

ABSFIL
Absolute Filtration

PROVIDING FILTRATION & SEPARATION

ABSFILOSOPHY

ABSFIL contributes to human beings
value through

**innovative filtration,
separation and
concentration
solutions**

ABSFIL



www.absfil.com



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INDUSTRIAL FILTER

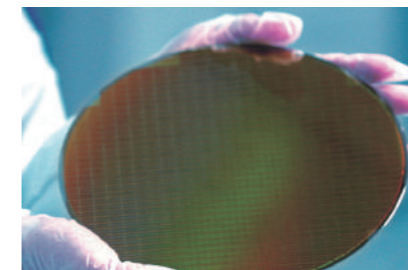
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ABSFIL is

“ an innovative solution provider in filtration, separation, and concentration serving the specific needs of customers across the industry. ”

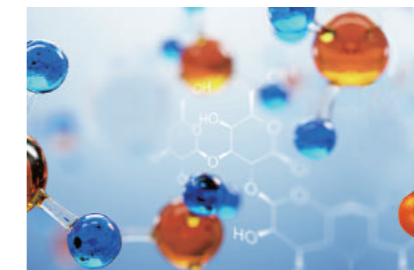
ABSFIL provides the filter elements for liquids and gases, also designs and manufactures the filter vessels to meet the customer's specific requirements. In addition, ABSFIL provides economic solutions for customers who produce Ultrapure Water, Potable Water, Demi-water in Water Treatment as well as wastewater treatment.

Filtration



>> ABSFIL provides the filter elements for liquids and gases, also designs and manufactures the filter vessels to meet the customer's specific requirements. In addition, ABSFIL provides economic solutions for customers who produce Ultrapure Water, Potable Water, Demi-water in Water Treatment as well as wastewater treatment.

Separation



>> ABSFIL has a research team developing membrane solutions for a wide range of applications to provide the membrane-based separation systems to diverse industry segments.

Concentration



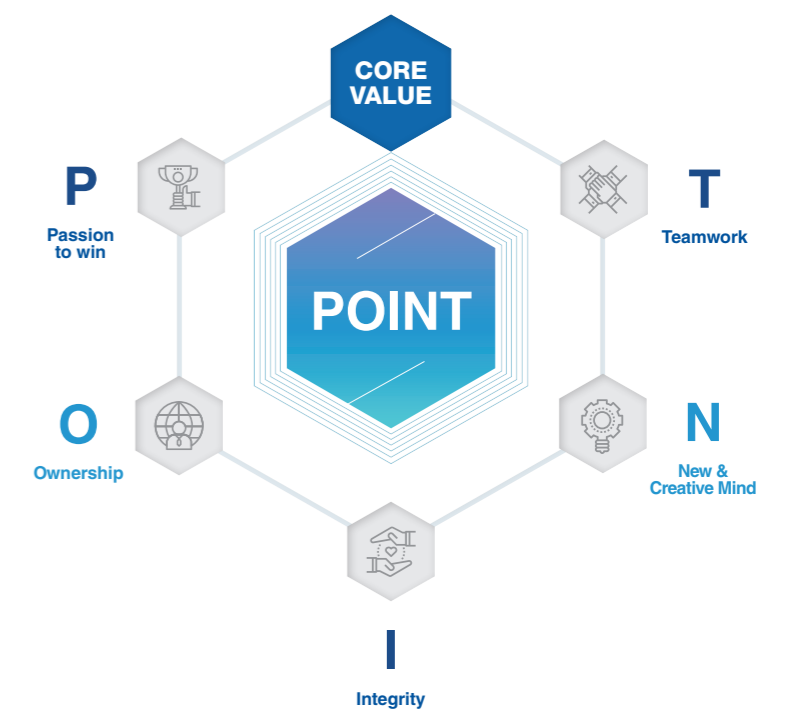
>> ABSFIL offers customers the innovative concentration processes, leading to lower energy consumption, higher efficiency, recycling of valuable resources, lower waste streams and higher product quality.

POLICY

VISION E-Value Creation

MISSION Committed to future happiness of human being through innovative filtration, Separation and concentration technology.

CORE VALUE P. O. I. N. T



HISTORY

2004-2009

- 2004. 12 • Established company
- 2006. 10 • Registered the certificate of utility model "The filter assembly for liquid"
- 2006. 12 • Registered the certificate of utility model "The device for liquid filtration"
- 2006. 12 • Certificate of management renovation company (MAINBIZ)
- 2006. 12 • Exporting business with 25 countries (At US\$2M Mark)
- 2007. 05 • Moved head office to Hwaseong city
- 2008. 08 • Opened Sales Office in Gumi city
- 2007. 10 • Certified ISO 9001:2000
- 2007. 12 • Certified Venture company
- 2009. 03 • Opened R&D Center
- 2009. 12 • Certified Promising Export Firm by MSS

2010-2013

- 2010. 06 • Certified specialized components and materials enterprise by MKE
- 2010. 09 • Promising small and medium sized Enterprise (Gyeonggi Province)
- 2010. 12 • Designated Substitutional military service company by MMA
- 2011. 11 • Attended AQUATECH Exhibition in Amsterdam
- 2011. 11 • Awarded US\$3Million Export Tower
- 2012. 02 • NSF 61 certified
- 2012. 07 • Certified ISO14000:2004
- 2012. 12 • Certified ASME "U & PP" Stamp
- 2013. 04 • Designated Substitutional military service company by MMA (Technical Research Personnel)
- 2013. 05 • Registered the certificate of utility model "the system of water treatment"
- 2013. 08 • Patent Resistration "FO desalination system using membrane distillation"
- 2013. 08 • Patent Resistration "FO desalination unit of membrane distillation that part of inducement solution is directly re-provided to FO separator"
- 2013. 12 • Promising Export company selected by MSS

