YD Series

Compressed Air Filters

PF/AO/AA/AX/ACS/AR/AAR, 5 micron to 0.01 micron
Air flow rates from 1.0 to 37.2 m³/min
16 bar (232 psig)

Problems brought by polluted Compressed Air

Air is compressible; the air compressor does mechanical work to make itself smaller in size, air pressure increase after called compressed air.

Compressed air is an important driving force that is widely used in various industrial fields. All compressed air systems air comes from the atmosphere and the air contains a lot of dust, water vapor and unburned hydrocarbons and bacteria. In addition, the air compressor lubrication system will produce such contaminants. This oil is acidic, inferior and which doesn't have any lubrication, Pipeline corrosion from compressed air distribution system also pollutes the air.

When air is compressed, the contained vapor (including oil vapor and water vapor) and dust concentration will raise sharply, oil, steam concentrate into large globules, mixed with a high concentration of dust particles, forming an abrasive acidic sludge.

If there is no air treatment equipment installed, the above mentioned acidic abrasive sludge will enter your compressed air system, pipeline corrosion, damage pneumatic components and equipment, and to influence the final product quality.

Typically, there are different contamination from the below sources, such as atmospheric dirt, water vapor, oil vapor, micro-organism.

Solid particles

Pipe scale

Liquid water

Liquid oil

Oil vapor

Micro-organisms

Excellent Filtration Quality for You

- **Air filter housing produced**

The entire range of air filters we offer is designed and manufactured in our facilities, using state-of-the-art production lines and quality control systems. By doing this, we can maintain close contact between R&D, engineering, production, and testing close together.

- **Air filter element produced**

YD offers high efficiency dry particulate, coalescing, and oil vapor removal filter elements for compressed air filters providing the exact balance between air quality, energy efficiency and low lifetime costs.

- **In-house expertise**

Clean air is so important for industries, YD dedicated engineering team works in close collaboration with Wuhan, Shenzhen universities, premium filter material suppliers. We're capable of testing filters according to all relevant standards and under real-life conditions, we continue to enhance our expertise in air filtration.

- **Rigorous quality control**

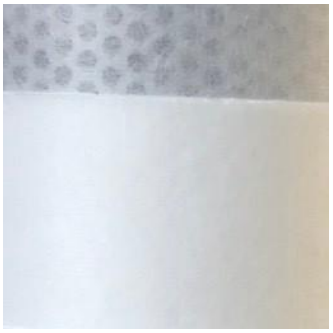
To ensure top performance and reliability, YD filters undergo rigorous internal and external quality control, including on-line tests of filtration, airtightness and corrosion treatment.
Thanks to our testing facility, we conduct all certifications in-house, including testing witnessed by independent parties.

Advanced Filtration Technology for Contaminations

YD particulate and aerosol removal filter elements are guaranteed under normal recommended use. High efficiency HV borosilicate glass fibers utilized in each coalescing element, maximum oil aerosol, wet dust and water droplet filtration and drainage-ensure a low pressure drop, meeting the air quality requirements of all versions of ISO8573-1, continued protection of downstream and maintains low running costs.

Quality promised brown Fluorine rubber O-rings prevent contamination by-pass.

Support media for added strength and integral pre-filtration.



The hydrophobic and oleophobic borosilicate media have been developed specifically to enable consistently low pressure drop, high efficiency filtration for oil aerosol, wet dust and water droplet.

Filter elements are protected by inner and outer support layers made from stainless steel with hundreds of round holes. These layers are far more resistant to mechanical stress than those made from simple expanded metal.

A coarse outer drainage layer designed specifically to prevent oil carryover and improve coalescence performance.

Fiberglass reinforced polyamide resin end caps, tough corrosion resistance, withstand the worst compressed air conditions.

Your Benefits from YD Series Air Filter Elements

The compression process introduces lubricant and wear particles into the system, piping distribution and storage tanks foster contaminants in the form of rust, pipe scale and bacteria. PF, AO, AA, AX, ACS, AR and AAR filters efficiently remove these contaminants to provide the best air purity and protect downstream equipment and your processes, saving costs.

PF

Coarse Pre-Filtration

As a primary filter, particles whose diameter down to 5 μm can be removed, the max. residual oil content is negligible.

