DANKO

COMPRESSED AIR DRYER

REFRIGERATED AIR DRYER

Danko Air Dryer for Compressed air

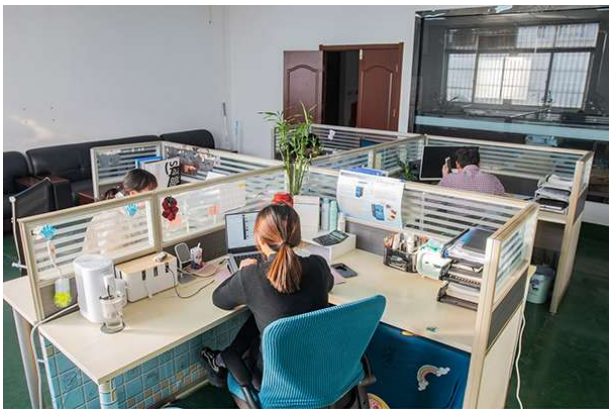
HIGH EFFICIENCY

MTD REFRIGERATOR DRYER 13000
MTD REFRIGERATOR DRYER 200000
MTO FILTER
MTA FILTER
MTS FILTER
MTW WATER SEPARATOR
MTC CARBON ACTIVE TOWER
ISO 8573-1:2010

WWW.DANKODRY.NL

Why Choose Us

With the expansion of the growth of the day, and, we are in major cities to establish the brand company, sales and service coverage throughout the country The company has a strong technology research and development team With high-quality management resources and advanced intelligent manufacturing equipment, we have developed and produced a batch of products with independent intellectual property rights and obtained a number of national patent certificates.



Quality is the life of an enterprise, Tianer has always been adhering to the concept of customer needs, relying on a sound quality management system, to ensure that each factory products are in line with the quality standards, at the same time to establish a perfect after-sales service system, user satisfaction to achieve the maximum.

ABOUT DANKO CO., LTD.

Founded in 2004, more than 10 years the company has been committed to become compressed air purification equipment and air compressor accessories research and development production and sales of national high-tech enterprises, products include compressed air dryer Compressed air filter, oil purifier, air oil separator, air filter, oil filter, etc. , are widely used in precision electronic machinery manufacturing, food, beverage, medicine, military industry and other fields, and suitable for any industry that needs to use safe and reliable compressed air We have professional technical design and the combination of excellent parts, the production of Danko air compressor with efficient high structure, advanced volume, small gas oil content, less intake capacity real-time regulation and reasonable selection of temperature control characteristics Using the intelligent module control system at the same time, have a good man-machine interface, realize the fault self-diagnosis, servo type gas automatic adjustment and virtually unattended operation for 24 hours, can satisfy the needs of customers.

MTD
SERIES REFRIGERATOR AIR DRYER (MTD 1200 ~ MTD 13000)

Energy saving: The aluminum alloy three-in-one heat exchanger design, the enlarged pre-cooling and regenerator design, minimize the process loss of cooling capacity, improve the recycling of cooling capacity, and increase the outlet temperature of compressed air at the same time, effectively reducing product gas moisture content.

Efficient: The integrated heat exchanger is equipped with deflector fins to make the compressed air uniform inside heat exchange, built-in air-water separation device and stainless steel filter, water separation is more thorough.

Intelligent: Multi-channel temperature and pressure monitoring, real-time display of dew point temperature, automatic recording of accumulated running time , It has self-diagnosis function, displays corresponding alarm codes, and automatically protects the equipment.

Environmental protection: In response to the International Montreal Agreement, all models of this series adopt R134a and R410a for environmental protection The refrigerant has zero damage to the atmosphere and meets the needs of the international market.

Stability: Standard constant pressure expansion valve, automatic adjustment of cooling capacity, adapt to various complex working conditions, with double antifreeze protection of temperature and pressure. While saving energy, prolong the service life of equipment.

