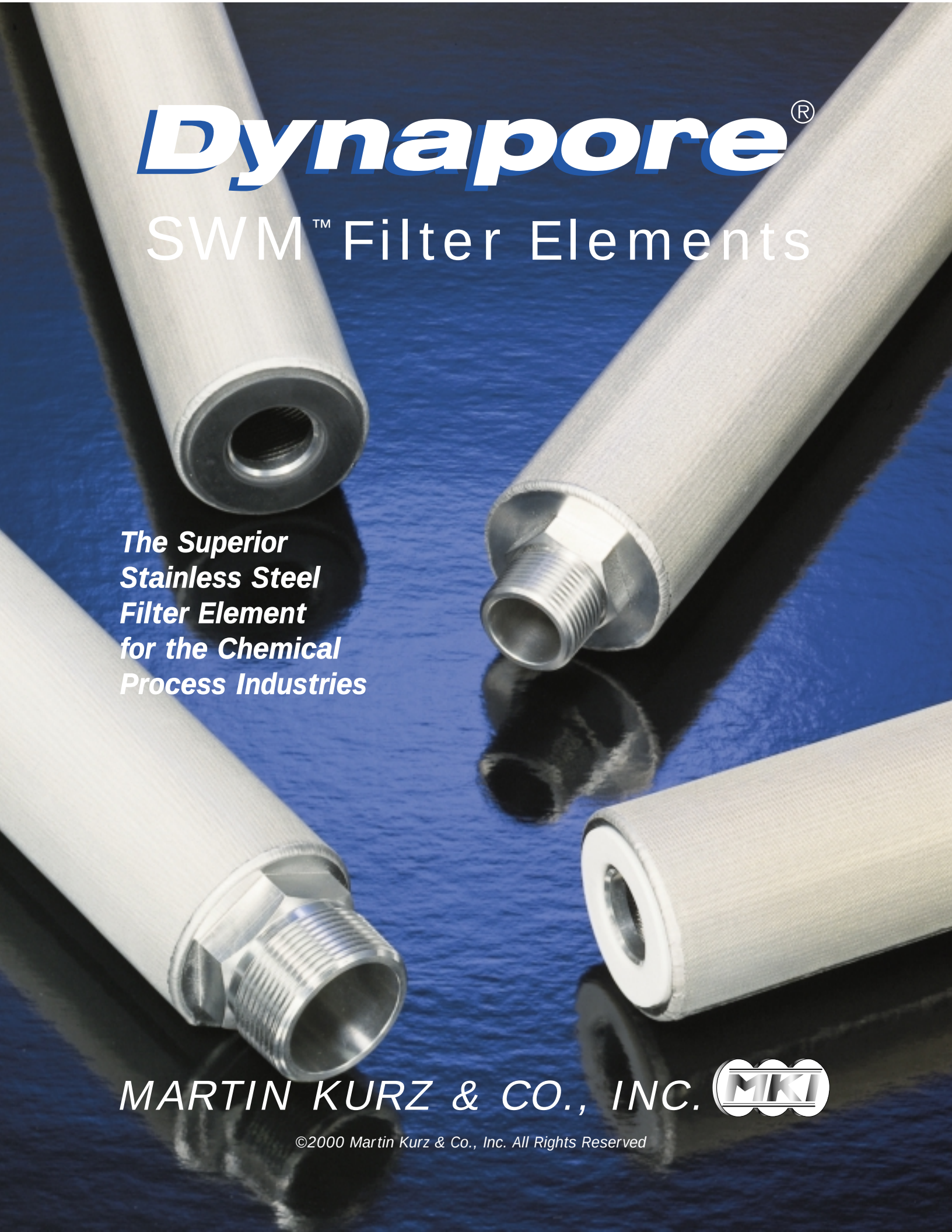
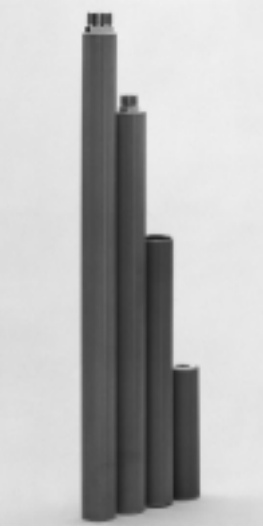


HIGH PERFORMANCE SWM™
A Superior Choice for Retrofits or Systems OEM Usage

IMPROVED PERFORMANCE

SWM filters were developed to replace poorly performing sintered porous metal, wedge-wire, string wound and other types of cartridges. In many instances, flow rates may be dramatically improved without compromising filtration efficiency. In other instances, frequency of downtime for element cleaning and replacement may be sharply reduced, resulting in savings which can far outweigh initial retrofit costs.