AO

High Efficiency General Purpose

High efficiency general protection, dust particles, water mist & oil mist whose diameter down to 1μm can be removed, the residual content of oil mist does not exceed 0.6 mg/m³ (21ºC),1ppm(w), changed every 8000 hours.

AA

High Efficiency Oil Removal Filtration

Dust particles, water mist and oil mist down to 0.01μm can be removed, the residual content of oil mist does not exceed 0.01mg/m³ (21ºC), 0.01ppm(w), changed every 8000 hours.

AX

Ultra-High Efficiency Filtration

Ultra-efficient filtration, solid particles, liquids, oil aerosols, odors, and vapors are effectively removed at a high efficiency of 99.99% as small as 0.01 micron, the residual content of oil mist does not exceed 0.001mg/m³ (21ºC),0.001ppm(w), changed every 8000 hours.

ACS

Oil Vapour Reduction

Activated carbon filter element made from thousands of activated carbon granules of sufficient thickness, giving a superior adsorption capacity on a longer time. Oil vapor &odor can be removed, the max. resident content of oil vapor does not exceed 0.003 mg/m³ (21ºC), 0.003 ppm(w), changed when oil vapor detected.

AR

General Purpose Dust Filtration

Dry particle removal down to 1 μm, installed after adsorption air dryer, change every 6000 hours.

AAR

High Efficiency Dust Filtration

Dry particles removal down to 0.01μm can be removed, installed after adsorption air dryer, and change every 6000 hours.

Die-casting Air Filter Housing

Service-friendly Design, Safe Handling

The primary reason for using a compressed air filter is to remove contamination and improve air quality. Better compressed air quality means less downtime of production processes and your higher profits, while also your satisfaction as a professional in this field.

YD Series offers an extended range of compressed air filters to remove dust, solid particles, rust particles, micro-organisms, condensed liquid water, water aerosols, acidic condensates, liquid oil, oil aerosol, hydrocarbon vapor. Suit almost every industry protecting compressed air system. Air filter element grades include PF, AO, AA, AX, ACS, AR, AAR, 5 microns to 0.01 micron.

Corrosion protection

The housings are protected by cataphoresis anti-corrosion treatment and allows filters to work in strong corrosive working conditions such as offshore platform.

Compressed air threaded

Connection thread can be processed into BSPT or NPT standard.

Differential pressure indicator/gauge

Provide a visual reading of the pressure on the inlet versus the outlet side of the

Liquid Sight Glass

Fitted on filter housing to check the condensate level. It is easy to see the working status of auto drain.

Internal auto drain

It's used for flow rate lower than 7.2 m^3/min. Effectively removes condensate without loss of air, saving energy.

External auto drain

Inside designed float ball, which reliably removes condensate without need for electricity.

Your Benefits from Our Quality Control

Installation and maintenance are timesaving due to the precision of thread machining.

Wrapped air filter elements are well known for durability in wet and oil-contaminated environments even in the harshest working conditions.

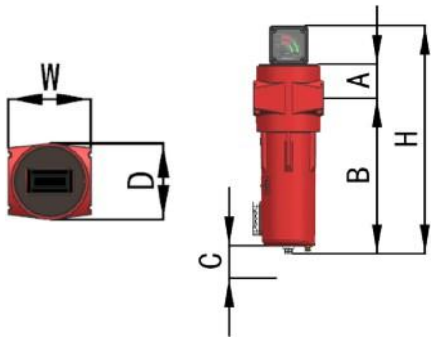
The picture on the left is from a common air filter supplier. YD filter housings are several hundred hours of salt spray testing demonstrate their outstanding corrosion resistance.

YD filter elements are protected by an inner and outer support layer made from stainless steel with hundreds of round holes. These layers are far more resistant to mechanical stress than those made from simple expanded metal.

Product Selection

Below flow rates of compressed air are calculated in rated working pressure 7 bar with reference to 20 ℃, also could be used at the max working pressure 16 bar without sight glass and internal drain.