Rated working condition of MTD series air dryer :

Ambient temperature: 0~42°C

Compressed air inlet temperature: 15~65°C

Compressed air pressure: 0.7MPa, up to 1.6MPa (higher pres- sure can be customized)

Pressure drop: 0.02MPa (under 0.7MPa inlet pressure)

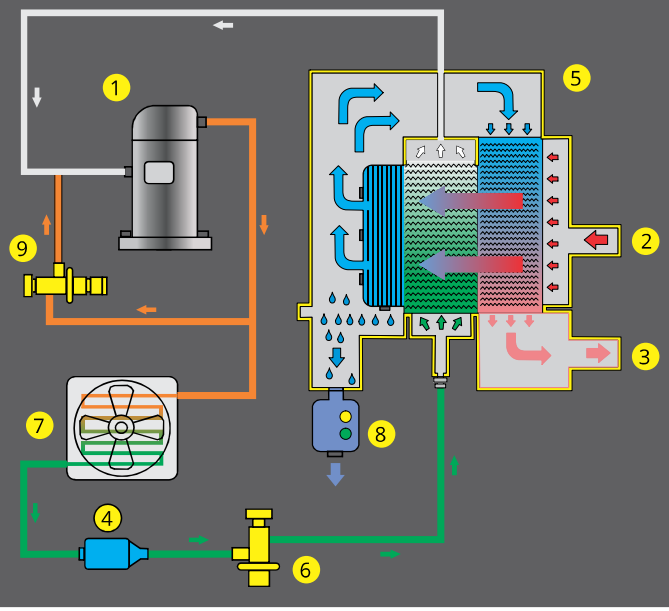
Pressure dew point: 2°C~10°C

Installation environment: no sunlight, no rain, good ventilation, installed on a horizontal hard foundation, no obvious dust and flying catkins.

MTD Series Refrigerated Air Dryer

MTD series refrigerated	Model	MTD-12000	MTD-2400	MTD-3600	MTD6500	MTD-8500	MTD-11000	MTD-13000
Max. air volume	m^3/min	1.4	2.4	3.8	6.5	8.5	11	13.5
Power supply		220V/50Hz						
Input power	KW	0.37	0.52	0.73	1.26	1.87	2.43	2.63
Air pipe connection		RC3/4"	RC1"	RC1-1/2"	RC2"			
Evaporator type		Aluminum alloy plate						
Refrigerant model		R134a		R410a				
Display interface		LED dew point display, LED alarm code display,operation status indication						
Intelligent anti-freezing		Constant pressure expansion valve and compressor automatic start/stop						
Temperature control		Automatic control of condensing temperature/dew point temperature						
High voltage protection		Temperature sensor						
Low voltage protection		Temperature sensor and inductive intelligent protection						
Energy saving	KG	34	42	50	63	73	85	94
Dimension	L	480	520	640	700	770	770	800
	W	380	410	520	540	590	590	610
	H	665	725	850	950	990	990	1030

MTD Series Refrigerated Air Dryer Diagram



1 - Compressor
2 - Air Inlet
3 - Air outlet
4 - Dry filter
5 - Plate heat exchanger
6 - Expansion valve
7 - Condenser
8 - Drainage
9 - Hot gas by-pass valve

DANKO COMPRESSED AIR DRYER

MTD
SERIES REFRIGERATOR AIR DRYER (above MTD 13000)

Product Feature

1 . Efficient drying: The combined dryer adopts various drying methods such as condensation and adsorption to make the compressed air dry more thoroughly and ensure low humidity and low dew point of the outlet gas

2 . Comprehensive purification: In addition to the drying function, the combined dryer is also equipped with filters, degreasers and other components, which can effectively remove solid impurities, liquid and oil in the air, and achieve the effect of purifying the air.

3 . Multiple protection functions: The combined dryer has multiple protection mechanisms such as overheat protection, overload protection, and pressure protection to ensure the safe and stable operation of the equipment and remind users to perform maintenance.

4 . Adjustable parameters: The operating parameters of the combined dryer are adjustable, such as drying time, pressure, dew point, etc., which can be flexibly adjusted according to actual needs to provide a drying effect that is more in line with the user's requirements.

