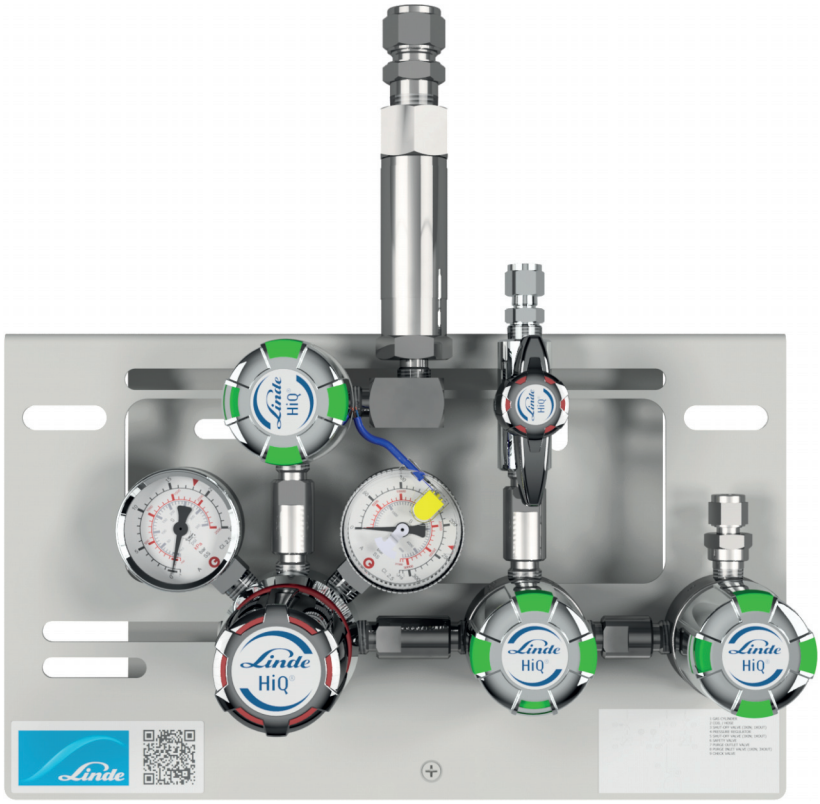
HiQ® REDLINE® S 23. Single source manifold with external purging.



Application

HiQ REDLINE manifolds are suitable for all applications in analysis, as well as research and development, where high demands in gas purity, accuracy and reliability are required.

Description

S 23 is a wall-mounted manifold designed for one single gas source and with external purging. The gas source might be one or more gas cylinders/bundles with toxic and/or corrosive gases and their mixtures up to gas purity 6.0 (99.9999%). The manifold reduces a cylinder pressure of up to 200 bar to a distribution pressure. The house of the manifold is made of stainless steel.

Gas purging of the high-pressure side is performed with an inert external gas before a cylinder change, to protect the operator from breathing toxic gas released from the pipe coil. After the cylinder change, inert gas purging of the high-pressure side gets rid of impurities like air and moisture.

The standard configuration is equipped with a CE marked safety valve and a shut-off valve on the low-pressure side. In the basic configuration, the pressure protection consists of a relief valve and there is no low-pressure shut-off valve. A contact gauge, mounted on the high-pressure side, intended for connection to a low-level gas alarm system, is optional.

Quality assurance

Pressure regulators are designed and approved according to EN ISO 7291 (including the oxygen ignition test and the life cycle test). Valves are designed and approved according to relevant sections of EN ISO 10297 (including the oxygen pressure surge test). The equipment meets the electrostatic chargeability requirements of EN ISO 80079-36, IEC TS 60079-32-1 and the German TRGS 727. The manifolds can therefore be used in the EX zones 1 and 2 for gases with the explosion risk groups I, IIA, IIB or IIC. Each regulator and valve is seat leakage tested, atmosphere leakage tested and pressure tested with helium.