Model	Inlet/ Outlet (Rc)	Rated Air Flow at 7 bar			Dimensions (mm)					
		L/S	Nm3/ min	Scfm	Width (W)	Depth (D)	Height (H)	A	B	C (Left space)
YD017	1/2"	16.7	1.0	35.3	89	79	252	40	192	118
YD025	3/4"	25.0	1.5	53.0	89	79	252	40	192	118
YD030	1/2"	30.0	1.8	63.6	89	79	285	40	226	158
YD035	3/4"	33.3	2.0	70.6	89	79	285	40	226	158
YD058	3/4"	46.7	2.8	98.9	120	110	406	55	281	195
YD068	1"	60.0	3.6	127.1	120	110	406	55	281	195
YD080	1"	80.0	4.8	169.5	120	110	508	55	383	290
YD145	1-1/2"	120.0	7.2	254.2	120	110	508	55	383	290
YD220	2"	200.0	12.0	423.7	162	151	737	64	566	480
YD260	2-1/2"	233.3	14.0	494.4	162	151	737	64	566	480
YD330	2"	267.2	16.0	564.8	162	151	984	64	875	780
YD360	2-1/2"	317.3	19.0	670.7	162	151	984	64	875	780
YD405	2-1/2"	367.4	22.0	776.6	200	189	757	78	634	560
YD430	3"	467.6	28.0	988.4	200	189	757	78	634	560
YD620	3"	620.0	37.2	1313.6	200	189	1012	78	889	780



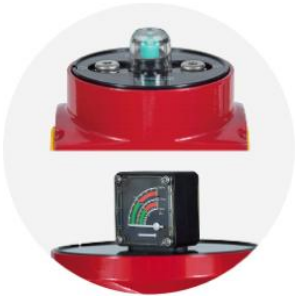
Pressure	Barg	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Psig	15	29	44	59	73	87	100	116	131	145	160	174	189	203	219	232
Pressure C Fact		0.38	0.53	0.65	0.76	0.85	0.93	1.00	1.07	1.13	1.19	1.23	1.31	1.36	1.41	1.46	1.51

To correctly select an air filter model, the flow rate of the air filter must be adjusted for the minimum operating (inlet) pressure at the point of installation.

Calculate the adjusted filtration capacity:

1. Minimum Filtration Capacity = Compressed Air Flow Rate x pressure correction factor rate.
2. Using the minimum filtration capacity, select an air filter model from the flow rate tables above (air filter selected must have a flow rate equal to or greater than the minimum filtration capacity).

Accessories Suited with Air Filters



Differential pressure indicator/gauge

Liquid Sight Glass

Float internal drain

Float external drain

Model	Standard accessories suited on filter housing					
	Differential pressure indicator	Differential pressure gauge	Sight glass	Internal float drain	External float drain	Manual drain valve
YD017	√		√	√		
YD025	√		√	√		
YD030	√		√	√		
YD035	√		√	√		
YD058		√	√	√		√
YD068		√	√	√		√
YD080		√	√	√		√
YD145		√	√	√		√
YD220		√	√		√	√
YD260		√	√		√	√
YD330		√	√		√	√
YD360		√	√		√	√
YD405		√	√		√	√
YD430		√	√		√	√
YD620		√	√		√	√

Air Filters Performance Assured

The performance of the YD Series air filters is validated and tested with in-house and independent laboratory protocols in accordance with international filtration specifications to meet compressed air purity requirements from various industries.

- ISO 8573-1 Compressed air purity standard
- ISO 12500 International standard for compressed air filter testing
- Pressure Equipment Directive (97/23/EC only)
- ISO 9001 Quality Systems

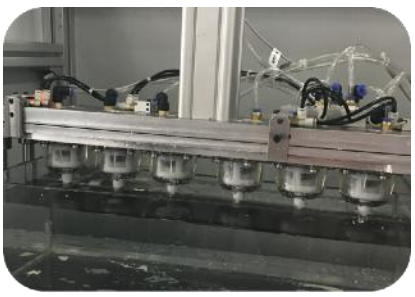
Air filter housing will be done 1000-hour neutral salt spray test for corrosion to ISO 9227:2006.

All air filter housings are tested 100% for pressure leaks before they are painted and assembled.

After assembly, the complete air filter with all parts will be tested 100% again for pressure leaks.

Automated production and assembly lines for air filter element and filter housings applied in our factory to supply high quality and performance compressed air filters to our global end users.