5 . Energy saving and environmental protection: the combined dryer adopts advanced technology and energy-saving design, which can reduce energy consumption, reduce the impact on the environment, and meet the requirements of sustainable development.

6 . Easy installation and maintenance: the combined dryer has a compact structure and is equipped with a simple and clear operation interface, which is very convenient for installation and maintenance.

7 . Multiple application scenarios: The combined dryer is suitable for various industrial fields such as electronics, medicine, and food, and can meet the needs of different fields for dry air.

Rated working condition of TR series air dryer:

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Pressure drop: 0.02MPa (under 0.7MPa inlet pressure)

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Installation environment: no sunlight, no rain, good ventilation, installed on a horizontal hard foundation, no obvious dust and flying catkins.

MTD Series Refrigerated Air Dryer (above MTD 13000)

MTD series refrigerated	Model	MTD-17000	MTD-23000	MTD-28000	MTD-33000	MTD-42000	MTD-55000
Max. air volume	m^3/min	17	23	28	33	42	55
Power supply		380V / 50Hz					
Input power	KW	4.25	5.55	6.58	7.2	10.55	12.86
Air pipe connection		RC 2"	RC2-1/2"	Dn80		Dn100	
Evaporator type		Aluminum alloy plate					
Refrigerant model		R407C					
Display interface		True color touch screen, running status, dew point temperature display					
Intelligent anti-freezing		Automatic temperature control/antifreeze solenoid valve					
Temperature control		Condensing temperature/dew point temperature automatic control					
High voltage protection		Temperature Sensor & Pressure Sensitive Intelligent Protection					
Low voltage protection		Temperature Sensor & Pressure Sensitive Intelligent Protection					
Remote control		Configure remote connection dry contact, RS485 expansion interface (remarks required for order)					
Energy saving	KG	180	236	270	335	439	580
Dimension	L	1000	1100	1215	1425	1575	1630
	W	850	900	950	1000	11000	1150
	H	1100	1160	1230	1480	1640	1760

MTD series refrigerated	Model	MTD-65000	MTD-85000	MTD-110000	MTD-130000	MTD-165000	MTD-200000
Max. air volume	m^3/min	65	85	110	130	165	Information available on requeest
Power supply		380V / 50Hz					
Input power	KW	13.1	16.02	21.72	26.3	32.28	
Air pipe connection		Dn125		Dn150			
Evaporator type		Aluminum alloy plate					
Refrigerant model		R407C					
Display interface		True color touch screen, running status, dew point temperature display indication					
Intelligent anti-freezing protection		Automatic temperature control/antifreeze solenoid valve					
Temperature control		Condensing temperature/dew point temperature automatic control					
High voltage protection		Temperature Sensor & Pressure Sensitive Intelligent Protection					
Low voltage protection		Temperature sensor and inductive intelligent protection					
Remote control		Configure remote connection dry contact, RS485 expansion interface (remarks required					
Energy saving	KG	720	920	1150	1380	1725	
Dimension	L	1980	2055	2460	2100	2300	
	W	1450	1450	1800	2220	2420	
	H	1743	1743	1960	2110	2110	

MTO - MTA - MTS

SERIES PRECISION AIR FILTERSERIES PRECISION AIR FILTER

The precision filter effectively removes impurities such as moisture, dust particles, and oil mist contained in the compressed air through the functions of interception, inertia, diffusion, and gravity, so as to make the com- pressed air clean and dry, and improve the quality of the finished gas.

"Class C, main line filter, mostly used after air compressor, after cooler or before freeze dryer, can filter out a large amount of liquid and more than 3um solid particles, the lowest residual oil content is only 5ppm."

Class T, dust removal filter, mostly used in tools, machinery, motors, cylinders and other equipment and before A-class filters or after adsorption dryers, can filter out liquid and solid particles as small as 1μm, and achieve a minimum residual oil content of 0.5ppm.

Class A, ultra-high-efficiency oil removal filter, mostly used upstream of dry adsorption dryer or downstream of refrigerated dryer, can filter out liquid and solid particles as small as 0.01um, and achieve the lowest residual oil content of only 0.01ppm. Install a T-class air line filter upstream to protect it.

