# **TKSCT**

Ultra-high purity in-line

# **Gas Filters**









# **TKSCT Gas Filter Series**

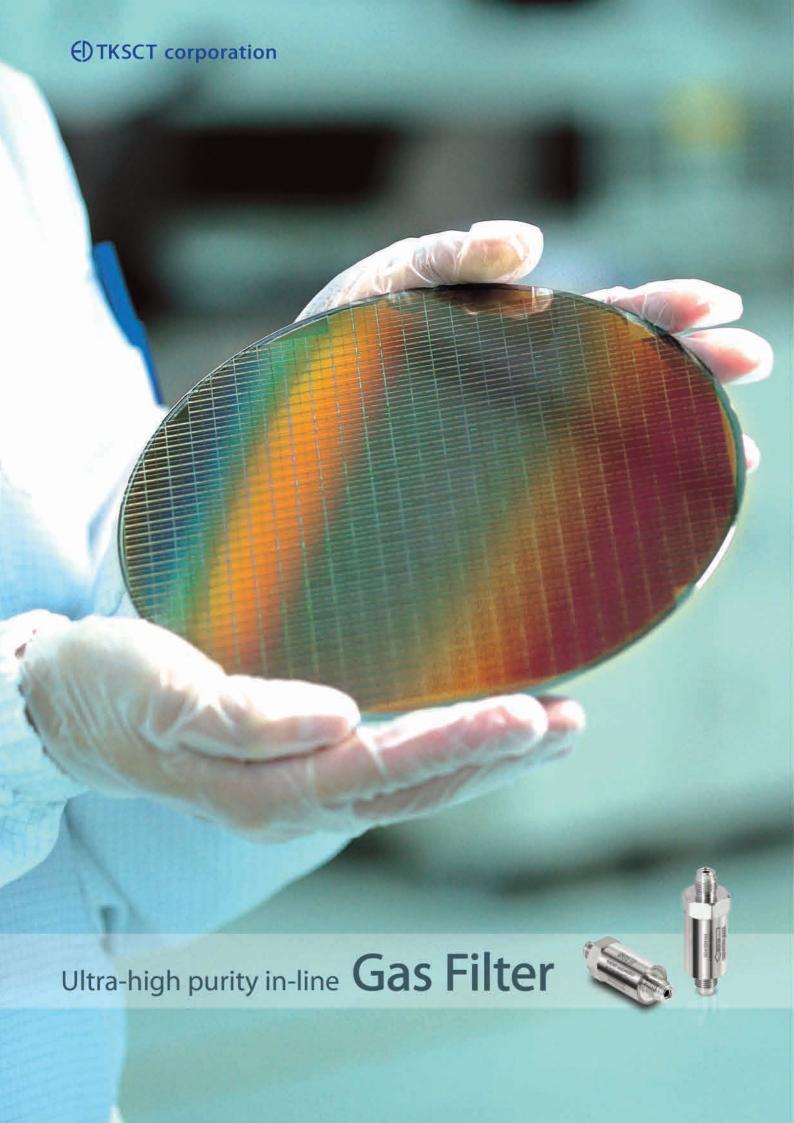
Hastelloy Gas Filter
Stainless Steel Gas Filter
PTFE Gas Filter
IGS Gas Filter

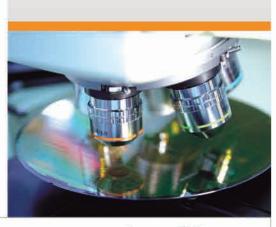












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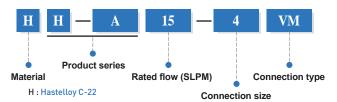
# **Hastelloy Gas Filter**

# **HH-A Series**

- Ultra-high purity in-line gas filter
- All Hastelloy constructions
- High temperature and dynamic pressure applications
- Compact size and variable end connections



- Wide range flow rate from 15 to 300 SLPM
- Corrosion resistant Hastelloy body with excellent performance for either inert or corrosive gas applications
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested

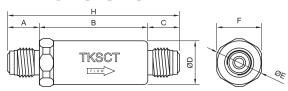


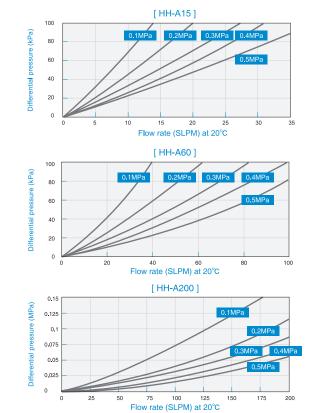
	Size	Connection		
4	1/4″	VM MFS male type		
6	3/8″	SW	Lok type	
8	1/2″			

### Specifications

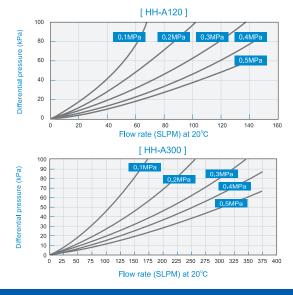
Removal rating	≥ 0.0025 <i>µ</i> m				
Retention	Greater than 99.999999% Removal of all particles down to 0.0025 μm				
	15 SLPM				
	60 SLPM				
Rated flow @ 109	120 SLPM				
	200 SLPM				
	300 SLPM				
Materials	Filter element	Hastelloy C-276			
Materials	Electropolished housing	Hastelloy C-22			
	Maximum inlet pressure	21 MPa (210kgf/cm²) at 20 °C			
Operating conditions	Maximum differential pressure	15 MPa (153kgf/cm²) at 20 °C			
	Maximum operating temperature 460 °C (Inert gas)				
Helium leak rating	1 x 10 <sup>9</sup> atm · cc / sec				
Surface finish interior	≤ Ra 5µin				

