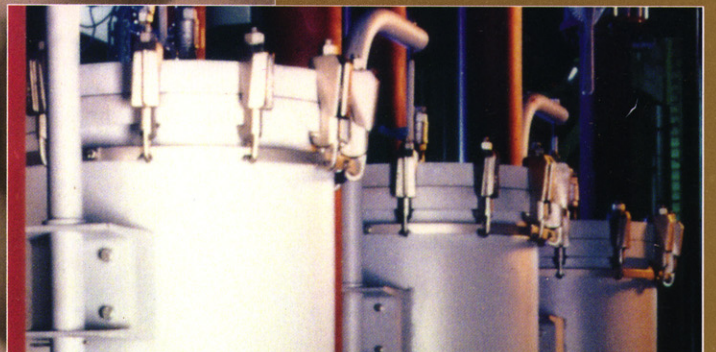
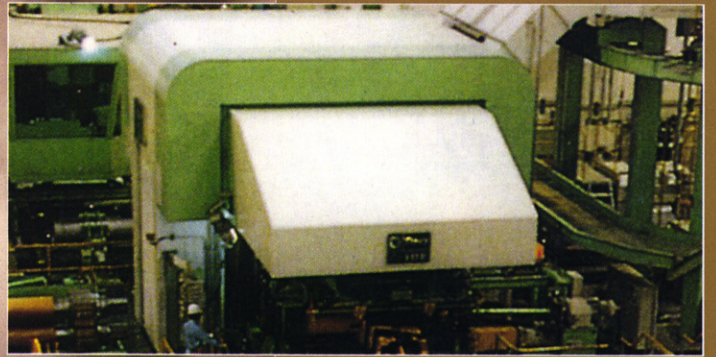


PROFILE

3310 series
'Profile II' filter elements

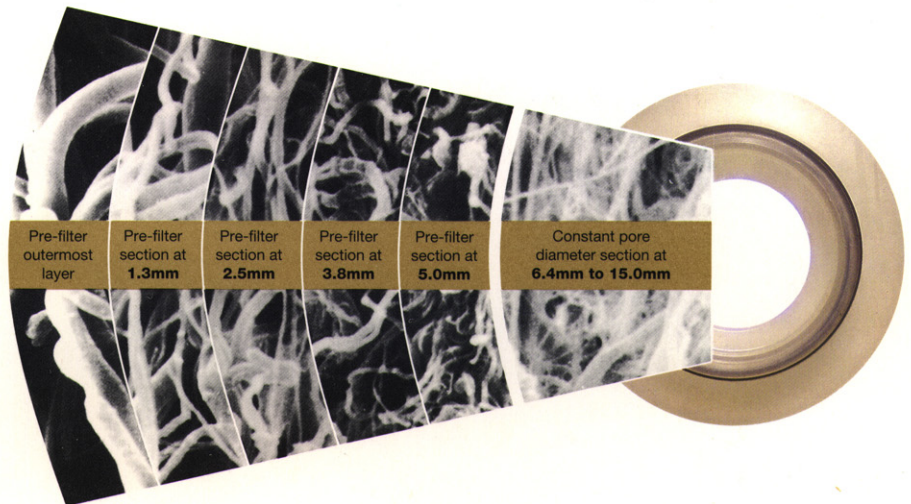


Pall Industrial Hydraulics
TOTAL CLEANLINESS CONTROL

PROFILE

3310 series 'Profile II' filter elements

Product information



Unique construction

The unique computer controlled construction of **Profile II** filters produces an element that has a graded pore structure with varying fibre diameter. This unique **Pall** proprietary medium enables a constant density to be achieved. This provides lower clean pressure drops, and greater void volume for extremely high dirt holding capacity ensuring increased service life and reduced operating cost. **Profile II** filter elements are the only depth filters to provide a high beta ratio for predictable filter performance.



A section through a **Profile II** filter element showing the effective use of the full depth of the element.



A section through a competitor's filter showing only partial usage before the element needed to be changed.

PROFILE

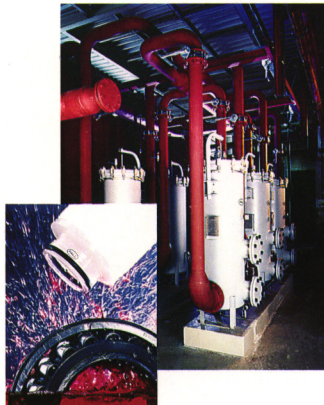
3310 series 'Profile II' filter elements

Product information

Typical 'Profile II' filter applications

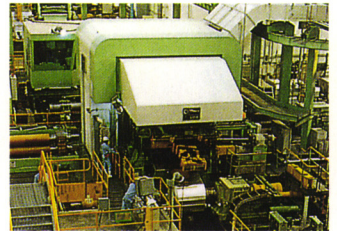
Parts washing

Cleaner fluid means cleaner components to meet end user specifications resulting in no returned product or the need to re-wash. The final product build is more reliable and has a longer operating life.



Rolling mills

Cleaner fluid eliminates stickers and inclusions that can effect the surface finish or perforate a foil. Foils can be produced thinner with a resultant cost saving.



Machine tools

Cleaner fluid prevents nozzles from clogging, increasing machine uptime. Clean fluid also reduces the anaerobic conditions in the agglomerated dirt at the bottom of the reservoir which leads to bacteria, foul smells and skin complaints. Benefits include reduced tool wear, better surface finish and longer fluid life.