Class H, activated carbon micro-oil mist filter, mostly used to purify food, medicine, and breathing gas, can filter out oil mist and hydrocarbons as small as 0.01μm, and achieve the lowest residual oil content of only 0.003ppm, remember to be in the upstream Install a grade A ultra-high efficiency degreasing filter to protect it.

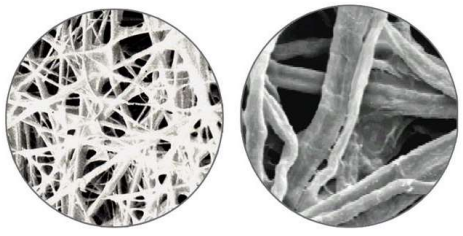
Note:

1. **Maximum working pressure:** ≤ 1.0Mpa
2. **Fluid temperature:** Class C, T, A 66°C, Class H 50°C
3. **Initial pressure drop:** 0.01 Mpa
4. **Maximum allowable pressure drop:** 0.07 Mpa
5. **Service life:** C, T, A up to 8000 hours, H class 1000 hours
6. **Connection method:** 0.5-12 series are tapered pipe internal threads, and 13 and above series are flanges

MTO - MTA - MTS

SERIES PRECISION AIR FILTERSERIES PRECISION AIR FILTER

Model	Capacity		Pipe size
	m3/min	CFM	inch
MT - 1500	1.5	52.97	3/4
MT - 2400	2.4	84.76	
MT - 4000	4.0	141.26	1
MT - 6500	6.5	229.55	1 -1/2
MT - 8500	8.5	300.18	2
MT - 11000	11.0	388.47	
MT - 13000	13.0	459.10	
MT - 17000	17.0	600.36	
MT - 20000	23.0	812.25	2 - 1/2
MT - 25000	28.0	988.82	DN 80
MT - 30000	33.0	1165.40	
MT - 42000	42.0	1483.23	Dn100
MT - 50000	55.0	1942.33	
MT - 60000	65.0	2295.48	Dn125
MT - 80000	85.0	3001.78	
MAX. PRESSURE : 16 BAR			



Micro-glass fiber
at X500 magnification

Cellulose fiber
at X500 magnification

Grade MT	O	A	S
Effect	Fine filtration	Ultra Fine filtration	Active Carbon filter
Particle Size	≤ 1 µm	≤ 0.01 µm	≤ 0.01 µm
Residual oil	≤ 0.5 ppm	≤ 0.01 ppm	≤ 0.003 ppm

MTW

SERIES PRECISION AIR FILTERSERIES PRECISION AIR FILTER

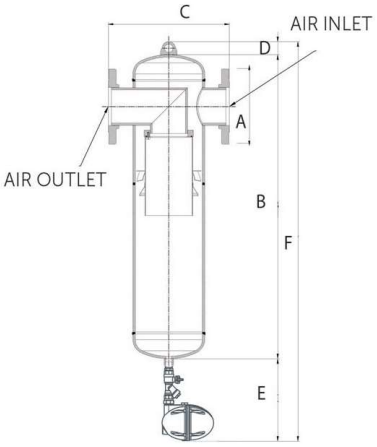
High-efficiency cyclone air-water separator

An air-water separator installed in front of the compressed air filter and drying equipment can remove 99% of the liquid water, making downstream purification equipment more efficient. The unique two-stage cyclone separation design of Yineng air-water separator makes it more effective than the traditional air-water separator. The optional installation position of the air-water separator is in the air compressor, in front of the rear cooler, and behind the gas storage tank.