#### Dimensions





Part No.	A/mm	B/mm	C/mm	D/mm	E/mm	F/mm	H/mm
HH-A15-4VM	15.5	53	15.5	27	30	27	84
HH-A15-4SW	10	53	10	27	30	27	73
HH-A60-4VM	15.5	53	15.5	27	30	27	84
HH-A60-4SW	10	53	10	27	30	27	73
HH-A60-6(8)VM	19	53	19	27	30	27	91
HH-A120-4VM	15.5	96	15.5	29	33	30	127
HH-A120-4SW	10	96	10	29	33	30	116
HH-A120-6(8)VM	19	96	19	29	33	30	134
HH-A120-6(8)SW	12	96	12	29	33	30	120
HH-A200-4VM	15.5	98	15.5	35	39	35	129
HH-A200-4SW	10	98	10	35	39	35	118
HH-A200-6(8)VM	19	98	19	35	39	35	136
HH-A200-6(8)SW	12	98	12	35	39	35	122
HH-A300-4VM	15.5	98	15.5	35	39	35	129
HH-A300-4SW	10	98	10	35	39	35	118
HH-A300-6(8)VM	19	98	19	35	39	35	136
HH-A300-6(8)SW	12	98	12	35	39	35	122



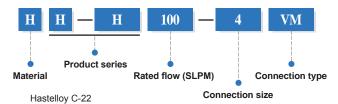
# **Hastelloy Gas Filter**

# **HH-H Series**

- Ultra-high purity in-line high flow gas filter
- All Hastelloy constructions
- High temperature and dynamic pressure applications
- Compact size and variable end connections



- Wide range flow rate from 100 to 800 SLPM
- Corrosion resistant Hastelloy body with excellent performance for either inert or corrosive gas applications
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested

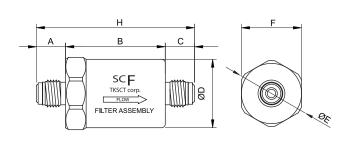


	Size	Connection		
4	1/4″	VM MFS male type		
6	3/8″	SW	Lok type	
8	1/2″			

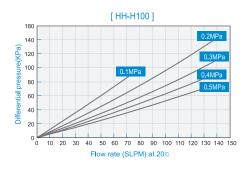
# **■ Specifications**

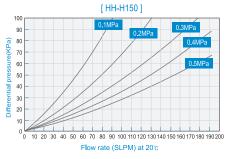
Removal rating	≥ 0.0025 µm	≥ 0.0025 µm		
Retention	Greater than 99.999999% Removal of all par	rticles down to 0.0025 $\mu$ m		
	100 SLPM (MAX 150SLPM)			
Rated flow @ 109	150 SLPM (MAX 200SLPM)	150 SLPM (MAX 200SLPM)		
	600 SLPM (MAX 800SLPM)			
Materials	Filter element	Hastelloy C-276		
Waterials	Electropolished housing	Hastelloy C-22		
	Maximum inlet pressure	12 MPa (122kgf/cm²) at 20 °C		
Operating conditions	Maximum differential pressure	10 MPa (101kgf/cm²) at 20 °C		
	Maximum operating temperature	Maximum operating temperature 460 °C (Inert gas)		
Helium leak rating	1 x 10 <sup>-9</sup> atm cc/sec	1 x 10 <sup>-9</sup> atm cc/sec		
Surface finish interior	≤ Ra 5µin			

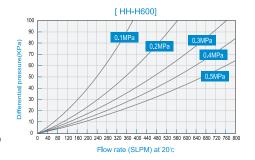
### Dimensions



Part No.	A/mm	B/mm	C/mm	D/mm	E/mm	F/mm	H/mm
HH-H100-4VM	15.5	53	15.5	32	35	32	84
HH-H100-4SW	10	53	10	32	35	32	73
HH-H100-6(8)VM	19	53	19	32	35	32	91
HH-H100-6(8)SW	12	53	12	32	35	32	77
HH-H150-4VM	15.5	53	15.5	32	35	32	84
HH-H150-4SW	10	53	10	32	35	32	73
HH-H150-6(8)VM	19	53	19	32	35	32	91
HH-H150-6(8)SW	12	53	12	32	35	32	77
HH-H600-4VM	15.5	96	15.5	32	35	32	127
HH-H600-4SW	10	96	10	32	35	32	116
HH-H600-6(8)VM	19	96	19	32	35	32	134
HH-H600-6(8)SW	12	96	12	32	35	32	120







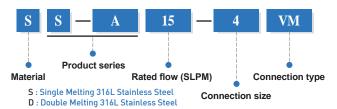
# **Stainless Steel Gas Filter**

# **SS-A Series**

- Ultra-high purity in-line gas filter
- All 316L stainless steel constructions
- High temperature and dynamic pressure applications
- Compact size and variable end connections



- Wide range flow rate from 15 to 300 SLPM
- Excellent compatibility with most high purity semiconductor process gases
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested

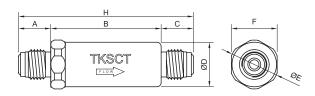


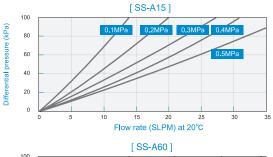
	Size Connection			
4	1/4″	VM MFS male type		
6	3/8″	SW	Lok type	
8	1/2″			

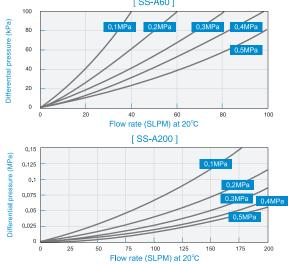
### Specifications

Removal rating	≥ 0.0025 µm	≥ 0.0025 µm				
Retention	Greater than 99.999999% Removal of all par	ticles down to 0.0025 µm				
	15 SLPM					
	60 SLPM					
Rated flow @ 109	120 SLPM	120 SLPM				
	200 SLPM					
	300 SLPM	300 SLPM				
Materials	Filter element	316L Stainless steel				
Waterials	Electropolished housing	SM/DM 316L Stainless steel				
	Maximum inlet pressure	21 MPa (210kgf/cm²) at 20 °C				
Element Operating conditions	Maximum differential pressure	15 MPa (153kgf/cm²) at 20 °C				
	Maximum operating temperature 460 °C (Inert gas)					
Helium leak rating	1 x 10 <sup>-9</sup> atm cc/sec	1 x 10 <sup>-9</sup> atm cc/sec				
Surface finish interior	≤ Ra 5µin					

