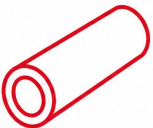
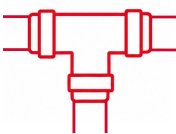
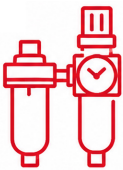


COMPRESSED AIR SYSTEM DESIGN PROCESS

A high-level overview of the recommended process for designing a reliable, high-performance air system.



1		DEFINE SYSTEM REQUIREMENTS	Establish the operating requirements that will guide the entire system design. Define the required airflow, operating pressure, air quality, applications, and anticipated future expansion before selecting any system components.	OUTCOME Project requirements and design criteria
2		PLAN THE DISTRIBUTION NETWORK	Develop the overall layout of the compressed air system based on the facility and application requirements. Select the appropriate network configuration, plan the compressor room, and determine the routing of the main distribution line and point-of-use locations.	OUTCOME Preliminary system layout and flow diagram
3		SIZE THE PIPING	Determine the appropriate pipe diameters for the main distribution line and each drop to deliver the required airflow with minimal pressure loss. Consider equivalent fitting lengths and future expansion to ensure long-term system performance.	OUTCOME Validated pipe sizing calculations
4		ACCOUNT FOR THERMAL EXPANSION	Evaluate how temperature changes will affect the piping system and determine the appropriate method of expansion compensation. Proper planning helps protect the network from excessive stress while ensuring long-term reliability.	OUTCOME Thermal expansion plan and details
5		DESIGN THE NETWORK COMPONENTS	Incorporate the piping components required to improve system reliability, condensate management, maintenance accessibility, and future flexibility. Proper component selection simplifies installation while reducing downtime and operating costs.	OUTCOME Mechanical design specification
6		SPECIFY AIR TREATMENT & POINT OF USE EQUIPMENT	Select the air treatment equipment required to achieve the desired air quality throughout the system. Complete the design by specifying the point-of-use equipment needed to deliver clean, regulated compressed air to each application.	OUTCOME Air Treatment & Point-of-Use Equipment Specification
7		REVIEW AND FINALIZE	Review the complete system design to verify performance, maintainability, safety, and future expansion requirements. Finalize product selection, installation drawings, and technical documentation before implementation.	OUTCOME Final design package