Each differential pressure gauge will be tested for air leaks and flexibility of the pointer.



100% of each auto drain will be tested for one minute to determine whether there are any leaks that have air bubbles in the water.

YD Series Air Filters Meet the Following ISO Standards

International Standard ISO8573-1 has become the industry standard method for specifying compressed air cleanliness, defines the amount of contamination permissible in compressed air, contaminants are classified and assigned a quality class, range from Class 0, the highest purity level, to Class 9, the most stringent.

- ISO 8573.1-2010: Compressed air- Contaminants and purity classes
- ISO 8753.1-2018: Compressed air- Test method for oil aerosol content
- ISO 8573.4-2019: Compressed air- Test method for particles
- ISO 8573.5-2001: Compressed air- Test method for oil vapor and organic solvent content
- ISO12500-1:2007: Filters for compressed air- Test methods- oil aerosols
- ISO12500-2:2007: Filters for compressed air- Test methods- oil vapors
- ISO12500-3:2009: Filters for compressed air- Test methods- particles

ISO8573-1:2010 Class	Solid Particulate				Water		Oil
	Maximum number of particulates per m³			Mass concentration	Vapour Pressure Dewpoint	Liquid	Total oil (aerosol liquid and vapour),g/m³
	Micron						
	0.1-0.5	0.5-0.1	1-5	mg/m³		g/m³	
0	As specified by the equipment user or supplier and more stringent than Class 1						
1	≤20,000	≤400	≤10	-	≤-70℃	-	0.01
2	≤400,000	≤6000	≤100	-	≤-40℃	-	0.1
3	-	≤90,000	≤1000	-	≤-20℃	-	1
4	-	-	≤10,000	-	≤+3℃	-	5
5	-	-	≤100,000	-	≤+7℃	-	-
6	-	-		≤5	≤+10℃	-	-
7	-	-		5-10	-	≤0.5	-
8	-	-		-	-	0.5-5	-
9	-	-		-	-	5-10	-
X	-	-		> 10	-	> 10	> 10

Low differential pressure for high efficiency

YD FILTERS are the key components of a compressed air system. They supply clean compressed air of all purity classes as per ISO 8573-1 standard and achieve this with extremely low differential pressure.

Furthermore, their service-friendly design and product processing technology allow simple, error-free opening and closing of the filter housing but also enables quick and clean element changes. YD FILTERS are available in seven different filter grades. Fifteen filter housing sizes provide efficient filtration covering flow rates from 1.0 to 37.2 m³/min.