Versions

HiQ REDLINE S 23

Product name	Material	bar(g)	psi(g)	Article number
Basic version with relief valve:				
S 23 SS	Stainless steel	1–14	15–203	342053
S 23 SS NH_3*	Stainless steel	1–14	15–203	342055
Basic version with contact pressure gauge and relief valve:				
S 23 SS C	Stainless steel	0.5–6	7–87	342051
S 23 SS NH_3 C*	Stainless steel	0.5–6	7–87	342052
S 23 SS C	Stainless steel	1–14	15–203	342054
S 23 SS NH_3 C*	Stainless steel	1–14	15–203	342056
Standard version with contact pressure gauge, safety valve and low pressure shut-off valve:				
S 23 SS C SV SOV	Stainless steel	1–14	15–203	342057
S 23 SS NH_3 C SV SOV*	Stainless steel	1–14	15–203	342058

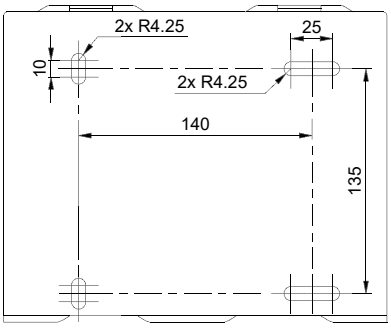
*Manifold, intended for the gases NH_3, H_2S, SO_2 or CO, with a relief/safety valve seat made of EPDM.

Technical data

Pressures	bar(g)	psi(g)
Maximum inlet pressure	230	3 336
Outlet pressure ranges	0.5–6	7–87
	1–14	15–203
Relief/safety valve opening pressures	9.2/9	134/131
	21.6/21	313/305
Outlet gauge ranges	–1 to 10	–15 to 145
	–1 to 25	–15 to 363
Nominal flow	20 m^3/h (nitrogen) acc. to ISO 7291	
Flow coefficients	Cv	
Shut-off valve	0.25	
Operating temperature	–20° C to +60° C	–4° F to +140° F
Gas purity	≤6.0 (99.9999 %)	
Leakage rates		
to the atmosphere	≤1x10^{-9} mbar l/s (helium)	
through the seat	≤5x10^{-6} mbar l/s (helium)	
Particle filters		
Shut-off valve	100 µm (each inlet)	100 µm (each outlet)
Pressure regulator	10 µm (inlet)	100 µm (each outlet)
Materials		
Shut-off valve, house	Stainless steel	
Shut-off valve, diaphragms	Hastelloy and/or Elgiloy	
Shut-off valve, seat	PCTFE	
Shut-off valve, poppet	Stainless steel	
Pressure regulator, house	Stainless steel	
Pressure regulator, diaphragm	Hastelloy	
Pressure regulator, seat	PCTFE	
Pressure regulator, poppet	Stainless steel	
Relief/safety valve, seat	FKM (standard) or EPDM (for certain gases)	
Connections		
Process gas inlet	NPT ¼" female	
Process gas outlet	NPT ¼" female	
Relief/safety valve outlet	12 mm tube fitting in stainless steel	
Purge inlet/outlet	6 mm tube fitting in stainless steel	
Weight	≤5.8 kg	≤12.8 lbs

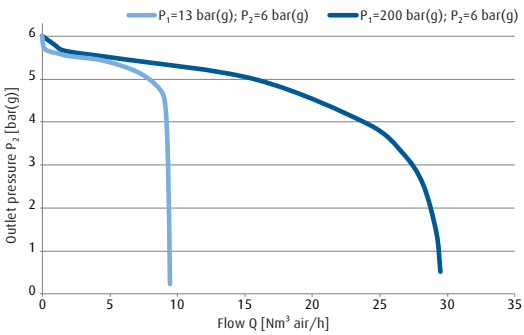
Installation

The manifold is easily installed due to separate mounting plates in polished stainless steel. A base plate is first mounted on the wall. The manifold, mounted on a front plate, is then simply hooked onto the base plate, and fixed with a screw. A safety wire of the high-pressure hose with a carabiner hook, can be attached to a hole in the base plate. Further, there is a grounding bolt in the base plate. Due to the cut-outs in the front plate, a faulty pressure gauge can be replaced without dismantling the manifold.