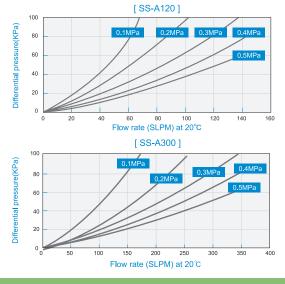
#### Dimensions







Part No.	A/mm	B/mm	C/mm	D/mm	E/mm	F/mm	H/mm
SS-A15-4VM	15.5	53	15.5	27	30	27	84
SS-A15-4SW	10	53	10	27	30	27	73
SS-A60-4VM	15.5	53	15.5	27	30	27	84
SS-A60-4SW	10	53	10	27	30	27	73
SS-A60-6(8)VM	19	53	19	27	30	27	91
SS-A120-4VM	15.5	96	15.5	29	33	30	127
SS-A120-4SW	10	96	10	29	33	30	116
SS-A120-6(8)VM	19	96	19	29	33	30	134
SS-A120-6(8)SW	12	96	12	29	33	30	120
SS-A200-4VM	15.5	98	15.5	35	39	35	129
SS-A200-4SW	10	98	10	35	39	35	118
SS-A200-6(8)VM	19	98	19	35	39	35	136
SS-A200-6(8)SW	12	98	12	35	39	35	122
SS-A300-4VM	15.5	98	15.5	35	39	35	129
SS-A300-4SW	10	98	10	35	39	35	118
SS-A300-6(8)VM	19	98	19	35	39	35	136
SS-A300-6(8)SW	12	98	12	35	39	35	122



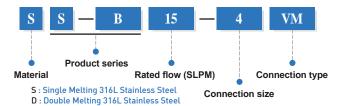
# **Stainless Steel Gas Filter**

# **SS-B Series**

- Ultra-high purity in-line gas filter
- All 316L stainless steel constructions
- High temperature applications
- Compact size and variable end connections



- Excellent compatibility with most high purity semiconductor process gases
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested

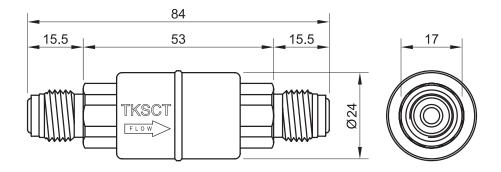


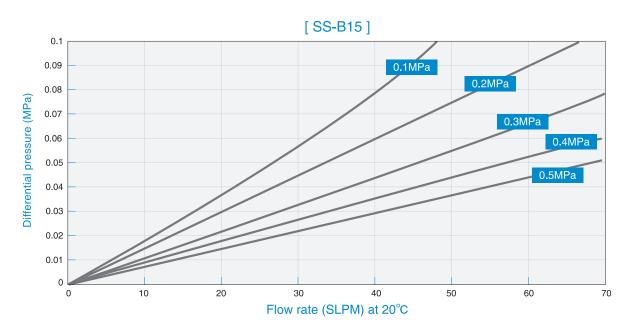
Size		Connection		
4	1/4″	VM	MFS male type	

### Specifications

Removal rating	≥ 0.0025 µm			
Retention	Greater than 99.999999% Removal of all particles down to 0.0025 μm			
Rated flow @ 109	15 SLPM			
Materials	Filter element	316L Stainless steel		
Waterials	Electropolished housing	SM/DM 316L Stainless steel		
	Maximum inlet pressure	0.98 MPa (10kgf/cm²) at 20 °C		
Operating conditions	Maximum differential pressure	0.7 MPa (7kgf/cm²) at 20 °C		
	Maximum operating temperature 460 °C (Inert gas)			
Helium leak rating	1 x 10 <sup>-9</sup> atm cc/sec			
Surface finish interior	≤ Ra 5µin			

#### Dimensions





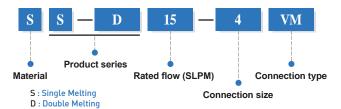
# **Stainless Steel Gas Filter**

# **SS-D Series**

- Ultra-high purity in-line gas filter
- All 316L stainless steel constructions
- High temperature applications
- Compact size and variable end connections



- Excellent compatibility with most high purity semiconductor process gases
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested

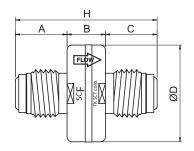


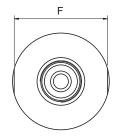
Size		Co	nnection	
4	1/4″	VM MFS male type		
		SW	Lok type	

# Specifications

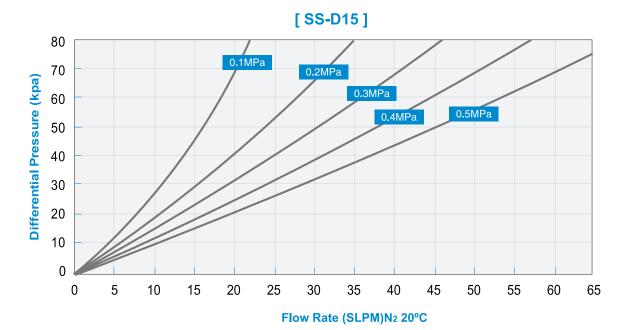
Removal rating	≥ 0.0025 µm	≥ 0.0025 µm				
Retention	Greater than 99.999999% Removal of all particle	Greater than 99.999999% Removal of all particles down to 0.0025 μm				
Rated flow @ 109	15 SLPM	15 SLPM				
Materials	Filter element	316L Stainless steel				
waterials	Electropolished housing	SM/DM 316L Stainless steel				
	Maximum inlet pressure	0.98 MPa (10kgf/cm²) at 20 °C				
Operating conditions	Maximum differential pressure	0.7 MPa (7kgf/cm²) at 20 °C				
	Maximum operating temperature 460 °C (Inert gas)					
Helium leak rating	1 x 10° atm cc/sec					
Surface finish interior	≤ Ra 5µin					

