

Clearly classified compressed air quality at Festo

Which compressed air quality classes are required for which applications and which products are the right ones?

The table contains recommendations from the experts at Festo, based on the limit values specified in ISO 8573-1:2010.

Compressed air generation	Air distribution	Air preparation	Class ³⁾	Typical applications
Compressor	[--:--:--] ¹⁾	Water separators	[--:7:--]	All applications in which almost condensate free compressed air is required. No defined particle filtering 
Prefilter Refrigeration dryer Adsorption dryers	[7:4:4] ¹⁾	40 µm filter	[7:4:4]	Operating medium for valves, cylinders, secondary packaging (standard) 
		40 µm filter 5 µm filter	[6:4:4]	Servopneumatic positioning with proportional directional control valves, compressed air tools 
		40 µm filter 5 µm filter 1 µm filter	[2:4:3]	Applications with a residual oil content of <0.5 mg/m ³ , textile industry, air spinning machines, paper industry 
		40 µm filter 5 µm filter 1 µm filter 0.01 µm filter	[1:4:2]	Applications with a residual oil content of <0.01 mg/m ³ , air bearings, painting, powder coating 
		40 µm filter 5 µm filter 1 µm filter 0.01 µm filter Activated carbon filter	[1:4:1]	Applications with a residual oil content of <0.003 mg/m ³ , reduction of oil vapours and aromas, optical instruments, sealing air for glass scales/lasers, primary packaging 
		40 µm filter 5 µm filter 1 µm filter 0.01 µm filter Activated carbon filter Membrane air dryer	[1:3:1]	Semiconductor industry, pharmaceutical products 
		40 µm filter 5 µm filter 1 µm filter Adsorption dryer	[2:2:2]	Applications in the low temperature range, dry process air, powder transport, (food manufacturing: 1:2:1) 

Designation under ISO 8573-1: [Particles:Water:Oil]
The class that can be attained by compressed air preparation depends on the quality of the compressed air downstream of the compressor. The specifications apply to typical compressed air networks and make no claim of completeness.

¹⁾ Significantly better classes are also possible with appropriate air preparation downstream of the compressor.

²⁾ Pipe systems can increase the particle content of the compressed air (chips, rust etc.), while liquid oil can be concentrated in certain parts of the compressed air distribution system. Specifications apply at normal room temperature. If parts of the compressed air network are subjected to lower temperatures, the moisture class must be selected to ensure that the pressure dew point is 10 °C below the minimum expected temperature.

³⁾ Class to ISO 8573-1:2010 at room temperature

Flow at supply pressure 10 bar, on units with regulator outlet pressure 6 bar in l/min

1,000		3,000		5,000		7,000		9,000		11,000		13,000		15,000		17,000		19,000		21,000		23,000			
564858 MS6-LWS-1/2-UV-WB				567857 MS9-LWS-1-UV-WP																					
*531029 MSB4-1/4:C4:J1-WP		*531030 MSB6-1/2:C4:J1-WP				*552938 MSB9-1:C2:J73-WP Flow rate up to 19,000 l/min																			
*531029 MSB4-1/4:C4:J3-WP		*531030 MSB6-1/2:C4:J3-WP				*552938 MSB9-1:C2:J71-WP Flow rate up to 17,000 l/min																			
200		400		600		800		1,000		2,000		3,000		4,000		5,000		6,000		7,000		8,000			
*531029 MSB4-1/4:C4:J3:I10-WP				*531030 MSB6-1/2:C4:J3:I10-WP				*552938 MSB9-1:C2:J71:I9-WP																	
*531029 MSB4-1/4:C4:J1:I5-WP				*531030 MSB6-1/2:C4:J3:I5-WP				*552938 MSB9-1:C2:J71:I12-WP Flow rate up to 6,500 l/min																	
*531029 MSB4-1/4:C4:J1:I5:L1-WP				*531030 MSB6-1/2:C4:J3:I5:L1-WP				*552938 MSB9-1:C2:J71:I12:L2-WP Flow rate up to 6,500 l/min																	
100		200		300		400		500		600		700		800		900		1,000							
*531029 MSB4-1/4:C4:J1:I5:L1:G4-WP				*531030 MSB6-1/2:C4:J3:I5:L1:G7-WP																					
552170 PDAD-09		552171 PDAD-13		552172 PDAD-22		552173 PDAD-51				552174 PDAD-73				552175 PDAD-100				Note: Please order 529607 MS6-LF-1/2-CRM and 532799 MS6-MV in addition to the PDAD							

Filter Optional filter increases the protection against overtravel and extends the service intervals.

Filter/Air dryer 40 µm and 5µm filters from Festo are equipped with an additional mechanism for separating liquids. The achievable moisture classes depend on the flow and can vary upwards and downwards

* The standard service units include the following components: manual on-off valve with silencer, filter regulator with manual condensate drain and wall bracket. Further components available according to the selected compressed air quality. To adapt the combinations offered by the MS series to your individual requirements, e.g. with additional distribution modules or pressure switches, you can enter and change the specified product in the product configurator.

 **Note:** For larger flow rates than stated, individual components MS12 are available. Ask your sales engineer for the ideal combination.