COMPRESSED AIR FILTER ELEMENTS

PRODUCT OVERVIEW



COMPRESSED AIR QUALITY CLASSES ACCORDING TO ISO 8573-1

CLASS	SOLID PARTICLES			HUMIDITY AND LIQUID WATER		OIL	
	Maximum number of particles per cubic meter as a function of particle size, d[2]			Pressure dew point		Concentration of total oil[2] (liquid, aerosol and vapor)	
	0,1 µm < d ≤ 0,5 µm	0,5 µm < d ≤ 1,0 µm	1,0 µm < d ≤ 5,0 µm	°C	°F	mg/m³	ppm/w/w
0	As specified by the equipment user or supplier and more stringent than class 1						
1	≤ 20.000	≤ 400	≤ 10	≤ -70	-94	≤ 0,01	≤ 0,008
2	≤ 400.000	≤ 6.000	≤ 100	≤ -40	-40	≤ 0,1	≤ 0,08
3	Not specified	≤ 90.000	≤ 1.000	≤ -20	-4	≤ 1	≤ 0,8
4	Not specified	Not specified	≤ 10.000	≤ +3	38	≤ 5	≤ 4
5	Not specified	Not specified	≤ 100.000	≤ +7	45	Not specified	Not specified
6				≤ ±10	50		
	Mass concentration[2]-C_p			LIQUID WATER CONTENT[2] - C_w			
	mg/m³			g/m³			
6	$0 < C_p \leq 5$					Not specified	Not specified
7	$5 < C_p \leq 10$			$C_w \leq 0,5$		Not specified	Not specified
8	Not specified			$0,5 \leq C_w \leq 5$		Not specified	Not specified
9	Not specified					Not specified	Not specified
X	$C_p > 10$					> 5	> 4

(1) To qualify for a class designation, each size range and particle number within a class shall be met.
(2) At reference conditions: air temperature of 20° C, absolute air pressure of 100 kPa (1 bar), 0 relative water vapor pressure.

ISO 9001:2008

Bureau Veritas Certification certified, that Management System of OMEGA AIR d.o.o. Ljubljana has been audited and found to be in accordance with the requirements of the management system standard ISO 9001:2008.

CE-PED-H

BUREAU VERITAS S.A. acting within the scope of its notification (notified body number 0062), attests that the quality system operated by the manufacturer for design, manufacture, final inspection and testing of the pressure equipment identified has been examined against the provisions of annex III, module H, of the Pressure Equipment directive n°97/23/EC, and found to satisfy the provisions of the directive which apply to it.

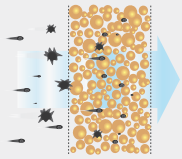
IUTA

Filter elements harmony to standard ISO 8573-1 is tested by Institute of Energy and Environmental Technology e.V. (IUTA Germany) in Duisburg-Essen.