#### Dimensions





Part No.	A/mm	B/mm	C/mm	D/mm	F/mm	H/mm
SS-D15-4VM	15.5	11	15.5	29	28	42
SS-D15-4SW	10	11	10	29	28	31



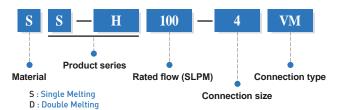
# **Stainless Steel Gas Filter**

# SS-H Series

- Ultra-high purity in-line high flow gas filter
- All 316L stainless steel constructions
- High temperature and dynamic pressure applications
- Compact size and variable end connections



- Wide range flow rate from 100 to 800 SLPM
- Excellent compatibility with most high purity semiconductor process gases
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested

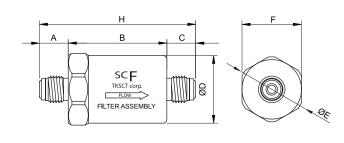


	Size	Co	nnection
4	1/4″	VM	MFS male type
6	3/8″	SW	Lok type
8	1/2″		

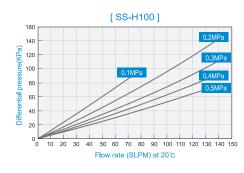
### Specifications

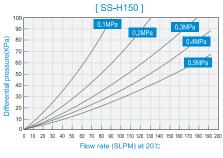
Removal rating	≥ 0.0025 µm				
Retention	Greater than 99.999999% Removal of all particles down to 0.0025 μm				
	100 SLPM (MAX 150SLPM)				
Rated flow @ 109	150 SLPM (MAX 200SLPM)				
	600 SLPM (MAX 800SLPM)				
Materials	Filter element	316L Stainless steel			
waterials	Electropolished housing	SM/DM 316L Stainless steel			
	Maximum inlet pressure	12 MPa (122kgf/cm²) at 20°C			
Operating conditions	Maximum differential pressure	10 MPa (101kgf/cm²) at 20°C			
	Maximum operating temperature 460°C (Inert gas)				
Helium leak rating	1 x 10 <sup>-9</sup> atm cc/sec				
Surface finish interior	≤ Ra 5µin				

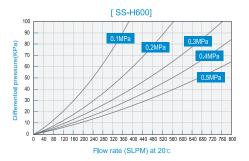
#### Dimensions



Part No.	A/mm	B/mm	C/mm	D/mm	E/mm	F/mm	H/mm
SS-H100-4VM	15.5	53	15.5	32	35	32	84
SS-H100-4SW	10	53	10	32	35	32	73
SS-H100-6(8)VM	19	53	19	32	35	32	91
SS-H100-6(8)SW	12	53	12	32	35	32	77
SS-H150-4VM	15.5	53	15.5	32	35	32	84
SS-H150-4SW	10	53	10	32	35	32	73
SS-H150-6(8)VM	19	53	19	32	35	32	91
SS-H150-6(8)SW	12	53	12	32	35	32	77
SS-H600-4VM	15.5	96	15.5	32	35	32	127
SS-H600-4SW	10	96	10	32	35	32	116
SS-H600-6(8)VM	19	96	19	32	35	32	134
SS-H600-6(8)VM	12	96	12	32	35	32	120







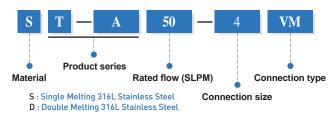
# **PTFE Gas Filter**

# **ST-A Series**

- Ultra-high purity in-line gas filter
- All fluoropolymer filter element
- Electropolished 316L stainless steel housing



- PTFE element with superior corrosion resistance and excellent compatibility for most high purity semiconductor process gases
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested



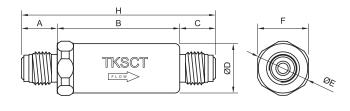
ST-A Series

	Size	Co	nnection
4	1/4″	VM	MFS male type
6	3/8″	SW	Lok type
8	1/2″		

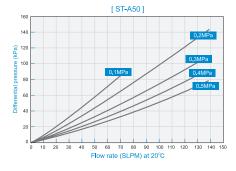
# **■ Specifications**

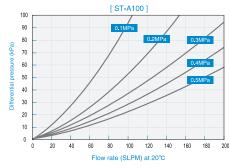
Removal rating	≥ 0.0025 µm				
Retention	Greater than 99.999999% Removal of all particles down to 0.0025 μm				
	50 SLPM				
Rated flow @ 109	100 SLPM				
	150 SLPM				
Materials	Filter element / Support / O-ring	PTFE / PFA / PTFE			
Materials	Electropolished housing	SM/DM 316L Stainless steel			
	Maximum inlet pressure	0.98 MPa (10kgf/cm²) at 20 °C			
Operating conditions	Maximum differential pressure	0.4 MPa (4.2kgf/cm²) at 20 °C			
	Maximum operating temperature 120 °C (Inert gas)				
Helium leak rating	1 x 10 <sup>-9</sup> atm · cc / sec				
Surface finish interior	≤ Ra 5µin				

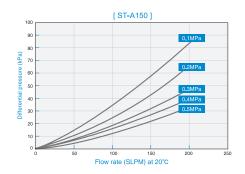
#### Dimensions



Part No.	A/mm	B/mm	C/mm	D/mm	E/mm	F/mm	H/mm
ST-A50-4VM	15.5	53	15.5	21	23.5	22	84
ST-A50-4SW	10	53	10	21	23.5	22	73
ST-A100-4VM	15.5	96	15.5	26	30	27	127
ST-A100-4SW	10	96	10	26	30	27	116
ST-A100-6(8)VM	19	96	19	26	30	27	134
ST-A100-6(8)SW	12	96	12	26	30	27	120
ST-A150-4VM	15.5	96	15.5	26	30	27	127
ST-A150-4SW	10	96	10	26	30	27	116
ST-A150-6(8)VM	19	96	19	26	30	27	134
ST-A150-6(8)SW	12	96	12	26	30	27	120