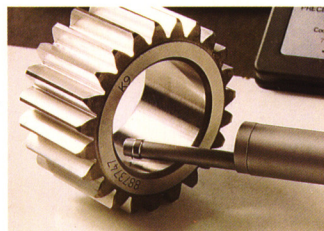
Quenching

Cleaner fluid decreases contaminant inclusions, improves heat exchange on total exposed surface area and extends fluid life. Product integrity is maintained by eliminating the risk of weak points appearing underneath stickers.



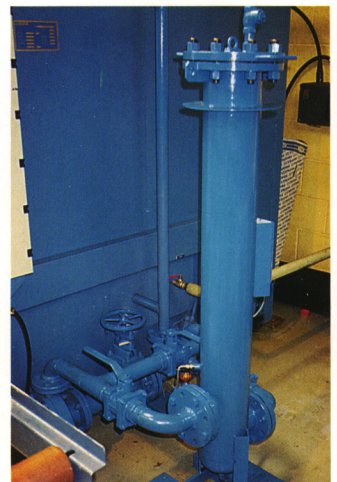
Grinding/honing

Cleaner fluid improves part surface finish and increases grinding wheel life. Fluid life is extended leading to less downtime, more production and less reworked pieces.



Bulk transfer

Specified fluid cleanliness is maintained by consistent single pass removal of contaminants from fluids during transfer from bulk storage to point of use. System reliability is maintained by avoiding the introduction of contamination into the system or to the point of use.



PROFILE

3310 series 'Profile II' filter elements

Ordering Information

Housings available for 'Profile' elements

No.	Housing series	Number of elements	Element length	Port size and type	Materials of construction	Maximum working pressure (bar)
1	3312	4	30", 40"	3" BS4504 flanges	Carbon steel	10
2	3314	7	30", 40"	4" BS4504 flanges	Carbon steel	10
3	3316	15	30", 40"	4" BS4504 flanges	Carbon steel	10
4	3318	23	30", 40"	6" BS4504 flanges	Carbon steel	10
5	3319	38	30", 40"	8" BS4504 flanges	Carbon steel	10
6	0300	4	30"	2 1/2" BS4504 flanges	Aluminium alloy	6
7	3311	1	13", 20", 30"	3/4", 1" BSPP	Carbon steel	40
8	3341	2	13", 20", 30"	1 1/4", SAE flanges	Carbon steel	40
9	3330	1	20"	1" BSPP	Polypropylene	10

Notes 1-5 also available in stainless steel. 7-9 Duplex assembly.



Representative of housing series 1-5 in table above.

PROFILE

3310 series 'Profile II' filter elements

Ordering information

Filter Element 'Pall' Part No: **HC3310F**



Table 1

FILTER ELEMENT	
CODE	Medium
P	Polypropylene
G	Nylon

Table 2

ELEMENT REMOVAL RATING		
CODE	Filter Media Removal Rating at which $\beta_x \geq 5000$	Available for
Z	1	P
P	3	P
N	6	P,G
S	12	P,G
T	20	P,G
R	40	P,G
G	70	P,G
Y	90	P,G

Table 3

LENGTH		
CODE	Nominal Element Length (inches)	Housing Length Code
13	13	T
20	20	L
30	30	M
40	40	P

Table 4

SEAL TYPE		
CODE	Seal Material	Fluid Service
H	Nitrile.	Neat oils, water.
Z	Fluorocarbon.	Kerosene.

Filter element clean pressure drop

Element grade	Micrometre rating at which $\beta_x \geq 5000$	Nominal length			
		13"	20"	30"	40"
Z	1	36.5	23.7	15.8	11.8
P	3	21.0	13.7	9.1	6.8
N	6	7.0	4.6	3.0	2.3
S	12	2.8	1.8	1.2	0.9
T	20	1.4	0.9	0.6	0.5
R	40	0.7	0.5	0.3	0.2
G	70	<0.7	<0.5	<0.3	<0.2
Y	90	<0.7	<0.5	<0.3	<0.2

Pressure drop is in mbar per L/min per cSt.

Element clean pressure drop for a particular housing =

$$\frac{\Delta P \times \text{viscosity (cSt)} \times \text{flow (L/min)}}{\text{no. of elements in housing}}$$

Total clean pressure drop = element clean pressure drop + housing pressure drop (see housing data sheet).

PROFILE

3310 series 'Profile II' filter elements

Specifications

Disposable filter element data

Filter medium:	'Profile II' graded pore structure depth filter in polypropylene or nylon.
Filter element materials:	Media: polypropylene or nylon. Polypropylene medium: polypropylene core and end caps. Nylon medium: glass filled nylon core and nylon end caps. O ring seal: nitrile (fluorocarbon option available).
Removal ratings:	Micrometre ratings at $\beta_x \geq 5000$ based on a modified OSU F-2 test to simulate single pass.
Fluid compatibility per ISO2943:	Mineral oils. Consult Pall Industrial Hydraulics for compatibility particular to application.

Recommended maximum pressure differential for 'Profile II' polypropylene medium

Maximum pressure	Fluid temperature
4.1 bar (60 psi)	30°C (86°F)
3.4 bar (50 psi)	50°C (122°F)
2.8 bar (40 psi)	60°C (140°F)
2.1 bar (30 psi)	70°C (158°F)

Recommended maximum pressure differential for 'Profile II' nylon medium

Maximum pressure	Fluid temperature
6.2 bar (90 psi)	30°C (86°F)
5.5 bar (80 psi)	70°C (158°F)
4.8 bar (70 psi)	100°C (212°F)

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Because of developments in technology these data or procedures may be subject to change. Consequently we advise users to review their continuing validity annually.

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