Purity meets ISO standards

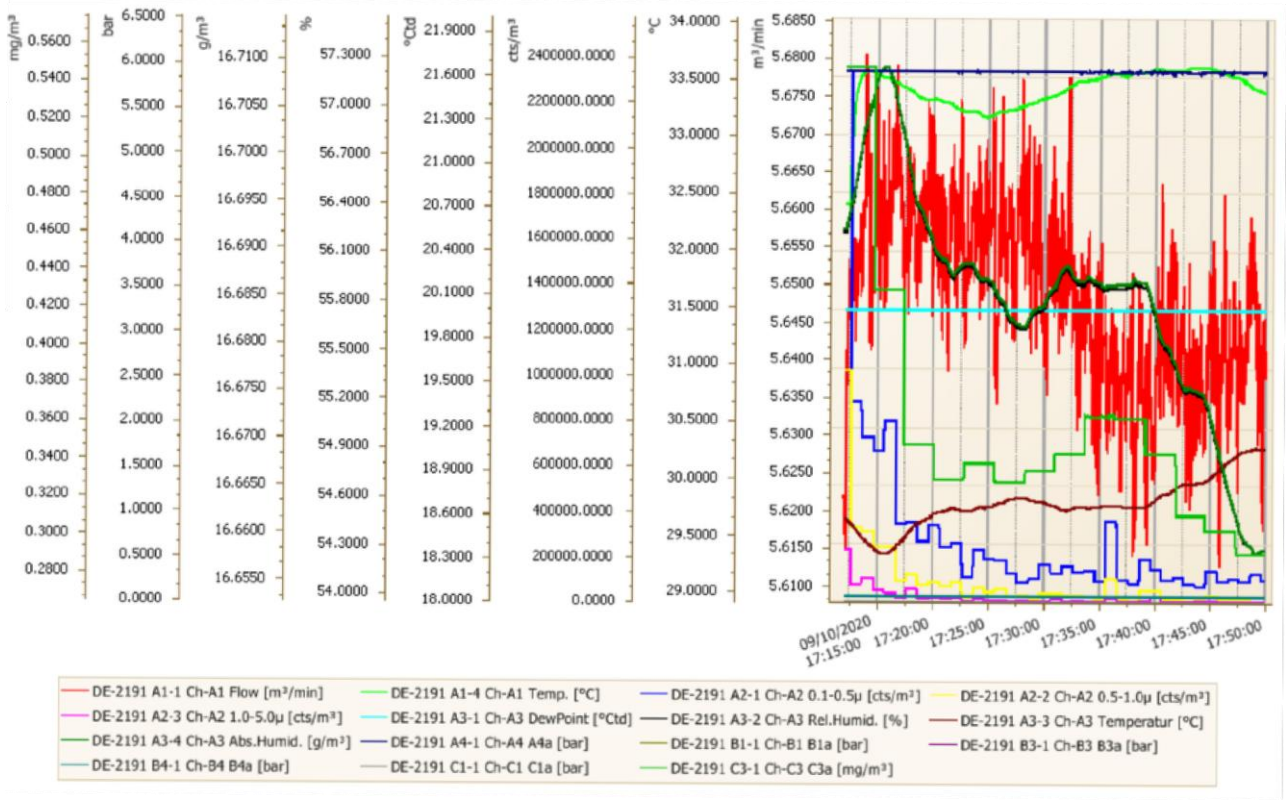
The YD coalescing and adsorption air filters use high-quality fiberglass and activated carbon to remove particles, aerosols, and oil vapors. Together with innovative flow dynamics, they deliver exceptional filtration efficiency with minimal pressure loss and have been determined according to ISO 8573.

Furthermore, their service-friendly design and product processing technology allow simple, error-free opening and closing of the filter housing but also enables quick and clean element changes. YD AIR FILTERS are available in seven different filter grades. Fifteen filter housing sizes provide efficient filtration covering flow rates from 1.0 to 37.2 m³/min.

Savings with minimal pressure loss

A real high quality air filter not only has exceptional efficiency filtration performance, but also lower differential pressure loss. YD FILTER products are distinguished by generously sized housings and filter surfaces, innovative flow dynamics, high-performance filter media and accessories.

By combining these features, our air filters can reduce pressure loss by up to 50% compared to other filters on the market.



Filtration & Separation Solution for Industry

Applications for compressed air are numerous and have requirements from very simple to highly strict, our high efficiency air filters are designed for removing contaminants to protect downstream of equipment and save costs. A typical air treatment system will include the following component for most industry.

Air dryer: Installed after an air compressor, it removes moisture from compressed air using a refrigeration system or adsorption system, protecting pipelines and equipment from condensate.

Water separator: Installed in front of refrigerated air dryers and coalescing air filters to remove bulk liquids and wet solids, improving the whole compressed air system performance.

Air filter: Various types of air filters are available, including particulate and coalescing air filters, activated carbon filters, and dust filters installed after water separators to remove solid particles and oil vapor down to acceptable levels to protect downstream equipment and finished products.

Auto drain: Reliably and consistently discharge water for a wide range of compressed air applications including compressors, after coolers, air filters.

Tire filling	Injection molding	Powder fluidization	Air jet
PET bottle blowing	Semiconductor	Air filter after air dryer	Air bearing
Dry bulk solids conveying	Package	Filled/capped beverages	Aerial winch
Dust collection	Deodorant	Aerospace industry	Grain color sorting
Cool down	Processing air	Breathe the air	Parts blasting
Tablet coating	Blow dust	Chemical Industry	Spray paint
Dairy Air	Bag cleaning	Military equipment	Sandblasting
Liquid filling	Nitrogen separation	Pre-air filter	Bottled gas
Instrument gas	Laser-cutting	Air metering	Pneumatic tools
Pneumatic automation	Ferment	Air agitator	Air motor
Pneumatic conveying	Sprinkler system discharge	Ventilation	Dental hand tools