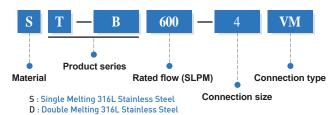
# **PTFE Gas Filter**

# **ST-B Series**

- Ultra-high purity in-line gas filter
- All fluoropolymer filter element
- Electropolished 316L stainless steel housing



- PTFE element with superior corrosion resistance and excellent compatibility for most high purity semiconductor process gases
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested

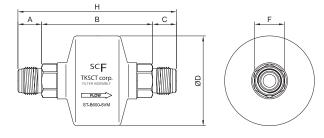


	Size Connection		
4	1/4″	VM	MFS male type
6	3/8″	SW	Lok type
8	1/2″		

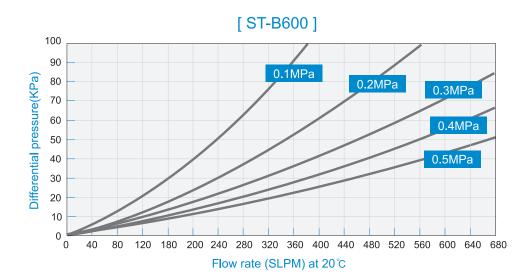
# Specifications

Removal rating	≥ 0.0025 µm				
Retention	Greater than 99.9999999% Removal of all particles down	Greater than 99.999999% Removal of all particles down to 0.0025 μm			
Rated flow @ 109	600 SLPM (MAX 1000SLPM)				
Materials	Filter element / Support / O-ring	PTFE / PFA &ECTFE / VITON			
waterials	Electropolished housing	SM/DM 316L Stainless steel			
	Maximum inlet pressure	0.98 MPa (10kgf/cm²) at 20 °C			
Operating conditions	Maximum differential pressure	0.4 MPa (4.2kgf/cm²) at 20 °C			
	Maximum operating temperature 120 °C (Inert gas)				
Helium leak rating	1 x 10 <sup>-9</sup> atm · cc / sec				
Surface finish interior	≤ Ra 5µin	≤ Ra 5µin			

#### Dimensions



Part No.	A/mm	B/mm	C/mm	D/mm	F/mm	H/mm
ST-B600-4VM	15.5	96	15.5	76	24	127
ST-B600-4SW	10	93	10	76	24	113
ST-B600-6(8)VM	19	89	19	76	24	127
ST-B600-6(8)SW	12	89	12	76	24	113



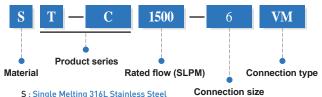
# **PTFE Gas Filter**

# **ST-C Series**

- Ultra-high purity in-line gas filter
- All fluoropolymer filter element
- Electropolished 316L stainless steel housing



- PTFE element with superior corrosion resistance and excellent compatibility for most high purity semiconductor process gases
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested



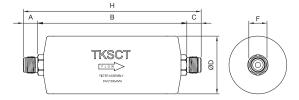
	Size	Connection		
6	3/8″	VM	MFS male type	
8	1/2″	TW	Lok type	
		A	Tube size	

#### D: Double Melting 316L Stainless Steel

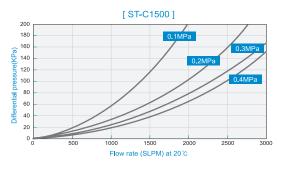
# **Specifications**

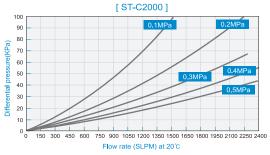
Removal rating	≥ 0.0025 <i>µ</i> m				
Retention	Greater than 99.999999% Removal of all particles down to 0.0025 $\mu m$				
Rated flow @ 10°	1500 SLPM, 2000 SLPM, 2500 SLPM, 3500 SLPM, 7500 SLPM				
Materials	Filter element / Support / O-ring	PTFE / PP / VITON			
waterials	Electropolished housing	SM/DM 316L Stainless steel			
	Maximum inlet pressure	0.98 MPa (10kgf/cm²) at 20 °C			
Operating conditions	Maximum differential pressure	0.4 MPa (4.2kgf/cm²) at 20 °C			
	Maximum operating temperature	100 °C (Inert gas)			
Helium leak rating	1 x 10 <sup>-9</sup> atm · cc / sec				
Surface finish interior	≤ Ra 5µin				

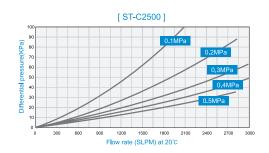
#### Dimensions

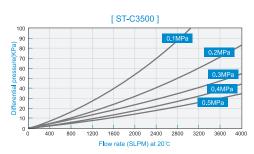


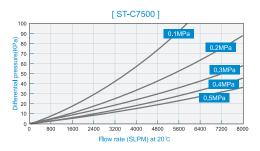
Part No.	A/mm	B/mm	C/mm	D/mm	F/mm	H/mm
ST-C1500-6(8)VM	19	198	19	76	24	236
ST-C1500-8TW	56.2	183	56.2	76	-	295
ST-C1500-15A	49	182	49	76.6	-	280
ST-C2000-15A	49	182	49	76.2	-	280
ST-C2500-20A	71	300	71	89.1	-	442
ST-C3500-25A	70	309	70	89.1	-	448
ST-C7500-40A	70	550	70	89.1	-	689