2014-2018

- 2014. 12 • Awarded US\$5Million Export Tower
- 2015. 01 • Opened Sales office in Busan city
- 2015. 06 • AttendedACHEMA Exhibition in Frankfurt
- 2015. 07 • Certificate for Specialized Materials and Components Enterprise
- 2015. 10 • Certified Promising Small & Medium company
- 2015. 10 • Patent Registration "Manufacturing method of Activated Carbon filters and activated carbon filters by this technology"
- 2015. 10 • Certified fostering company by CCEI
- 2015. 11 • Certified ASME "U & PP" Stamp
- 2015. 12 • Certified technical renovation firm (INNOBIZ)
- 2016. 02 • The 2nd Factory built (Chung-ju, Chungbuk Prov.)
- 2016. 04 • Certified Youth-Friendly Hidden Champion company
- 2016. 07 • Partnership company selected by KITECH
- 2017. 03 • Patent Registration "Hydrophobic Alumina Hollow fiber for Carbon dioxide adsorption and manufacturing method"
- 2017. 05 • KAERI-family company selected by KAERI
- 2017. 12 • Established Overseas Corporation (ABSfil Vina / Vietnam Hai Duong)
- 2017. 12 • Patent Registration "Manufacturing facility and method of Carbon Mat for water treatment and Carbon filters by this technology"
- 2017. 12 • Small and Medium sized company for Human resource development selected by MSS
- 2018. 04 • Global Hidden Champion Company selected by MSS
- 2018. 04 • Patent Registration "Hydrophobic Ceramic Hollow Fiber for features of high efficiency & high strength and manufacturing method"
- 2018. 10 • ABSfil Vina Factory built (Vietnam Hai Duong)



NETWORK

Domestic

Head Office & 1st Factory
#115-9, Namyang-ro, Hwaseong-si, Gyeonggi-do, KOREA 18281

2nd factory
117, Danguri-gil, Judeok-eup, Chungju-si, Chungcheongbuk-do, Korea

Gumi Sales Office
5-6, Indong 28-gil, Gumi-si, Gyeongsangbuk-do, Korea

Busan Sales Office
303, Daedong-ro, Sasang-gu, Busan, Korea

Overseas

ABSFIL Vina(Hai Duong)
Lot CN3-2.2, Tan Truong Industrial Zone, Tan Truong Commune, Cam Giang District, Hai Duong Province, Vietnam

World Wide

Ireland, Italia, Spain, Cyprus, Israel, Saudi Arabia, South Africa, Syria, Kuwait, Iran, Pakistan, UAE, Malaysia, Indonesia, Hong Kong, Japan, Taiwan, Philippines, Thailand, Vietnam, Singapore, Australia, USA, Mexico, Chile

EQUIPMENT & SYSTEM FOR WATER TREATMENT

Desalination Plant

DAF

**Dissolved
Air Flotation**

DAF is a equipment that removes the contaminants from seawater by using air bubbles after flocculating oil, red tide, and low specific gravity suspended solid.

ABSFIL can design and supply the whole system as well as the main equipment.



Agitator



Air Bubble Piping



Perforated Drain Piping
(for collection)



Saturator Vessel

REFERENCES

Client	Location	Project Title	Service	Capacity	PJT Period
DHIC	Kuwait	[Doha Ph.1 SWRO] DAF Pilot Plant	E, M, I	85m ³ /h x 1set	2017
ENPURE	Singapore	[TUAS3 Desalination Plant] DAF Saturator Vessel	E, M, I	5m ³ x 6sets	2016
DHIC	Philippines	[Putatan WTP] Saturator	E, M, I	20m ³ x 2sets	2015
DHIC	Saudi Arabia	[DTRI] DAF Pilot System	E, M, I	500m ³ /h x 1set	2015
DHIC	Saudi Arabia	[DTRI] NBG DAF	E, M, I	300m ³ /h x 1set	2014
ENPURE	Saudi Arabia	[Shuwaik Steam Power Plant] DAF Saturator Vessel	E, M, I	5m ³ x 2sets	2014
DHIC	Korea	[Busan Gijang SWRO] DABF Equipment	E, M, I	4,300m ³ /h	2012
DHIC	Mexico	[Rosarito] DAF Pilot System	E, M, I	20m ³ /h x 1sets	2012

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EQUIPMENT & SYSTEM FOR WATER TREATMENT

Desalination Plant

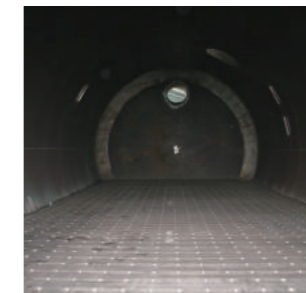
DMF

**Dual Media
Filter**

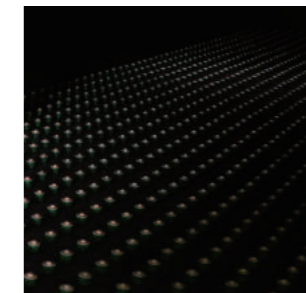
DMF, which uses two or more media, is a pressure filtration equipment that can minimize the installation area. It is effective for removing suspended solids in seawater and is used for pretreatment before SWRO facility. ABSFIL has experience in designing and manufacturing customized maximum size of DMF and provides a solution for water quality assurance and operation sequence with its own projection program.



Vessel



Nozzle Plate



Nozzle Strainer



Bubble Pattern Test

REFERENCES

Client	Location	Project Title	Service	Capacity	PJT Period
SAMSUNG ENGINEERING	China	[X2] Horizontal Sand Filter & Activated Carbon Filter (WWT)	E, M, I	315m ³ /h x 6sets	2019
DHIC	Saudi Arabia	[Shoiba Ph.4 SWRO] DMF Pilot System	E, M, I	30m ³ /h x 1set	2017
DHIC	Saudi Arabia	[DTRI] DMF Pilot System	E, M, I	17m ³ /h x 1set	2015
DHIC	Korea	[High Velocity DMF Development] DMF Pilot System	E, M, I	30m ³ /h x 1set	2015
DHIC	Korea	[Busan Gijang SWRO] Horizontal DMF	E, M, I	460m ³ /h x 6sets	2012

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EQUIPMENT & SYSTEM FOR WATER TREATMENT

Desalination Plant

CF Cartridge Filter

ABSFIL has a lot of manufacturing reference about Cartridge Filter - up to 1800 m³/hr - as Pretreatment system for SWRO Plant. ABSFIL also has manufacturing facility of filter element, workshop for manufacturing vessels and R&D center on progress. With all of these, ABSFIL can perform perfectly to design request of clients.