Flanged cyclone steam-water separator

Product selection

MODEL	Connection Size (Inch)	Flow Rate		Housing Dimension (mm)					
		LIT/MIN	SCFM	A	B	C	D	E	F
MTW- 600	1/2	600	42	25	2400	800	0	280	2680
MTW- 1600	1/2	1600	84	25	3000	800	0	280	3280
MTW- 3300	3/4	3300	115	30	3600	800	0	280	3880
MTW- 5000	1	6500	228	35	3000	220	0	280	3280
MTW- 10000	1 - 1/2	10000	350	65	3700	260	0	280	3980
MTW- 20000	DN40	20000	701	180	4000	300	75	280	4355
MTW- 36000	Dn40	36000	1263	180	4000	300	75	280	4355
MTW- 50000	DN80	50000	14286	200	6000	300	75	280	6355



Correction Factor

operating pressure bar	1	3	5	6	9	11	13	14
PSIG	15	44	73	100	131	160	189	200
Correction Factor	0.5	0.71	0.87	1	1.12	1.22	1.32	1.38

For maximum flow rates, multiply model flow rate show in the above table by the correction factor corresponding to the working pressure

Maximum Recommended Operating Temperature	80 ° C
Minimum Recommended Operating Temperature	80 ° C
Typical Pressure Loss at Rated Flow	50 MBAR
Maximum Working Pressure	14 BARG

Activated Carbon Tower

Many industries such as the electronic and hospital industries, pharmaceutical industries, food and beverage industries require the removal of the residual oil vapors and odors from the compressed air. Danko's solution for this application is the MCT Series activated carbon towers. With standard pre and after filters such as particulate filters, water coalescers and oil coalescers the oil content inside the compressed air can be reduced to 0.01 mg/m³ (0.01 ppm) For applications of EXTREME air quality such as hospital, pharmaceutical industries, or food and beverage industries ,the residual oil content may need to be reduced to 0.003 mg/m³ (0.003 ppm). MCT filters such as Danko activated carbon G series, GO series, F series filters or MCT activated carbon towers are a must for such kind of applications

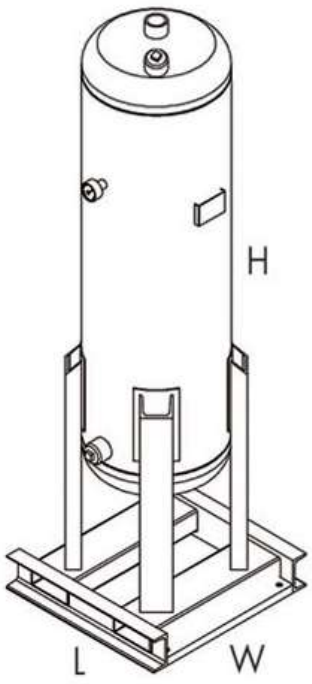
Correction Factor

Operating Pressure (barg)	1	3	5	7	9	10
PSIG	15	44	73	100	131	145
Correction Factor	0,5	0,71	0,87	1	1,12	1,15

Maximum Recommended Operating Temperature	25 °C
Maximum Oil carryover at 21 °C (mg/m³)	0.003
Maximum Working Pressure	10 barg

Technical Specification

Model	Connection Size	Flow Rate (m³/h)	Max. working pressure (barg)	Active carbon (kg)	Housing Dimensions (mm)		
					Length	Width	Heigth
MCT130	1"	130	10	14	347	450	1172
MCT185	1"	185	10	20	450	563	1413
MCT250	1"	250	10	28	430	601	1370
MCT300	1 1/2"	300	10	37	500	649	1336
MCT360	1 1/2"	360	10	37	500	649	1336
MCT440	1 1/2"	440	10	46	500	648	1536
MCT575	1 1/2"	575	10	56	469	604	1733
MCT680	2"	680	10	74	550	540	1936
MCT850	2"	850	10	97	580	600	1957
MCT1000	2"	1000	10	128	657	638	1617
MCT1250	DN80	1250	10	149	708	880	2400
MCT1500	DN80	1500	10	167	708	880	2558
MCT1800	DN80	1800	10	210	810	980	2423
MCT2200	DN80	2200	10	262	810	1100	2600
MCT2700	DN80	2700	10	320	910	1100	2758
MCT3200	DN100	3200	10	356	866	1050	3023
MCT3600	DN100	3600	10	400	866	1050	3237
MCT4400	DN100	4400	10	537	1130	1250	2914
MCT5000	DN150	5000	10	624	1130	1310	3420
MCT6300	DN150	6300	10	754	1230	1410	3365
MCT7200	DN150	7200	10	845	1430	1575	3075
MCT8800	DN150	8800	10	1009	1430	1575	3369
MCT10800	DN200	10800	10	1148	1430	1650	3863



What is ISO 8573-1?