S : Single Melting 316L Stainless Steel

# **PTFE Gas Filter**

# **ST-C Multi Series**

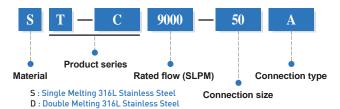
- Ultra-high purity Multi gas filter
- All fluoropolymer filter element
- Electropolished 316 stainless steel housing



- 10"~30" PTFE element with superior corrosion resistance and excellent compatibility for most high purity semiconductor process gases
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested

PTFE Gas Filter ST-C Multi Series ED TKSCT corporation

# **■ Ordering Information**

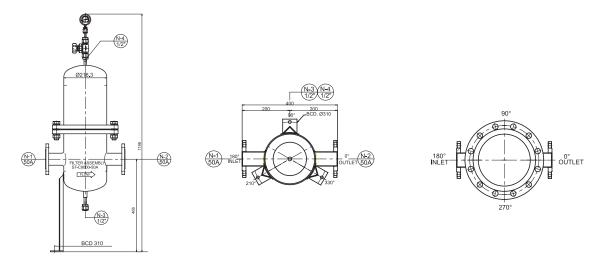


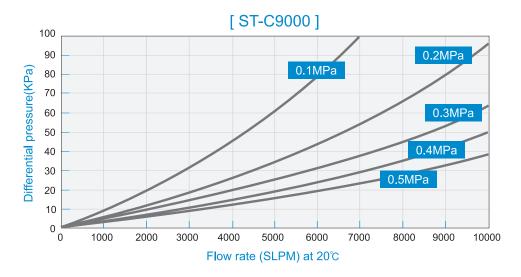
Size	Connection			
50	A	FLANGE Type		

# Specifications

Removal rating	≥ 0.0025 µm	≥ 0.0025 µm			
Retention	Greater than 99.999999% Removal of all par	Greater than 99.999999% Removal of all particles down to 0.0025 μm			
Rated flow @ 109	9000 SLPM	9000 SLPM			
Materials	Filter element / Support / O-ring	PTFE / PP / VITON			
waterials	Housing	Housing 316 Stainless steel			
	Maximum inlet pressure	1.66MPa (17kgf/cm²) at 20°C			
Operating conditions	Maximum differential pressure	0.6 MPa (6kgf/cm²) at 20°C			
	Maximum operating temperature	100°C (Inert gas)			
Helium leak rating	1 x 10 <sup>-5</sup> atm cc/sec	1 x 10 <sup>-5</sup> atm cc/sec			
Surface finish interior	≤ Ra 5µin	≤ Ra 5µin			

#### Dimensions





# **PTFE Gas Filter**

# **ST-H MAX Series**

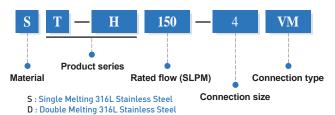
- Ultra-high purity max in-line gas filter
- All fluoropolymer filter element
- Electropolished 316L stainless steel housing



- PTFE element with superior corrosion resistance and excellent compatibility for most high purity semiconductor process gases
- 3 Nanometer particle filtering capability keeps up high flow efficiency with Low pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested

PTFE Gas Filter ST-H MAX Series (1) TKSCT corporation

# **■ Ordering Information**

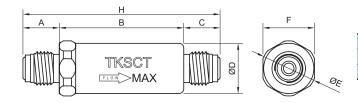


Size		Size Connection		
4	1/4″	VM	MFS male type	
6	3/8″	SW	Lok type	
8	1/2″			

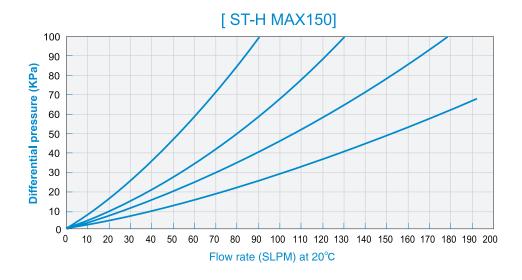
# Specifications

Removal rating	≥ 0.0025 µm			
Retention	Greater than 99.999999% Removal of all particles down to 0.0025 μm			
Rated flow @ 109	150 SLPM			
Materials	Filter element / Support / O-ring	PTFE / PFA / PTFE		
Waterials	Electropolished housing	SM/DM 316L Stainless steel		
	Maximum inlet pressure	0.98 MPa (10kgf/cm²) at 20 °C		
Operating conditions	Maximum differential pressure	0.4 MPa (4.2kgf/cm²) at 20 °C		
	Maximum operating temperature	120 °C (Inert gas)		
Helium leak rating	1 x 10 <sup>-9</sup> atm · cc / sec			
Surface finish interior	≤ Ra 5µin			

#### Dimensions



Part No.	A/mm	B/mm	C/mm	D/mm	E/mm	F/mm	H/mm
ST-H150-4VM	15.5	53	15.5	21	23.5	22	84
ST-H150-4SW	10	53	10	21	23.5	22	73



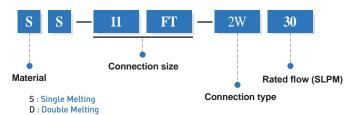
# **IGS Gas Filter**

# **Metal Series**

- Ultra-high purity Metal Mini gas filter
- All 316L stainless steel constructions
- High temperature and dynamic pressure applications
- Compact size and high reliability on shock or vibration



- Wide range flow rate from 30 to 120 SLPM
- Excellent compatibility with most high purity semiconductor process gases
- 3 Nanometer particle filtering capability keeps up high flow efficiency with minimum pressure drop
- 5Ra electro-polished surface prevents internal contaminations
- Baked with hot nitrogen after DI water cleaning to meet semiconductor process standards
- Class 100 manufacturing, cleaning and packaging environment
- 100% helium leak tested

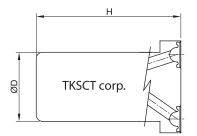


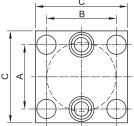
Size		Co	nnection
11	1.125″	W	W-Seal
15	1.5"	С	C-Seal