REFERENCES

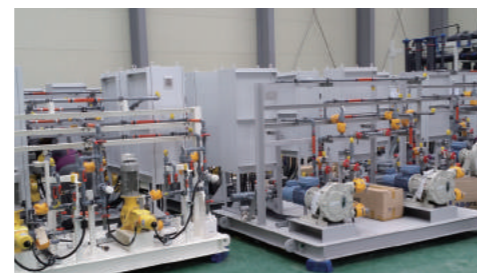
Client	Location	Project Title	Service	Capacity	PJT Period
DHIC	Saudi Arabia	[Shoiba Ph.4 SWRO] Cartridge Filter	E, M, I	1,409m ³ /h x 36sets	2018
DHIC	Kuwait	[Doha Ph.1 SWRO] Cartridge Filter for CIP	E, M, I	1,273m ³ /h x 2sets	2017
DHIC	Chile	[Escondida Water Supply] Cartridge Filter	E, M	1,010m ³ /h x 22sets	2015
POSCO	Korea	[Gwangyang SWRO] Cartridge Filter	E, M, I	930m ³ /h x 4sets	2013
DHIC	Saudi Arabia	[Ras Al Khair SWRO] Cartridge Filter	E, M, I	1,354m ³ /h x 31sets	2012
DHIC	Korea	[Busan Gijang SWRO] Cartridge Filter	E, M, I	2,184m ³ /h x 3sets	2011
DHIC	Korea	[Busan Gijang SWRO] Cartridge Filter for CIP	E, M, I	1,955m ³ /h x 1set	2011
KI Water	Korea	[Busan Gijang SWRO] Cartridge Filter for UF	E, M, I	80m ³ /h x 1set	2011
DHT	Qatar	[GCC] Cartridge Filter	E, M, I	460m ³ /h x 2sets	2009
DHIC	Kuwait	[Shuwaikh SWRO] Cartridge Filter for CIP	E, M, I	702m ³ /h x 1set	2009
DHIC	Saudi Arabia	[Shoiba SWRO Expansion] Cartridge Filter	E, M, I	1,800m ³ /h x 11sets	2007

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CDS Chemical Dosing System

Seawater desalination plants require appropriate chemical dosing facilities for each process, and they varies.

Since understanding all the process, ABSFIL provides CDS that meets performance and safety requirements and is also easy to maintain.



REFERENCES

Client	Location	Project Title	Service	Capacity	PJT Period
BLACK & VEACH	Chile	[Escondida Water Supply Expansion] Skid for Ferric Chloride Dosing	E, M	1set	2018
DHT	Qatar	[UHP Facility D] Chemical Dosing System Pump Skid	E, M, I	10sets	2016
DHIC	Chile	[Escondida Water Supply] Skid for Chemical Dosing System	E, M, I	34sets	2015
DHIC	Korea	[Busan Gijang SWRO] Ferric Chloride Dosing System	E, M, I	1set	2015

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EQUIPMENT & SYSTEM FOR WATER TREATMENT

Industrial & Power Plant

Micro Filter Housing

ABSFIL produces filter elements and vessels on its own, and research and development is underway.

Based on the accumulated technology, ABSFIL has been supplying our products to demanding places such as petrochemical plants and power plants to meet up customer's demand.



REFERENCES

Client	Location	Project Title	Service	Capacity	PJT Period
SAFBN	Saudi Arabia	[ARAMCO Sulfate Removal Facilities] Cartridge Filter	E, M, I	391m ³ /h x 13sets	2018
BIRYONG	Korea	[Daesan RO Expansion] Cartridge Filter	E, M, I	480m ³ /h x 1set	2018
SKC	China	Filter & Housing for Semiconductor	E, M	30m ³ /h x 15sets	2018
ENF TECH	China	Filter & Housing for Etchant Solution	E, M	30m ³ /h x 4sets	2018
ENF TECH	Korea	Filter & Housing for Stripper Solution	E, M	30m ³ /h x 3sets	2018
KAI	Korea	Filter & Housing for Ethanol	E, M	50m ³ /h x 2sets	2017
JM TECH	Korea	[P9-a-S1 Environment System] Cartridge Filter	E, M, I	174m ³ /h x 1set	2017
KOLON e-ENGINEERING	Philippines	[TVEP] Cartridge Filter	E, M, I	83m ³ /h x 6sets	2016
DHT	Qatar	[UHP Facility D] Horizontal Cartridge Filter	E, M, I	217m ³ /h x 5sets	2016
ENTECH	Philippines	[P4] Cartridge Filter	E, M, I	222m ³ /h x 4sets	2016
GREEN ENTECH	Iraq	[Karbala Refinery] Cartridge Filter	E, M, I	367m ³ /h x 8sets	2015
GREEN ENTECH	Korea	[Taeon Thermal Power Plant Units 9&10] Cartridge Filter & Resin Traps	E, M, I	120m ³ /h x 12sets	2014
GREEN ENTECH	Libya	[Zwitina Combine Cycle Add-on] Candle Filter	E, M	60m ³ /h x 4sets	2013
SEC	Vietnam	[Gas-Lift System BKB] Natural Gas Filter	E, M, I	450,000N m ³ /d x 1set	2013
HYOSUNG	Korea	[Young Heung Power Plant] Cartridge Filter	E, M, I	175m ³ /h x 1set	2012
GREEN ENTECH	Philippines	[Petron #3,4] Cartridge Filter for RO CIP	E, M, I	200m ³ /h x 4sets	2012
HYOSUNG	Korea	[Daesan] Cartridge Filter for RO CIP	E, M, I	80m ³ /h x 1set	2012
WETICO	Kazakhstan	[Kazakhstan] Cartridge Filter	E, M, I	148m ³ /h x 4sets	2011
KC SAMYANG	Philippines	[Petron] Cartridge Filter for RO Process	E, M, I	205m ³ /h x 4sets	2011
PTTEP SIAM	Thailand	[Water Injection System] High Flux Cartridge Filter	E, M, I	99.3m ³ /h x 4sets	2009

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UF Ultra Filtration System

Ultra Filtration System, often used for pretreatment of the main facility, is excellent for reducing turbidity and is used throughout the industry.

ABSFIL can reflect the features and advantages of each of the UF module when designing system, provide devices that meet customer needs.



RO Reverse Osmosis System

The water treatment device using reverse osmosis membrane is the most generalized device, and it can minimize wastewater and guarantee water quality continuously according to the design. ABSFIL has acquired the process and complex control technology required in reverse osmosis system throughout years of experience, provides solution satisfying customers.



EQUIPMENT & SYSTEM FOR WATER TREATMENT

Industrial & Power Plant

UPW

Ultra Pure Water Treatment System

Due to the development of electrical and electronic materials and the high growth of the semiconductor industry, related water treatment technologies have developed as well. ABSFIL has acquired the process and complex control technology required in modern ultra pure water treatment system throughout years of experience, provides solution satisfying customers.