Filtration principles

B grade 15 µm prefilter



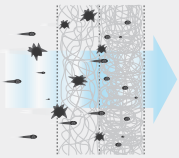


quality class (ISO 8573-1)	
solids:	7
oils	-
material	

- sintered brass

P grade 3 µm prefilter



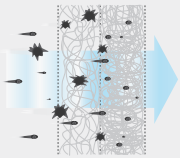


quality class (ISO 8573-1)	
solids:	6
oils	-
material	

- acrylic fibres
- cellulose

R grade 1 µm prefilter



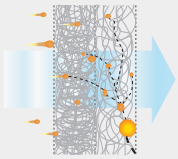


quality class (ISO 8573-1)	
solids:	3
oils	-
material	

- borosilicate micro fibres

M grade 0,1 µm microfilter



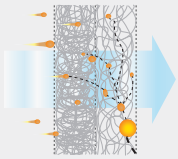


quality class (ISO 8573-1)	
solids:	2
oils	2
material	

- borosilicate micro fibres

S grade 0,01 µm microfilter



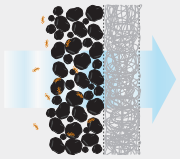


quality class (ISO 8573-1)	
solids:	1
oils	1
material	

- borosilicate micro fibres

A grade activated carbon



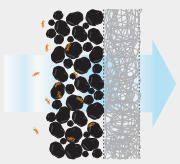


quality class (ISO 8573-1)	
solids:	1
oils	1
material	

- activated carbon
- borosilicate micro fibres

A^2 grade adsorption



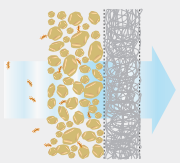


quality class (ISO 8573-1)	
solids:	1
oils	0/1
material	

- activated carbon
- borosilicate micro fibres

H^2 grade catalyst



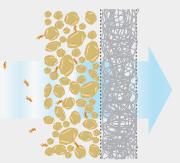


quality class (ISO 8573-1)	
solids:	1
oils	-
material	

- hopcalite
- borosilicate micro fibres

MS^2 grade molecular sieve



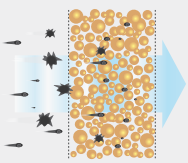


quality class (ISO 8573-1)	
solids:	1
oils	-
material	

- molecular sieve
- borosilicate micro fibres

I grade 20 µm prefilter



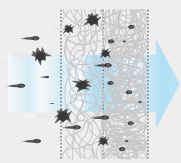


quality class (ISO 8573-1)	
solids:	-
oils	-
material	

- sintered stainless steel 1.4404

sterile sterilisation



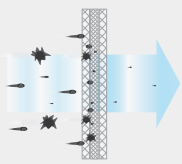


quality class (ISO 8573-1)	
solids:	1
oils	-
material	

- borosilicate micro fibres
- NOMEX

N grade prefilter





quality class (ISO 8573-1)	
solids:	-
oils	-
material	

- stainless steel mesh

Compressed air filter elements

NOTE: Endcaps of filter series may differ from pictures below.

B grade 15 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 7
Water	Class -
Oils	Class -

high efficient removal of coarse solid particles and bulk liquids from compressed air

Filter media	sintered brass
Operating temperature	1,5 - 65 °C
Differential pressure	20 mbar
Particle retention (nominal)	15 µm
Particle retention rate ISO	-

P grade 3 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 6
Water	Class -
Oils	Class -

high efficient removal of coarse solid particles and bulk liquids from compressed air

Filter media	acrile fibres, celulose
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	10 mbar
Particle retention (nominal)	99,99% (3 µm)
Particle retention rate ISO	95 %

R grade 1 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 3
Water	Class -
Oils	Class -

high efficient removal of coarse solid particles and bulk liquids from compressed air

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	20 mbar
Particle retention (nominal)	99,9999% (1 µm)
Particle retention rate ISO	99,8 %

M grade 0,1 µm

GENERAL PURPOSE FILTER
particulate + coalescing



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 2
Water	Class -
Oils	Class 2

high efficient removal of coarse solid particles, oil aerosols and water from compressed air

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	50 mbar
Particle retention (nominal)	99,9999% (0,1 µm)
Particle retention rate ISO	99,98 %
Residual oil content	<0,1 mg/m³

PI grade 1 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class -
Water	Class -
Oils	Class -

high efficient removal of solid particles from compressed air

Filter media	sintered INOX 1.4404
Operating temperature	0 - 150 °C
Differential pressure (dry)	60 mbar

PI grade 20 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class -
Water	Class -
Oils	Class -

high efficient removal of solid particles from compressed air

Filter media	sintered INOX 1.4404
Operating temperature	0 - 150 °C
Differential pressure (dry)	60 mbar

PIW grade 1 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class -
Water	Class -
Oils	Class -

high efficient removal of solid particles from process and culinary steam

Filter media	sintered INOX 1.4404
Operating temperature	0 - 150 °C
Differential pressure (dry)	60 mbar

PIW grade 20 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class -
Water	Class -
Oils	Class -

high efficient removal of solid particles from process and culinary steam

Filter media	sintered INOX 1.4404
Operating temperature	0 - 150 °C
Differential pressure (dry)	60 mbar

applicable to **AAF, CF, BF, HF, AHP, CHP** series

S grade 0,01 µm

SUPER FINE FILTER
particulate+ coalescing



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 1
Water	Class -
Oils	Class 1

high efficient removal of coarse solid particles, oil aerosols and water from compressed air

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	80 mbar
Particle retention (nominal)	99,9999% (0,01 µm)
Particle retention rate ISO	99,998 %
Residual oil content	<0,01 mg/m³

A grade

ADSORPTION
activated carbon



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 1
Water	Class -
Oils	Class 0/1

high efficient removal of oil, hydrocarbons, vapours and odours from compressed air