# **■ Specifications**

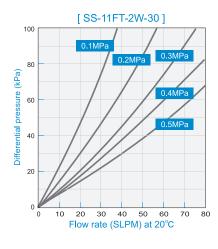
Removal rating	≥ 0.0025 µm	≥ 0.0025 µm		
Retention	Greater than 99.999999% Removal of all par	Greater than 99.999999% Removal of all particles down to 0.0025 μm		
	30 SLPM			
Rated flow @ 10°	60 SLPM			
	120 SLPM			
	Filter element	316L Stainless steel, Hastelloy C276		
Materials	Electropolished housing	SM/DM 316L Stainless steel, Hastelloy C22		
	Maximum inlet pressure	0.98 MPa (10kgf/cm²) at 20°C		
Operating conditions	Maximum differential pressure	0.7 MPa (7kgf/cm²) at 20°C		
Maximum operating temperature 460°C (Inert gas)		460°C (Inert gas)		
Helium leak rating	1 x 10 <sup>9</sup> atm cc/sec			
Surface finish interior	≤ Ra 5µin			

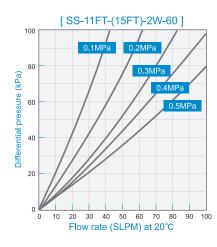
#### Dimensions

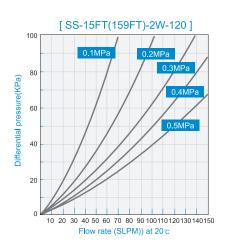




Seal Type	Part Number	A/mm	B/mm	C/mm	D/mm	H/mm
W Cool	SS-11FT-2W-30	20	21.8	28.6	21.5	45
vv-Seai	SS-11FT-2W-60	20	21.8	28.6	21.5	58
C Cool	SS-11FT-2C-30	21.8	21.8	28.6	21.5	45
C-Seal	SS-11FT-2C-60	21.8	21.8	28.6	21.5	58
W-Seal	SS-15FT-2W-60	26	30	39	27.5	62
	SS-15FT-2W-120	26	30	39	27.5	96
C Sool	SS-15FT-2C-60	30.2	30.2	39	27.5	62
C-Seal	SS-15FT-2C-120	30.2	30.2	39	27.5	96
	W-Seal C-Seal	SS-11FT-2W-30     SS-11FT-2W-60     SS-11FT-2C-30     SS-11FT-2C-60     W-Seal   SS-15FT-2W-60     SS-15FT-2W-120     SS-15FT-2C-60     SS-15FT-2C-60     SS-15FT-2C-60     SS-15FT-2C-60	W-Seal         SS-11FT-2W-30         20           SS-11FT-2W-60         20           SS-11FT-2C-30         21.8           SS-11FT-2C-60         21.8           W-Seal         SS-15FT-2W-60         26           SS-15FT-2W-120         26           SS-15FT-2C-60         30.2	W-Seal         SS-11FT-2W-30         20         21.8           SS-11FT-2W-60         20         21.8           SS-11FT-2C-30         21.8         21.8           SS-11FT-2C-60         21.8         21.8           W-Seal         SS-15FT-2W-60         26         30           SS-15FT-2W-120         26         30           SS-15FT-2C-60         30.2         30.2	W-Seal         SS-11FT-2W-30         20         21.8         28.6           SS-11FT-2W-60         20         21.8         28.6           C-Seal         SS-11FT-2C-30         21.8         21.8         28.6           SS-11FT-2C-60         21.8         21.8         28.6           SS-15FT-2W-60         26         30         39           SS-15FT-2W-120         26         30         39           SS-15FT-2C-60         30.2         30.2         39	W-Seal         SS-11FT-2W-30         20         21.8         28.6         21.5           SS-11FT-2W-60         20         21.8         28.6         21.5           SS-11FT-2C-30         21.8         21.8         28.6         21.5           SS-11FT-2C-60         21.8         21.8         28.6         21.5           W-Seal         SS-15FT-2W-60         26         30         39         27.5           SS-15FT-2W-120         26         30         39         27.5           C-Seal         SS-15FT-2C-60         30.2         30.2         39         27.5







# **Element Selection Guide**

		ELE	MENT MATER	RIAL	
No.	GAS CHEMICAL FORMULA		SUS316L	HC-276	PTFE
1	Argon	Ar	•	•	•
2	Arsine	AsH3	•	x	•
3	Boron Trichloride	BCl3	х	•	•
4	Boron Trifluoride	BF3	х	•	•
5	Diborane	B2H6	•	•	•
6	Carbon Dioxide	CO2	•	•	•
7	Carbon Monoxide	СО	•	•	•
8	Chlorine	CI2	•	•	•
9	Halocarbon 13	CCIF3	•	•	•
10	Halocarbon 14 Tetrafluoromethane	CF4	•	•	•
11	Halocarbon 23 Trifluoromethane	CHF3	•	•	•
12	Halocarbon 115	C2CIF5	•	•	•
13	Halocarbon 116 Hexafluoroethane	C2F6	•	•	•
14	Halocarbon 23 Trifluoromethane	CH3F	•	•	•
15	Halocarbon 318 Octafluorocyclobutane	C4F8	•	•	•
16	Halocarbon 218 Perfluoropropane	C3F8	•	•	•
17	Trimethylamine	(CH3)3N	•	•	•
18	Germane	GeH4	•	•	•
19	Helium	He	•	•	•
20	Hydrogen	H2	•	•	•
21	Hydrogen Bromide	HBr	х	•	•
22	Hydrogen Chloride	HCI	х	•	•
23	Hydrogen Fluoride	HF	х	•	•
24	Hydrogen Selenide	H2Se	•	•	•
25	Hydrogen Sulfide	H2S	•	•	•
26	Krypton	Kr	•	•	•
27	Ammonia	NH3	•	•	•
28	Neon	Ne	•	•	•
29	Nitrogen	N2	•	•	•
30	Nitrogen Trifuoride	NF3	•	•	•
31	Nitrous Oxide	N2O	•	•	•
32	Oxygen	02	•	•	•
33	Ozone	О3	х	Х	•
34	Phosphine	PH3	•	•	•
35	Phosphorous Trifluoride	PF3	х	•	•
36	Silane	SiH4	•	•	•
37	Silicon Tetrachloride	SiCl4	х	•	•
38	Silicon Tetrafluoride	SiF4	х	•	•
39	Dichlorosilane	SiH2Cl2	х	•	•
40	Halocarbon 116 Hexafluoroethane	SF6	•	•	•
41	Trichlorosilane	SiHCl3	•	•	•
42	Trimethylsilane	SiH(CH3)3	•	•	•
43	Tungsten Hexafluoride	WF6	х	•	•
44	Xenon	Xe	•	•	•
44	Xenon	Xe	•	•	•