QUALITY CONSTRUCTION



Standard SWM cartridges are constructed of 100% extra low-carbon 316L stainless steel, including SWM filter medium, hardware, and welding filler materials, affording absolutely maximum corrosion resistance. End fittings are MKI-designed heavy gauge custom-machined hardware, combining retrofit compatibility, ease of use, and maximum structural strength. Our high-quality welds are 100% leak-tested during assembly to insure structural integrity.

UNIQUE SWM™ FILTER MEDIUM

Drawing on decades of experience in the field of sintered metallic filter media, MKI has developed optimized filter medium constructions which are produced by our unique laminating, sintering and HIP diffusion-bonding processes. These processes have been refined to provide maximum physical integrity with no metallurgical degradation or loss of corrosion resistance. SWM filter medium is specifically designed for high-performance cylindrical cartridge architecture, and provides optimal surface collection and barrier filtration of particulate contaminant.

CLEANABILITY

SWM elements are fully cleanable and reusable, eliminating repeated cartridge replacement and waste cartridge disposal. A variety of cleaning methods may be employed, including chemical processing and high-temperature hydrogen furnace heat treating. MKI can advise cleaning methods, offer reconditioning services, or recommend outside contractors who specialize in the cleaning and testing of stainless steel filter elements.

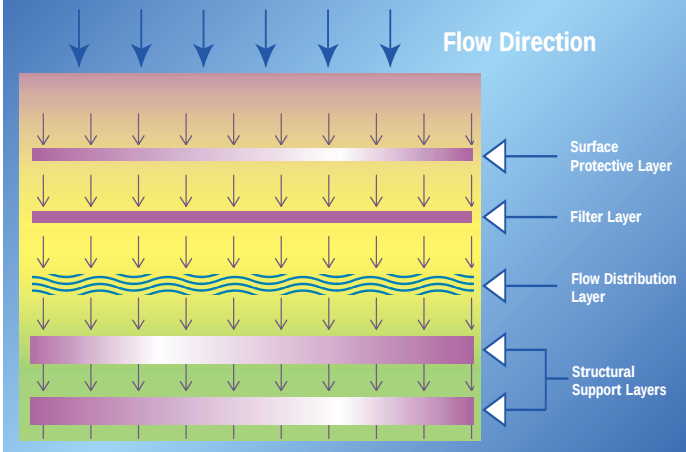
WIDE PERFORMANCE RANGE

SWM is available in nine standard filtration grades, ranging from 100 down to 2 microns nominal (98% removal rating for liquid filtrates), with total weight removal up to 99.99% under optimal conditions. With availability in standard all-316L stainless steel, or alternate materials for special applications, compatibility with high flow rates, high temperatures, high pressures, precoats, and corrosive environments, SWM filters can meet the demands of many filtration applications. For even finer filtration, ask about our unique, state-of-the-art SKM™ composite filters.

AVAILABLE IN CUSTOM RETROFIT CONFIGURATIONS

MKI standard elements are designed to fit most industrial cartridge housings (see description on following page). However, many larger filtration systems have non-standard element designs. Users of these systems need not be locked into unsatisfactory elements. MKI can produce custom retrofits in a wide range of diameters and lengths, with compatible fittings. Replacement elements may be engineered for standard or reverse (inside-to-outside) primary flow for a variety of system configurations. SWM elements have been retrofitted into liquid-solid, gas-liquid, and gas-solid separation systems, with or without precoat, blowback , or backwash.

Flow vs. Pressure Drop Data



SWM™ Media comprise five (5) carefully selected layers for optimum performance.

SWM™ is the Element of Choice for Systems with Automatic Backwashing

• Backwashes Clean • Precoat Compatible

Both systems OEM's and retrofit users have reported particular satisfaction with SWM elements in systems with periodic backwashing. Unlike depth media, which may have greater dirt holding capacity but tend to clog within their internal void volume, SWM filter medium provides surface collection for clean backwashing. Onstream life is therefore improved, and frequency of downtime for element removal is decreased. SWM has also shown excellent compatibility with precoats such as diatomaceous earth.

STANDARD ELEMENT DESIGN

Standard SWM filters are 2 - 1/2" OD non-pleated cylinders with one longitudinal weld seam, and welded end-fittings. Elements longer than 36" nominal are constructed in segments with machined joiner rings. SWM filters are available in two styles: Gasket-Seal Series and Threaded Connector Series (see photograph on front cover).