Filter media	activated carbon granulate, borosilicate micro fibres
Operating temperature	1,5 - 45 °C
Differential pressure (dry)	60 mbar
Capacity (ISO12500-2)	20 min
Residual oil content	<0,005 mg/m³

A² grade 0,1 µm

ADSORPTION
activated carbon + particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 1
Water	Class -
Oils	Class 0/1

high efficient removal of oil vapours and odours from compressed air

Filter media	borosilicate micro fibres
Adsorption media	activated carbon
Operating temperature	1,5 - 45 °C
Particle retention (nominal)	99,9999% (0,1 µm)
Particle retention rate ISO	99,98 %

H² grade 0,1 µm

CATALYST
catalyst (hopcalite)+ particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 1
Water	Class -
Oils	Class -

high efficient reduction of carbon monoxide and some other substances from compressed air

Filter media	borosilicate micro fibres
Catalyst media	Hopcalite
Operating temperature	1,5 - 45 °C
Particle retention (nominal)	99,9999% (0,1 µm)
Particle retention rate ISO	99,98 %

PN5 grade 5 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class -
Water	Class -
Oils	Class -

high efficient removal of solid particles from compressed air

Filter media	stainless steel mesh 1.4301
Operating temperature	0 - 150 °C
Differential pressure (dry)	10 mbar

PN25 grade 25 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class -
Water	Class -
Oils	Class -

high efficient removal of solid particles from compressed air

Filter media	stainless steel mesh 1.4301
Operating temperature	0 - 150 °C
Differential pressure (dry)	10 mbar

PP grade 3 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 6
Water	Class -
Oils	Class -

high efficient removal of coarse solid particles and bulk liquids from compressed air

Filter media	acrile fibres, celulose
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	10 mbar
Particle retention (nominal)	99,99% (3 µm)
Particle retention rate ISO	95 %

PR grade 1 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 3
Water	Class -
Oils	Class -

high efficient removal of coarse solid particles and bulk liquids from compressed air

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	20 mbar
Particle retention (nominal)	99,9999% (1 µm)
Particle retention rate ISO	99,8 %

applicable to **AF** series

MS² grade 0,1 µm

MOLECULAR SIEVE
molecular sieve+ particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 1
Water	Class -
Oils	Class -

high efficient removal of eater vapour from small flows of compressed air - drying

Filter media	borosilicate micro fibres
Adsorption media	Hopcalite
Operating temperature	1,5 - 45 °C
Particle retention (nominal)	99,9999% (0,1 µm)
Particle retention rate ISO	99,98 %

applicable to **P-VAC** series

VACP grade 3 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 6
Water	Class -
Oils	Class -

high efficient removal of coarse solid particles and bulk liquids from compressed air

Filter media	acrile fibres, celulose
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	10 mbar
Particle retention (nominal)	99,99% (3 µm)
Particle retention rate ISO	95 %

VACM grade 0,1 µm

MICROFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 2
Water	Class -
Oils	Class 2

high efficient removal of coarse solid particles and bulk liquids from compressed air

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	30 mbar
Particle retention (nominal)	99,9999% (0,1 µm)
Particle retention rate ISO	99,98 %

applicable to **M-VAC** series

VAC grade

MICROFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 2
Water	Class -
Oils	Class 2

high efficient removal of coarse solid particles and bulk liquids from compressed air

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	30 mbar

applicable to **WFIT, WHFIT, WFIF, PF, HPF, SPF** series

PM grade 0,1 µm

MICROFILTER
particulate+ coalescing



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 2
Water	Class -
Oils	Class 2

high efficient filtration in process industry applications, removal of submicrons particles, bacteria removal filter

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 120 °C
Differential pressure (dry)	50 mbar
Particle retention (nominal)	99,9999% (0,1 µm)

PS grade 0,01 µm

MICROFILTER
particulate+ coalescing



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 1
Water	Class -
Oils	Class 1

high efficient filtration in process industry applications, removal of submicrons particles, bacteria removal filter

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 120 °C
Differential pressure (dry)	80 mbar
Particle retention (nominal)	99,9999% (0,01 µm)

PA grade

ADSORPTION
activated carbon



RATING ACCORDING TO ISO 8573-1

Solid particles	Class -
Water	Class -
Oils	Class -

high efficient removal of oil, hydrocarbons, vapours and odours from compressed air