<sup>• -</sup> Recommended, ▲- Limited, X - Not Recommended

# **Specification**

Item	Sample Q'ty	METHOD	CRITERIA
Raw Material & Element Powder	5PC/Lot*1)	<ul><li>(1) Mill Certificate</li><li>(2) Visual</li><li>(3) Dimension : Vernier Caliper</li><li>Tape measure</li></ul>	<ul> <li>Confirm chemical contents and Mechanical properties in mill certificate.</li> <li>No harmful damage on surface.</li> <li>Meet to specification for O.D. and length.</li> <li>Confirm Powder certificate.</li> </ul>
Element	5PC/Lot	(1)Visual (2)Dimension: Vernier Caliper	- No harmful damage on surface.  - Meet to specification for O.D. and length.
Visual	100%	External: Visual Inspection	- No burr, rust, discoloration, mechanical damage, and contamination
Dimensional Inspection	KS A ISO 2859	(1)O.D.: Vernier Caliper (2)Length: Vernier Caliper	- Designated dimension shall be met to required specification
Inner Surface Roughness	1PC / LOT*3)	(1)Cut Off Length: 0.25mm (2)Measuring Length: 1.25mm	- Ra ≤5 μin
Welding	100%	External: Visual, Magnifier	- Maintain even width and height for welding bead - No Pit or crack is allowed - No discoloration
Particle	100%	(1)Test Fluid: Dry Air (2)Pressure: 4 ~ 6 kgf/cm² (3)Flow rate: 35 ~ 40ℓ/min (4)Test time: 1min	- No count 0.0025μm and larger
He Leak	100%	Equipment: He Leak Detector	- 1 x 10-9 atm•cc/sec

Note: \*1) Inspection Lot: Each heat number

\*2) AQL 2.5, II,1time sampling, normal inspection

# **Selection criteria**

1	Particle Retention Efficiency
2	Particle Shedding
3	Removal Rating
4	Pressure Drop & Inlet Pressure
5	Flow Rate
6	Max. Operating Temperature
7	Gas Compatibility & Resistance
8	Connection Type
8	Pollutants & Contaminants
10	Cleanliness

<sup>\*3)</sup> Inspection Lot: Each Traveller

# TKSCT Ultra-high purity in-line Gas filter

#### **■ Production Flow**

#### CAREFULLY SELECTED MATERIALS

Selecting and standardizing a highly clean material reduced non-metalic inclusions and outgases. Further, production of VAR material that is highly resistant to corrosion and Hastelloy<sup>®</sup>  $C-22^{TM}$  material are even made possible.

#### HIGH PRECISION MACHINING PROCESS

Using fully automatic, high precision, high-speed CNC Machining center and lathe, a precision machining process is established. With high precision locating, automatic dimensional calculation and automatic compensation, an unattended, labor-reduced production process is made possible.

#### **ULTRA-HIGH CLEANING PROCESS**

Using TKSCT unique technology for super cleanness, passivation treatment by means of special electropolishing, etc. is applied to the smooth machined surface before polishing process. This enables to form a highly corrosion-resistant and super clean surface structure.

#### **CLEAN WELDING**

Clean welding method is made available by using a high speed, full-automatic orbital welding machine. Using a sealed inner and outer manostat gauge in the clean room, inner pressure is controlled with hyper pure inert-gas so that the totally clean welding technology can fully contribute to realization of the flat bead condition, etc..

#### ULTRA PRECISION CLEANING

An automatic processing line including ultra pure hot water with resistivity of more than  $17M\Omega$ cm has been established in the clean room. The best possible cleaning condition is achieved here prior to the assembly.

#### ASSEMBLY IN THE CLEAN ROOM

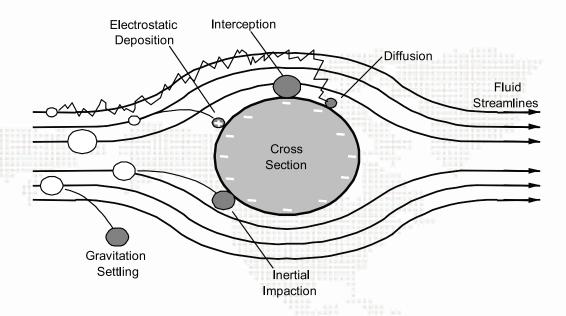
Production staffs fully acquainted with the special assembling method are dedicated to the assembly process in the certified clean room.

#### **CLEAN PACKING**

Packing is carried out at the certified clean room with inner vacuum seal method. In this way, mixing-in of foreign particles at the time of packing is extensively reduced to its minimum.



# **■ Filtration Mechanism**



# **■ Business scope**

u3111033 300p0	
GASES & CHEMICALS	
PHARMACEUTICAL	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
FAB INSTALLATION	
11	
SEMI-CONDUCTOR & TFT-LCD	
CLEAN ROOM	
LAB & RESEARCH	
GENERAL INDUSTRY	
ENERGY AND ENVIRONMENT	

#### Ultra-high purity in-line Gas Filter

**Challenging** the most critical industry requirement with the most reliable and cost-effective solution is our business.





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