REFERENCES

Client	Location	Project Title	Service	Capacity	PJT Period
KM	Korea	[DI Water Expansion] DI Water System	E, M, I	8m ³ /h x 1set	2018
DLP	Korea	[RO System] DI System	E, M, I	20m ³ /h x 2sets	2017
MOTIE	Korea	[Ultra-pure Water Process for Semiconductor] Ultra-Pure Water System	E, M, I	2m ³ /h x 1set	2015
KOLON e-ENGINEERING	Algerie	[Jijel & Bikra] UF Pack	E, M	280m ³ /h x 4trains	2015
KCC	Korea	[KCC DI Expension] UF System	E, M, I	6.3m ³ /h x 24sets	2013
KIMM	Korea	[Research Project] PRO System	E, M, I	6m ³ /h x 1set	2013
KIMM	Korea	[Research Project] UF System for pre-treatment of PRO	E, M, I	25m ³ /h x 1set	2013
E&H	Korea	DI Water System	E, M, I	20m ³ /h x 1set	2013
KCC	Korea	UF System for pre-treatment of RO	E, M, I	75m ³ /h x 2trains	2012
DHIC	Saudi Arabia	[Jeddah SWRO-III] SWRO Element Test System	ES	3m ³ /h x 2trains	2012
DHIC	Saudi Arabia	[Jeddah SWRO-III] BWRO Element Test System	ES	1.5m ³ /h x 2trains	2012
STX	China	DI Water System	E, M, I	0.5m ³ /h x 1set	2011
HWASEONG CITY	Korea	[Gukhwa Island SWRO Expansion] SWRO Plant	ES	4.2m ³ /h x 1set	2010
Korea Polytechnic University	Korea	Ultra Pure Water System for Educational facilities	E, M, I	1m ³ /h x 1set	2010
EXTOL	Korea	DI Water System	E, M, I	0.8m ³ /h x 1set	2010
JNPT	Korea	DI Water System	E, M, I	2m ³ /h x 1set	2010
DHIC	Kuwait	[Shwalkh SWRO] SWRO Element Test System	E, M, I	14.7m ³ /h x 1set	2009
KEOSAN	Korea	DI System	E, M, I	1m ³ /h x 1set	2009

Etc

Client	Location	Project Title	Service	Capacity	PJT Period
KOLON e-ENGINEERING	Uzbekistan	[UZGTL Waste Water Treatment System] WWT SKID	E, M, I	20sets	2018
DHIC	Korea	[Research Project] FO Pilot System	E, M, I	0.2m ³ /h x 1set	2016
POSCO E&C	Korea	[Chuncheon Power plant] Chemical Dosing System	E, M, I	3sets	2016
HYUNDAI E&C	Philippines	[TVEP] Chemical Dosing & General Pump Package	E, M	30sets	2016
JESCO	Korea	Grinding Oil Recycling System	E, M, I	3.9m ³ /h x 1set	2012
CTCI	India	[Petronet LNG Limited] Multi-Media Filter	E, M, I	6m ³ /h x 2sets	2012
HYOSUNG	Korea	[Deasan] Sulfuric Acid Storage Tank	E, M, I	15m ³ /h x 1set	2012
HYOSUNG	Korea	[Deasan] Sulfuric Acid Storage Tank (Additional)	E, M, I	2m ³ /h x 1set	2012
SSLM	Korea	MWS Recycling System	E, M, I	33.7m ³ /h x 1set	2011
SSLM	Korea	Ingot Recycling System	E, M, I	27.5m ³ /h x 1set	2011
SSLM	Korea	E.G Grinding Recycling System	E, M, I	2.6m ³ /h x 1set	2011
CTCI	India	[Petronet LNG Limited] Potable Water Package	E, M, I	35m ³ /h x 2sets	2010

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OTHERS

Separation & Concentration

PV

Pervaporation

The pervaporation process can achieve high-purity solvent with low energy consumption, and separate solvents which are difficult to be achieved by traditional separation methods such as distillation, extraction and adsorption. It has advantages for separation of mixtures and dehydration of solvents with minor or trace water, which is a promising technology for substitution of traditional separation technologies.



REFERENCES

Client	Location	Project Title	Service	Capacity	PJT Period
SYNDIP	Korea	Ethanol Dehydration System	E, M, I	50m ³ /month x 1 set	2018

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CDI

Capacitive Deionization

Capacitive Deionization(CDI) is a technology to deionize feed water by applying an electrical potential difference between two electrodes. CDI has advantage of chemical-free, low-cost, and environmentally friendly alternative to conventional water treatment systems. Electrodes are separated from each other by a mesh spacer, whereby water flows and the ions are removed from the feed water (purification step). These removed ions are temporarily stored in the electrical double layers formed at the electrode surface. When the electrodes become saturated with ions, they are regenerated by reversing the applied voltage and/or short circuiting (regeneration step). After the ions have been released from the electrodes, a concentrate stream is produced and captured ions are flushed from the module.



REFERENCES

Client	Location	Project Title	Service	Capacity	PJT Period
KEPCO	Korea	[Research Project] CDI Pilot Plant	E, M, I	8.3m ³ /h x 1 set	2018

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Gas Separation

Gas separation is the process of segregating primary components from the atmospheric air. Gas separation in other words reveals the information of selective separation of air components from its volume and oxygen plays an important role in chemical industry, medical field, combustion process, isolation of pollutants and recovery of reactants. ABSFIL offers to the design, manufacturing and servicing of membrane and PSA gas separation system.



REFERENCES

Client	Location	Project Title	Service	Capacity	PJT Period
MOTIE	Korea	[Floating Production Platform Topside Systems & Equipment Development] Membrane Gas Separation CO ₂ /CH ₄	E, ES, I	16.6N m ³ /h x 1 set	2017
SD Global	Vietnam	Nitrogen Generator (PSA)	E, I, PS	400N m ³ /h x 1 set	2015

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INDUSTRIAL FILTER

Depth Filter

Suitable as either pre-filters or final filters, ABSFIL offers a range of absolute and nominal rated depth filters using polypropylene, nylon, glass and cotton fibers. Filters can be supplied in standard format or as large diameter, high flow versions, with removal ratings ranging from 0.3 – 200 µm.