Filter media	activated carbon, borosilicate micro fibres
Operating temperature	1,5 - 45 °C
Differential pressure (dry)	60 mbar
Residual oil content	<0,0005 mg/m³

applicable to **SF** series

VSF grade

STERILE
particulate + bacteria removal + sterile



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 1
Water	Class -
Oils	Class -

high efficient sterile filtration of compressed air, process air and technical gasses

Filter media	borosilicate micro fibres
Operating temperature	-20 - +150 °C
Differential pressure (dry)	80 mbar
Particle retention (nominal)	99,9999% (0,1 µm)

applicable to **AFs** series

Ms grade 0,1 µm

MICROFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 2
Water	Class -
Oils	Class 2

silicone free filter elements
high efficient removal of coarse solid particles and bulk liquids from compressed air

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	50 mbar
Particle retention (nominal)	99,9999% (0,1 µm)
Particle retention rate ISO	99,98 %
Residual oil content	<0,1 mg/m³

Ss grade 0,01 µm

MICROFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 1
Water	Class -
Oils	Class 1

silicone free filter elements -
high efficient removal of coarse solid particles and bulk liquids from compressed air

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	80 mbar
Particle retention (nominal)	99,9999% (0,01 µm)
Particle retention rate ISO	99,998 %
Residual oil content	<0,01 mg/m³

CKL

CONDENSATE SEPARATOR



RATING ACCORDING TO ISO 8573-1

Solid particles	Class -
Water	Class 8
Oils	Class -

high efficient removal of bulk liquids from compressed air

Operating pressure	16 bar
Operating temperature	1,5 - 65 °C
Efficiency	> 98%

applicable to **IHP** series

N5 (25) grade 5;25 µm

PREFILTER
particulate



RATING ACCORDING TO ISO 8573-1

Solid particles	Class -
Water	Class -
Oils	Class -

high efficient removal of solid particles from compressed air

Filter media	stainless steel mesh 1.4301
Operating temperature	0 - 65 °C
Differential pressure (dry)	10 mbar

M grade 0,1 µm

MICROFILTER
particulate+ coalescing



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 2
Water	Class -
Oils	Class 2

high efficient filtration in process industry applications, removal of submicrons particles, bacteria removal filter

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 120 °C
Differential pressure (dry)	50 mbar
Particle retention (nominal)	99,9999% (0,1 µm)

S grade 0,01 µm

MICROFILTER
particulate+ coalescing



RATING ACCORDING TO ISO 8573-1

Solid particles	Class 1
Water	Class -
Oils	Class 1

high efficient filtration in process industry applications, removal of submicrons particles, bacteria removal filter

Filter media	borosilicate micro fibres
Operating temperature	1,5 - 65 °C
Differential pressure (dry)	80 mbar
Particle retention (nominal)	99,9999% (0,01 µm)

A grade

ADSORPTION
activated carbon



RATING ACCORDING TO ISO 8573-1

Solid particles	Class -
Water	Class -
Oils	Class -

high efficient removal of oil, hydrocarbons, vapours and odours from compressed air

Filter media	activated carbon, borosilicate micro fibres
Operating temperature	1,5 - 45 °C
Differential pressure (dry)	60 mbar
Residual oil content	<0,005 mg/m³

Structure of typical filter element

UPPER END CAP
Upper end cap holds filter medias together in compact form. Depending of application and filter type it can be made of plastic, aluminium or stainless steel.

INTERNAL NONWOVEN LAYER
Internal nonwoven layer gives basic protection of filter media

COALESCENT FILTER MEDIA
Coalescing filter media collects oil and water aerosols.

EXTERNAL STAINLESS STEEL MESH
Stainless steel expanded mesh supports filtration media and give them stability.

LOWER END CAP
Lower end cap assures reliable cartridge fitting and binding of filter media. Depending of application and filter type it can be made of plastic, aluminium or stainless steel.



SEALING O-RING
Ensures reliable tightnes between filter head and filter element.

INNER STAINLESS STEEL MESH
Stainless steel expanded mesh supports filtration media and give them stability.

PLEATED FILTER MEDIA
Pleated filter media provides significant larger surface filter area than wrapped and lower pressure drop. This layer removes solid particles.

FOAM
Drainage madia on outer side of filter element provides drainage of oil and water to lower sections of filter.

AIR ROTORY SERVICES
Compressor, Dryer & Generator Specialists

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