo Industries Ltd.



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