TYPE	FEATURES	APPLICATIONS
· PRE I : String wound depth	· Pre-Treatment Filtration	· General Pre-Filtration
· PRE II : Non-woven depth	· Low Cost	· CMP Slurry
· PRE III : Melt-blown depth	· Long Life time	· Food & Beverage
· PRE IV : Big capacity Melt-blown depth	· High Viscosity & Purity Filtration	· Petrochemical / Power plant
· COMBI I-III : Absolute depth	· Organic Adsorption	· Electronic Process / Battery

SPECIFICATION

- OD/ID : 63/28, 30mm · Length : 10" ~ 70"
- Seal Materials : EPDM, Silicone, Viton, TEV, PE Foamed Gasket



Dimension & Structure	Length	9.75", 10", 19.65", 20", 29.5", 30", 39.5", 40", 50", 70" inch / 250, 254, 500, 508, 750, 762, 1000, 1016 mm
ID	28, 30 mm	
OD	62 ~ 110 mm	
Effective filtration area	0.05-0.09m ² per 10 inch	
Materials of Construction	Filtration media (yarn)	Polypropylene, Non foaming PP*, Fibrillated PP, Polyester, Natural cotton, Bleached cotton, Acryl, Fiber glass
Inner core	Polypropylene, reinforced polypropylene by Talc SS 304, SS 316	
Inner core cover	Spun bonded polypropylene, polyester	
O-rings & gaskets	Silicone, EPDM, Viton, TEV & Foamed polyethylene	
Operating Conditions	Maximum differential pressure	30 psid / 2.1 bar at 60°C 60 psid / 4.2 bar at 30°C
Maximum operating temperature	304 SS, 316 SS core - 300°F / 147°C PP core - 176°F / 80°C	

* Silicone free non foaming polypropylene



Dimension & Structure	Length	5", 9.75", 10", 19.65", 20", 29.5", 30", 39.5", 40", 49.21", 50" ~ 70" inch / 127, 250, 254, 500, 508, 750, 762, 1000, 1016, 1250, 1270 mm
ID	28, 30 mm	
OD	62 mm	
Effective filtration area	0.05m ² per 10 inch	
Materials of Construction	Filtration media	100% melt blown polypropylene micro fiber
Inner core and adapters	Polypropylene, reinforced polypropylene by Talc	
O-rings & gaskets	Silicone, EPDM, Viton, TEV & Foamed polyethylene	
Operating Conditions	Maximum differential pressure	30 psid / 2.1 bar at 60°C 60 psid / 4.2 bar at 30°C
Maximum operating temperature	PP core - 176°F / 80°C	



Dimension & Structure	Length	9.75", 10", 19.65", 20", 29.5", 30", 39.5", 40" inch / 250, 254, 500, 508, 750, 762, 1000, 1016 mm
ID	28, 30 mm	
OD	62 mm	
Effective filtration area	0.05m ² per 10 inch	
Materials of Construction	Filtration media	Graded density spun polypropylene, Glass Fiber
Inner core & adapters	Polypropylene, reinforced polypropylene by Talc	
O-rings & gaskets	Silicone, EPDM, Viton, TEV & Foamed polyethylene	
Operating Conditions	Maximum differential pressure	36.3 psid / 2.5 bar at 60°C 69.6 psid / 4.8 bar at 30°C
Maximum operating temperature	PP core - 176°F / 80°C	

INDUSTRIAL FILTER

Pleated Filter

ABSFIL pleated cartridges employ different media types, including polypropylene, polyester, glass fiber and nylon with absolute removal ratings ranging from 0.1 – 200 µm. Filters can be supplied in standard format or as large diameter, high flow versions for ultimate efficiency, depending on the application.



TYPE	FEATURES	APPLICATIONS
· PORPRO I : PP nominal	· High particle retention	· Semi-conductor
· PORPRO II : PP high flow	· Good chemical compatibility	· TFT-LCD, OLED
· PORPRO III : PP absolute	· High Chemical resistance	· Electronic, Chemical, Film, Optic
· PORLAS : Glass Fiber(absolute)	· Superior high flow rate	· Petrochemical, Oil & Gas
	· Manufactured in clean room environment(Class 1,000)	· Pharmaceutical & Biological
		· Food & Beverage

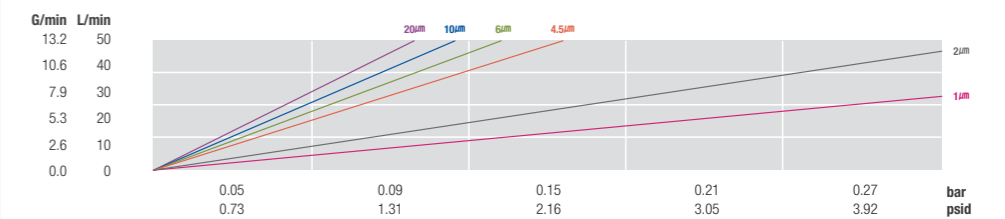
SPECIFICATION

- OD/ID : 68/30mm · Length : 10" ~ 40" · Seal Materials : EPDM, Silicone, Viton, TEV



Pressure Drop vs. Water Flow Rate

Polypropylene



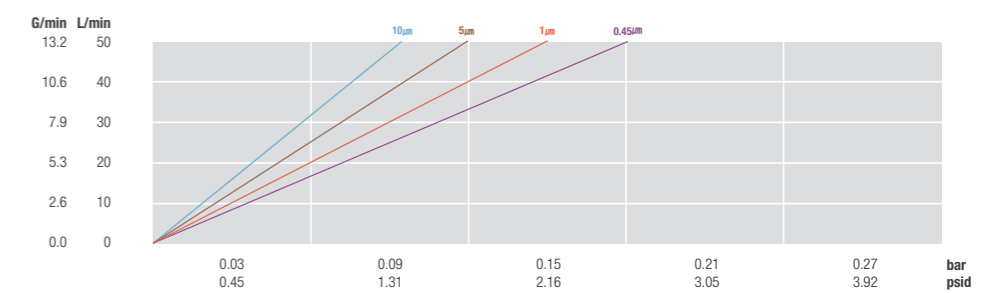
Liquid Particle Retention Ratings

Removal Ratings(µm)	β=5,000 99.98 %	β=1,000 99.90 %	β=100 99.00 %	β=10 90.00 %
1	< 1*	6	2.5	< 0.7*
2	2	9	5	< 1.8*
4.5	4.5	14	8	3.8
6	6	17	10.5	5.2
10	10	22	12.8	8.2
20	20	34	24.5	17.5

* Extrapolated value



Pressure Drop vs. Water Flow Rate



Liquid Particle Retention Ratings

Removal Ratings(µm)	β=5,000 99.98%	β=1,000 99.90%	β=10 90.00%
0.45	< 0.5*	< 0.4*	< 0.4*
1	< 1*	< 0.8*	< 0.5*
5	3	<1.7*	< 1*
10	10	3	4.5

* Extrapolated value

INDUSTRIAL FILTER

Membrane Filter

Designed for sub-micron filtration, these cartridges are selected to suit the characteristics of particular process applications, with high flow rates and the ability to be repeatedly integrity tested - to give optimum filtration performance. They can be used as prefilters or final filters and are suitable for particulate of microbial reduction in critical applications, including sterilization. We offer absolute rated pleated membrane filters with either hydrophilic polyethersulfone (PES) or hydrophobic PTFE media. These are supported with comprehensive technical documentation.