Gasket-Seal Series filters are double open-ended and are designed for use in tie-rod housings. Gaskets (Buna-N, Ethylene Propylene, Viton, or Teflon) are supplied with the filters. Gasket dimensions are 1.25" ID x 2.125" OD x 1/8".

Threaded Connector Series filters have a 1" or 1 - 1/2" male NPT/hex connector on one end, with the other end sealed.

OPERATING PARAMETERS

Given their 100% 316L stainless steel construction, standard SWM elements are appropriate for any environment compatible with this excellent alloy. Recommended temperature: up to 600°F for threaded connector elements. Gasket-seal elements are limited by the temperature resistance of the gaskets as follows: Buna-N 250°F; Ethylene-Propylene 350°F; Viton 400°F; Teflon 450°F. Recommended maximum pressure differentials: 100 psid forward flow (outside-to-inside), 50 psid reverse flow.

STANDARD ELEMENT PART NUMBERS

Form P/N as follows: SWM – [Nominal Grade] – [Configuration Code] – [Length Code]

Gasket-Seal Series

Code	Description
DOE	Double open end; Buna-N gaskets
DOP	Same; Ethylene-Propylene Gaslets
DOV	Same; Viton gaskets
DOT	Same; Teflon gaskets

Threaded Connector Series

Code	Description
NPA	1" male NPT/Hex connector
NPB	1-1/2" male NPT/Hex connector

Nominal Grade	Removal Ratings (Liquid) Nom.	Abs.	Removal Ratings (Gas) Nom.	Abs.
2	2	12	2	9
5	5	18	4	14
10	10	25	6	18
20	20	40	10	25
40	40	60	30	50
60	55	70	40	70
80	75	90	50	80
100	100	120	75	100

Notes:
- All ratings are in microns.
- Nominal ratings correspond to 98% removal efficiencies.
- Filter performance varies with filtrate, contaminant, pressure and flow characteristics. All data and information contained herein are as a guideline only. For further information please consult factory.

Gasket-Seal Series

Nominal Length	Actual Length w/o Gaskets	with Gaskets	Filter Area (Sq. Ft.)
10"	9.87"	10.06"	0.51
20"	19.87"	20.06"	1.04
30"	29.87"	30.06"	1.57
40"	39.92"	40.11"	2.08

Threaded Connector Series

Nominal Length	Actual Length[2] NPA (1")	NPB- (1-1/2")	Filter Area (Sq. Ft.)
10"	10.87"	11.12"	0.50
18"	18.87"	19.12"	0.93
24"	24.87"	25.12"	1.24
30"	30.87"	31.12"	1.56
36"	36.87"	37.12"	1.88
48"	48.67"	48.92"	2.48

1- Elements longer than 36" nominal include one welded joiner ring at the midpoint.

2- Actual element lengths shown are end-to-end including threaded connectors. Connector length including hex, is 1.25" for NPA, 1.50" for NPB.

Note: Non-standard lengths also available.

Example: **P/N SWM-5-NPA-18**
denotes an 18" long, 5 micron SWM standard element, 316L stainless steel, 2 - 1/2" OD, with a 1" NPT connector.

Pressure Drop[1] vs. Flow Data

GRADE	WATER[2] Pressure Drop in PSI @10 GPM/SF	HYDRAULIC OIL[3] Pressure Drop in PSI @10 GPM/SF
2	1.7	2.6
5	0.8	1.5
10	0.7	1.4
20	0.4	1.3
40	0.4	1.0
60	0.2	0.8
80	0.2	0.7
100	0.1	0.5

1- Data are for elements only.

2- Maximum recommended flow density is 10 GPM/SF.

3- MIL-H-5606, 11.7 cp Viscosity. Maximum recommended flow density is 8 GPM/SF.

NOTE: Consult factory for pressure drop data at other flow rates

Typical Applications

- ***Polymer***
- ***Petrochemical***
- ***Pharmaceutical***
- ***Nuclear***
- ***System Prefilters***
- ***Membrane Support***
- ***Steam Filtration***
- ***Catalyst Recovery***
- ***Food and Beverage***
- ***Filter/Demineralizer***

ADDITIONAL *DYNAPORE®* APPLICATIONS

- Fluidized hoppers, beds and slides
- Air film conveyors
- Air bearings
- Spargers and diffusers
- Transpiration cooling media
- Flame amd spark arresters
- Flow restricters
- Pressure snubbers
- Acoustical mufflers
- Propellant surface tension devices
- Resin and catalyst beds
- Filter leaves and cartridges
- Particle classification screens
- Vacuum forming and molding media
- Drying/de-watering media

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