ISO 8573-1 is a critical standard within the field of compressed air quality, providing a comprehensive framework for the classification of air purity. Developed and maintained by the International Organization for Standardization, this standard is pivotal in defining the levels of various contaminants in compressed air systems. It sets out specific requirements for three primary types of contaminants: particulates, water, and oil, each of which can significantly impact the performance and safety of compressed air applications.

The standard is structured into several parts, with ISO 8573-1 being the primary document that outlines the main categories of air contaminants and their permissible limits. It provides a detailed classification system for each contaminant type, specifying the maximum allowable concentration levels in compressed air. These levels are defined in a series of purity classes, which vary depending on the sensitivity of the application and the potential impact of contamination.

For solid particles, the standard specifies the maximum number of particles allowed per cubic meter of air and categorizes them based on their size, measured in microns. For water, ISO 8573-1 defines limits based on the form of moisture present (vapor, liquid, or aerosol) and uses the concept of pressure dew point to quantify moisture content. For oil, the standard includes both liquid and vapor forms of oil, with limits expressed in terms of concentration (mg/m³).

ISO 8573-1 is not just a static document; it evolves to reflect advancements in technology and changes in industrial practices. It is widely used across various industries, including pharmaceuticals, food and beverage, and manufacturing, where the quality of compressed air is critical. Compliance with ISO 8573-1 is essential for ensuring the reliability, safety, and efficiency of compressed air systems, and it serves as a benchmark for quality assurance and regulatory compliance in many sectors.

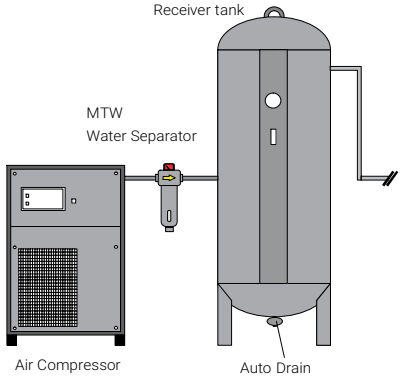
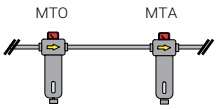
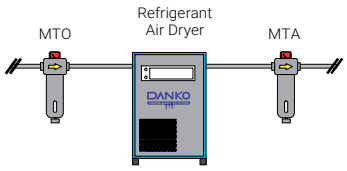
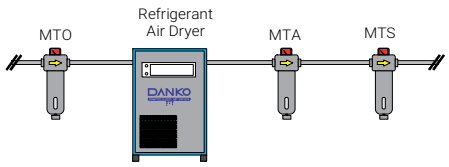
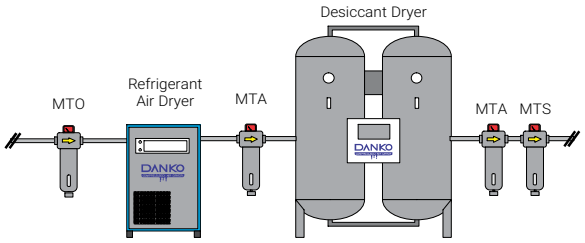
ISO 8573-1:2010 COMPRESSED AIR CONTAMINANTS AND PURITY CLASSES