TYPE

- PORPES : PES membrane
- PORPEX : Advanced PES membrane
- PORTEF : PTFE membrane (Hydrophobic & Hydrophilic)
- PORPPM : PP membrane
- PORNON : Nylon membrane

FEATURES

- Highly Asymmetrical Pore Structure Membrane Used
- High Chemical resistance
- Hydrophilic & Hydrophobic Membrane is available

APPLICATIONS

- Semi-conductor
- TFT-LCD, OLED, CDA
- Electronic, Chemical, Film, Optic
- Petrochemical, Oil & Gas
- Pharmaceutical & Biological

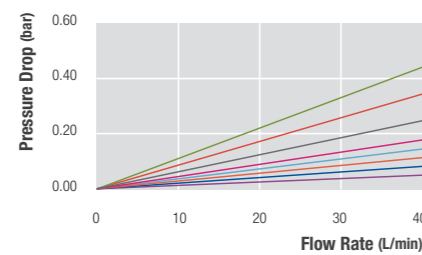
SPECIFICATION

· OD/ID : 68/30mm · Length : 10" ~ 40" · Seal Materials : EPDM, Silicone, Viton, TEV

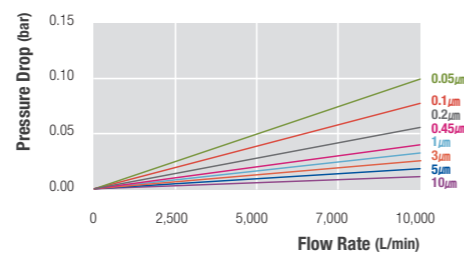


Pressure Drop vs. Water Flow Rate

Water Flow Rate



Air Flow Rate

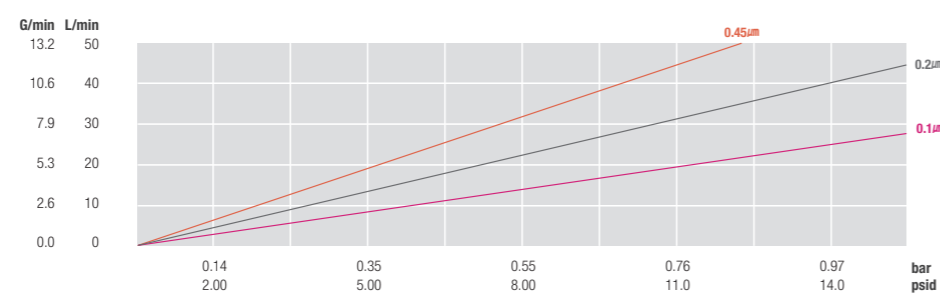


Bubble Point for 10 inch Cartridge (Single layer)

Pore size(µm)	0.05	0.1	0.2	0.45	0.7	1.0	3.0	5.0	10.0
Bar	> 2.2	> 1.6	> 1.3	> 0.5	> 0.3	> 0.2	-	-	-
Psi	> 31.9	> 23.2	> 18.9	> 7.3	> 4.6	> 2.9	-	-	-
Measured	In IPA								
Retention of bacteria (log.red.value)	11								
Bacteria	Acholeplasma laid lawii	Brevundimonas diminuta	Serratia marcescens	Sacch cerevisiae					



Pressure Drop vs. Water Flow Rate



Bubble Point for 10 inch Cartridge (Single layer)

Pore size(µm)	0.1	0.2	0.45
Bar	> 3.1	> 2.1	> 0.8
Psi	> 45.6	> 30.9	> 11.8
Measured	In Water		

INDUSTRIAL FILTER

Big Capacity Filter

Big Capacity Filter, pleated filter cartridge filters, are designed for application where high flow rate and precise particles removal rating is required. This filters which is designed with 83-152mm out diameter have ten times more filtration area comparison with normal filters. Highly recommended for not only generation from 10 to 11 of TFT-LCD but also AM-OLED, sea water desalination, pre-filtration of RO system and power generation, etc.



TYPE

- PORFLUX I : OD 83
- PORFLUX II : OD 131
- PORFLUX III : OD 152
- PORFLUX IV : OD 152
- PORFLUX V : OD 152

FEATURES

- Big Capacity
- High flow liquid streams
- Available in the wide range media of depth and membrane

APPLICATIONS

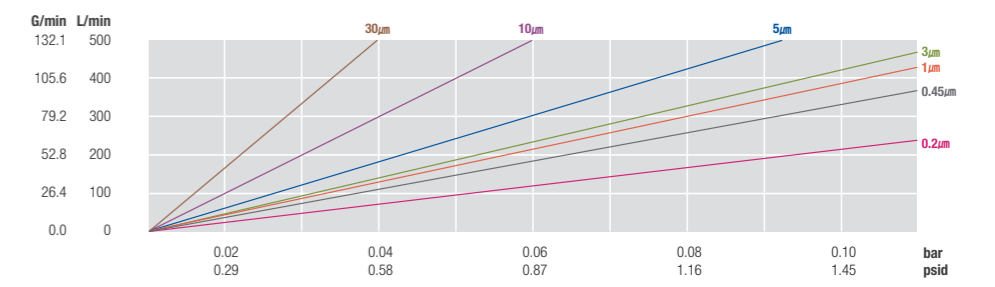
- TFT-LCD, AM-OLED
- Desalination Plant
- Power Generation Plant
- Petrochemical
- General Industry

SPECIFICATION

· OD : 83, 131, 152mm · Length : 10" ~ 60"(Only Ø152) · Seal Materials : EPDM, Silicone, Viton, TEV



Pressure Drop vs. Water Flow Rate

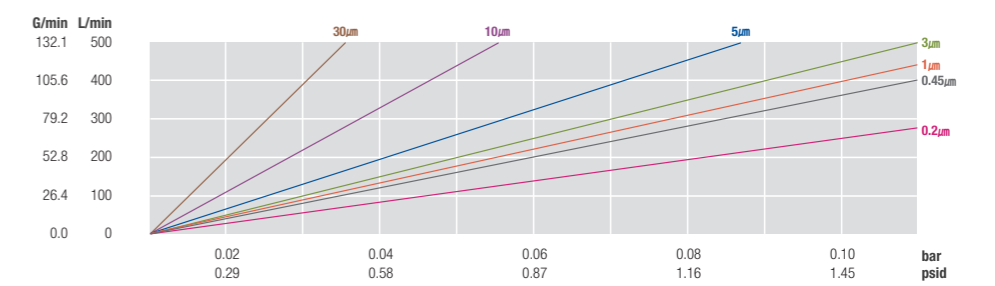


Liquid Particle Removal ratings

Polypropylene micro fiber	Absolute : 0.6, 0.8, 1, 5, 10, 20 Nominal : 0.2, 0.45, 1, 3, 5, 10, 30
PES Membrane	0.04, 0.1, 0.2, 0.45, 0.6, 0.8, 1.2
PTFE Membrane	0.05, 0.1, 0.2, 0.45, 0.7, 1, 3, 5, 10
PP Membrane	0.1, 0.2
Fiber glass	0.45, 1, 5, 10



Pressure Drop vs. Water Flow Rate



Liquid Particle Removal ratings

Polypropylene micro fiber	Absolute : 0.6, 0.8, 1, 5, 10, 20 Nominal : 0.2, 0.45, 1, 3, 5, 10, 30
PES Membrane	0.04, 0.1, 0.2, 0.45, 0.6, 0.8, 1.2
PTFE Membrane	0.05, 0.1, 0.2, 0.45, 0.7, 1, 3, 5
PP Membrane	0.1, 0.2
Fiber glass	0.45, 1, 5, 10

INDUSTRIAL FILTER

Capsule Filter

Capsules are fully disposable filter units for small- and medium-scale liquid and gas processing applications. They are ready-to-use, avoiding the need to purchase or maintain filter housings and are easy to change-out with minimum downtime. Available with hydrophilic PES or hydrophobic PTFE membranes and with polypropylene or borosilicate glass pleated media.



FEATURES

- Minimized dead space for complete and easy venting
- High flow rates and superior throughputs
- Good chemical compatibility
- Manufactured in clean room environment
- Manufactured by ISO 9001 and 14001 quality control system

APPLICATIONS

- CMP slurry
- Photoresist
- MLCC
- Toxic chemical
- Expensive liquid and air

DIMENSIONS

Capsule Type	NPT	Swagelok	Flaretek
A (Length)	118.5mm / 200mm	114.5mm	141mm
B (OD)	72mm	72mm	72mm
C (Space)	20mm	20mm	20mm
In/Out	1/4"	1/4"	1/4", 3/8"
Vent/Drain	1/8"	1/8"	1/8"



FEATURES

- Easy change of filter cartridge
- No cleaning of filter housing
- Minimum liquid loss
- Improvement of working environment
- Available of many kind of filter cartridge

APPLICATIONS

- MLCC
- Fine bulk chemical
- Toxic chemical
- Strong acid and base liquid

SPECIFICATIONS & OPERATING CONDITIONS

Connection & Dimension	In/Out	One touch quick coupling
	Vent	11mm
Materials of Construction	Nominal Length	290 mm, 580mm
	Housing	Polypropylene
	O-ring	EPDM
	Spring	SS 304
Operating Conditions	Maximum Operating Pressure	5 bar at 25°C

INDUSTRIAL FILTER

Bag Filter

PROBAG (general filter bag) series offers optimum filtration performance with low operation cost. PROBAG is available in 4 different precision filter media which varies in structure, fiber material and filter fineness.



FEATURES & BENEFITS

- Removal rating from 0.5 to 200
- Wide chemical compatibility
- Mono-filament mesh
- Available in standard ring, SS ring, PP, PE sea
- Optional extended life feature
- Polypropylene needle felt
- High efficiencies of exceeding 95%
- Melt-blown non-woven

SPECIFICATIONS & OPERATING CONDITIONS

Removal rating		0.5, 1, 5, 10, 25, 50, 75, 100, 150, 200 micron
Operating Conditions	Maximum differential pressure	≤30 psid / 2.0 bar at 25°C
	Differential pressure for change-out	≤20 psid / 1.5 bar
	Maximum operating temperature	176°F / 80°C

Pleated Bag Filter

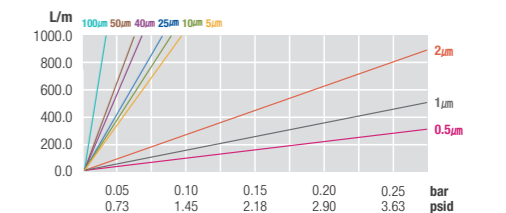


FLUXBAG series Filter Cartridges which got patent by radial pleated technology is maximized on filtration area. It designed high flow capability up to 500gpm Besides, this is designed to be easily installed and taken off and to be outside-to-in flow path. Positive seals are supplied through "twist-to lock" cartridge seating mechanism. This is applied to precision filtration application and broad chemical compatibility due to composing computer controlled melt blown polypropylene microfiber. This filter is applied to application where high flow capability and long life time is required by special media structure. For this features, this is designed for compact and space saving. This one can directly be used for food and beverage market because of using polypropylene that certified FDA.

FEATURES

- Absolute efficiency of 0.5micron~100micron
- High dirt holding capacity to max.18kg/pcs
- Patented radial pleated construction for high filtration area
- 100% polypropylene meltblown microfiber
- High strength polypropylene support
- All materials of cartridge meet NSF42 & FDA requirement
- Excellent chemical resistance and compatibility
- Manufacture in class 10,000 cleanroom

Pressure Drop vs. Water Flow Rate



SPECIFICATIONS & OPERATING CONDITIONS

Removal rating		0.5, 1, 2, 5, 10, 25, 50, 100 micron
Dimension & Structure	Length	10", 20", 30", 40", 60" inch / 254, 508, 762, 1016, 1524 mm
	ID	1.6inch / 40 mm
	OD	6.5inch / 165 mm
	Filtration area	17m ²
Materials of Construction	Filtration media	Polypropylene
	Support net	Polypropylene
	Inner core	Polypropylene
	Oring	EPDM, Silicone, Viton, TEV
Operating Conditions	Maximum differential pressure	50 psid / 3.5 bar at 30°C
	Differential pressure for change-out	35 psid / 2.5 bar
	Maximum operating temperature	176°F / 80°C

INDUSTRIAL FILTER

Carbon Filter

One-step Carbon filter cartridges are made of activated carbon powder which eliminate the problems associated with loose carbon treatment and the need for a separate filtration system. This is very suitable for removing organic impurity in plating process & chlorine reduction from water.