CLASS	SOLID PARTICLES				WATER			OIL
	By Particle Size (maximum number of particles per m3) See Note 2			By Mass	Vapor Pressure Dewpoint		Liquid	Liquid, Aerosol, & Vapor See Note 1
	0.1 µm < d ≤ 0.5	0.5 µ m< d ≤ 1.0	1.0 µm < d ≤ 5.0	mg/m3	°C	°F	g/m3	mg/m3
0	**As specified by the equipment user or supplier and more stringent than class 1**							
1	≤ 20,000	≤ 400	≤ 10	-	≤ -70	≤ -94	-	≤ 0.01
2	≤ 400,000	≤ 6,000	≤ 100	-	≤ -40	≤ -40	-	≤ 0.1
3	-	≤ 90,000	≤ 1,000	-	≤ -20	≤ - 4	-	≤ 1
4	-	-	≤ 10,000	-	≤ +3	≤ +37	-	≤ 5
5	-	-	≤ 100,000	-	≤ +7	≤ +45	-	-
6	-	-	0 – ≤ 5	-	≤ +10	≤ +50	-	-
7	-	-	-	5 – ≤ 10	-	-	≤ 0.5	-
8	-	-	-	-	-	-	≤ 5	-
9	-	-	-	-	-		≤ 10	-
X	-	-	-	>10			>10	>5
	MICROBIOLOGICAL CONTAMINANTS				**OTHER GASEOUS CONTAMINANTS**			
	No purity classes are identified				No purity classes are identified Gases mentioned are: CO, Co2, SO2, NOX, Hydrocarbons in the range of C1 to C5			

Note 1: ISO 8573 Oil includes aerosol, vapor in the range of C6+, and liquid oil. Liquid oil is typically sampled when wall flow is present, contamination is suspected, or results are greater than 5 mg/m3. Trace can provide a separate kit for liquid oil testing.
Note 2: For Particle Class 0, 1, & 2 (0.1 - 0.5 µ range only), a laser particle counter with a high-pressure diffuser is required. Rental of this equipment is available on a reservation basis. Contact us for details. To qualify for Particle Classes 0 through 5, there can be no particles greater than 5µ present.

Air & Gas Specifications referenced above may be viewed and/or purchased from: ANSI - American National Standards Institute

ISO 8573-1:2010 Compressed Air Specifications

Air line design	Air line Design 1	Application	ISO 8573.1 : 2010 CLASS
		SIMPLE	2. - 3.
		GENERAL PURPOS	1.4.1
		ODORLESS	1.4.1
		CRITICAL	1.2.1 (-40 °C) 1.1.1 (-70 °C)

The three key components of ISO 8573-1

ISO 8573-1 categorizes air purity into three critical components: solid particles, water, and oil. Each category has specific classes that define the concentration levels of these contaminants, providing a clear framework for maintaining air quality in compressed air systems.

1. Solid Particles : This category addresses the concentration of solid particles in the air, which can range from microscopically small dust particles to more significant debris. The standard defines several classes of particle size and concentration, measured in microns and the number of particles per cubic meter of air. For instance, Class 1 specifies a particle size of 0.1 to 0.5 microns with a concentration limit, whereas Class 5 allows larger particles with a higher concentration. Adherence to these classes is crucial in applications where even the smallest particle can cause significant product contamination or damage to precision equipment.

2. Water : Water in compressed air can exist in various forms: vapor, liquid, or aerosol. ISO 8573-1 classifies water content based on the dew point, which is the temperature at which air becomes saturated and water vapor begins to condense into liquid. The classes range from a lower dew point, indicating drier air, to a higher dew point, signifying more moisture. For example, Class 1 requires a pressure dew point of -70°C or lower, suitable for environments where moisture can severely impact product quality or cause freezing in pneumatic controls.

3. Oil : The oil content in compressed air includes both liquid and vapor forms of oil. This category is critical because oil contamination can degrade product quality, damage equipment, and pose health risks. The standard specifies classes based on the concentration of oil (including oil aerosol, vapor, and liquid) measured in milligrams per cubic meter. For instance, Class 0 represents the highest purity level with the least oil content, essential for industries like pharmaceuticals and food processing, where even trace amounts of oil can be unacceptable.

By adhering to these detailed specifications in each category, industries can ensure that their compressed air systems meet the highest standards of purity and efficiency, as outlined in ISO 8573-1. This adherence is not just about compliance; it's a commitment to quality, safety, and operational excellence.

Brand for the first quality - oriented

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MTW WATER SEPARATOR

MTC CARBON ACTIVE TOWER

ISO 8573-1 : 2010

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