FEATURES

- Organic impurity removal
- Non-Contaminating
- High-Grade Activated carbon
- High absorption efficiency
- High speed for absorption and detachment more than twice compared to granular

APPLICATIONS

- Plating process
- Removal of color, odor, organics and dusts
- Removal of volatile organic chemical
- Purification of process water and waste water
- Improvement of crystallization and de-solvent
- Recovery of solvent and gold

SPECIFICATIONS

Dimension & Structure	Length	250, 500, 750, 1000 mm
	ID	28-30 mm
	OD	64-68 mm
Materials of Construction	Effective filtration area	0.05m ² per 10 inch
	Filtration media (yam)	Activated carbon powder
	Inner core	Polypropylene
Operating Conditions	O-rings & gaskets	Silicone, EPDM, Viton, TEV & Foamed polyethylene
	Maximum differential pressure	30 psid / 2.1 bar at 60°C, 60 psid / 4.2 bar at 30°C
	Maximum operating temperature	Polypropylene - 176°F / 80°C

Metal Filter



PROMET MS series filter cartridges are constructed from fine woven stainless steel wire meshes with higher void space. Sintered wire meshes produce an extremely strong porous material whose wires will not shift under stress and whose pore size integrity is continually maintained. This style filter cartridges with applications in bulk active pharmaceutical chemical purification processes such as catalyst solids recovery and decolorizing carbon removal.

FEATURES

- All stainless steel construction and fully welded
- Excellent mechanical strength
- Available in pleated and wrap-around arrangement
- No material migration
- Support drain construction ensure pleat strength
- Three end cap configurations available
- Back flush
- Special design available

APPLICATIONS

- High temperature fluid
- High viscosity fluid, corrosive liquid and gas
- Toxic or hazardous fluid
- Process steam
- Natural or process gas paint & varnish

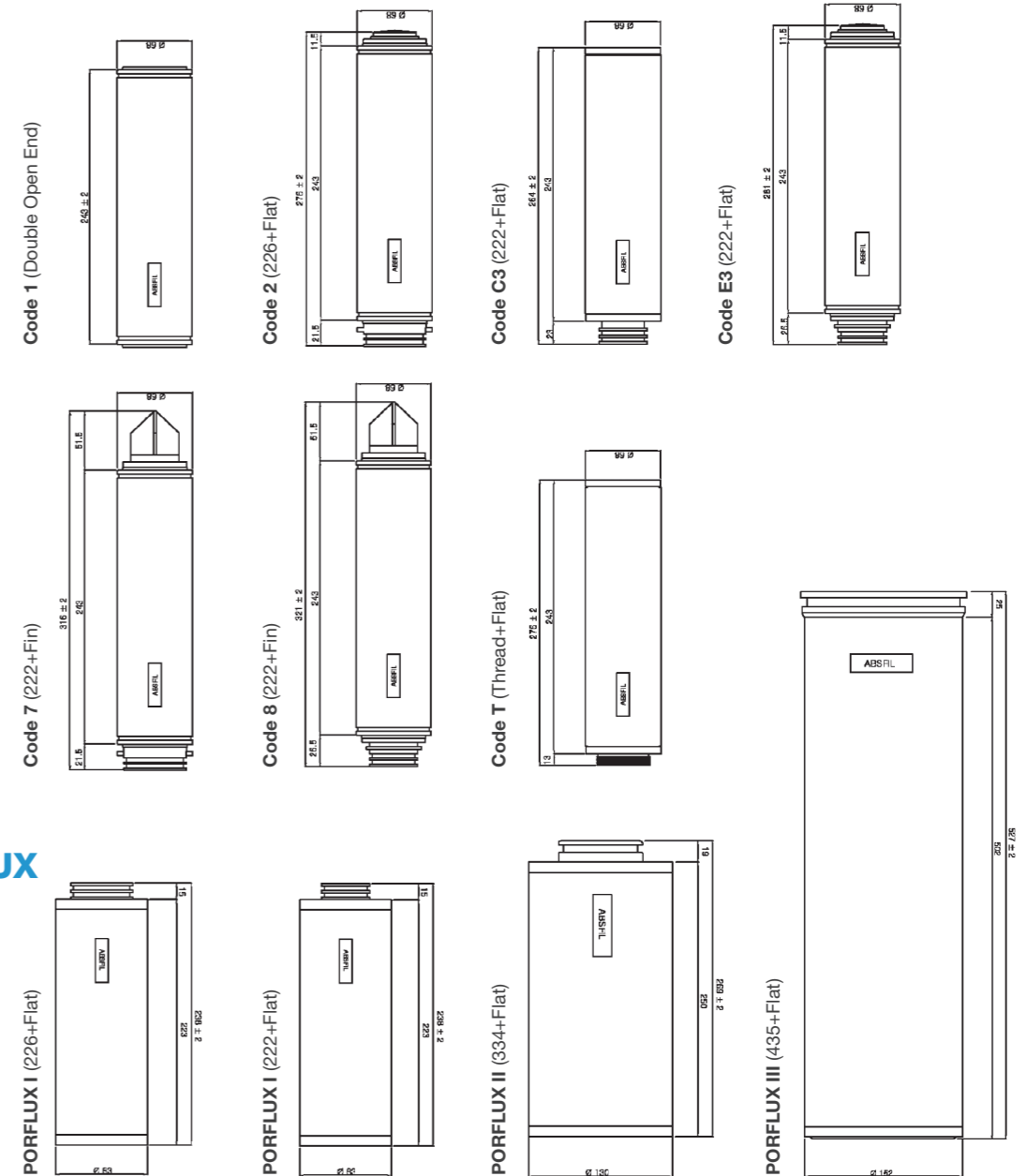
SPECIFICATIONS

Dimension & Structure	Length	10", 20", 30", 40" inch / 250, 500, 750, 1000 mm
	ID	30 mm
	OD	68 mm
Materials of Construction	Filtration media	SS 304, SS 316
	O-rings & gaskets	Silicone, EPDM, Viton, TEV
Operating Conditions	Maximum differential pressure	Standard welded arrangement : 87 psid / 6 bar at 25°C. Heavy welded arrangement : 2263 psid / 156 bar at 25°C
	Maximum operating temperature	680°F / 360°C

INDUSTRIAL FILTER

Dimension

Code



Code	Length (mm)			
	10 inch	20 inch	30 inch	40 inch
Code 1	243 ±2	490 ±2	737 ±2	984 ±2
Code 2	276 ±2	523 ±2	770 ±2	1017 ±2
Code C3	264 ±2	511 ±2	758 ±2	1005 ±2
Code E3	281 ±2	528 ±2	775 ±2	1022 ±2
Code 7	316 ±2	563 ±2	810 ±2	1057 ±2
Code 8	321 ±2	568 ±2	815 ±2	1062 ±2
Code T	254 ±2	501 ±2	748 ±2	995 ±2



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