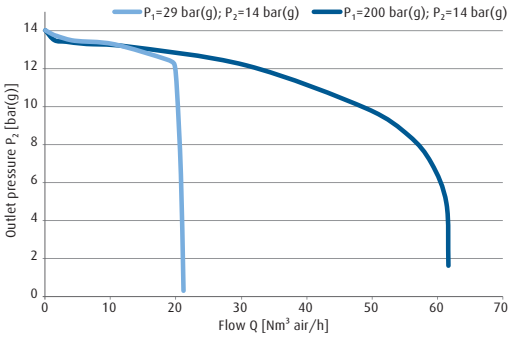


Flow curves

Outlet pressure 6 bar(g)



Outlet pressure 14 bar(g)

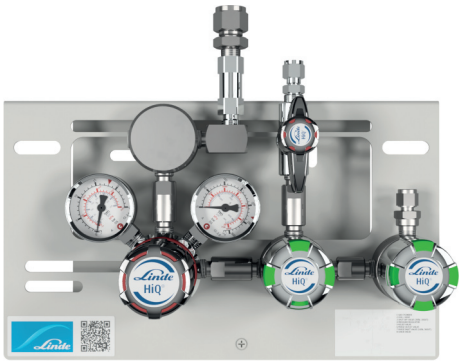


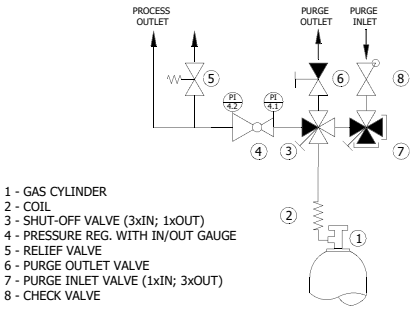
Accessories

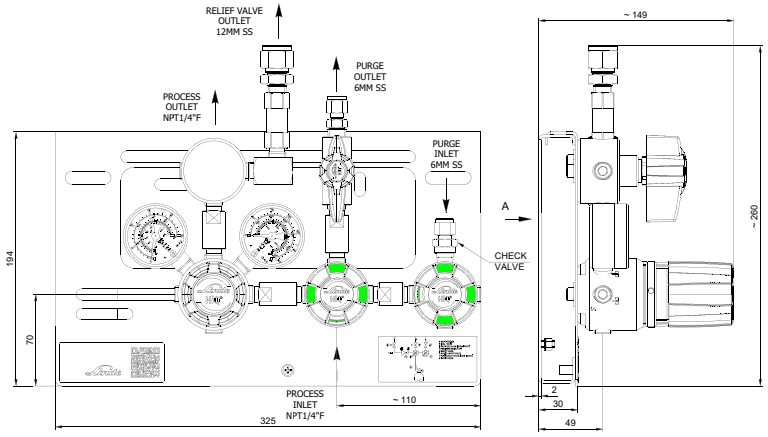
Coils and/or extension header rails for connection to the gas cylinder(s)/bundle(s) are ordered separately. Note that a tube fitting outlet connection is not included in the manifold.

Images, P&IDs and drawings

Basic version with relief valve

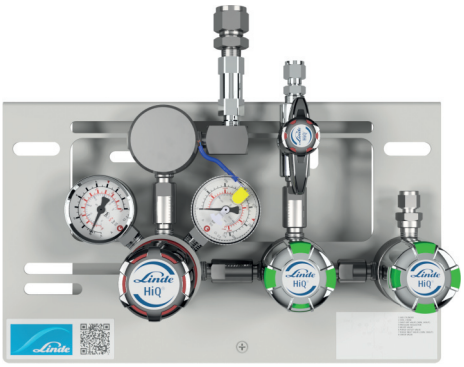


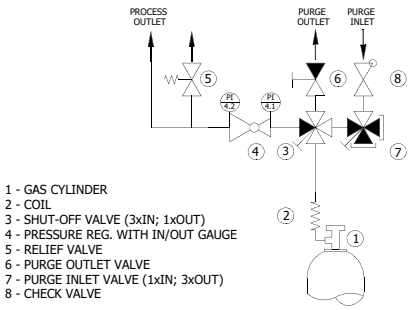


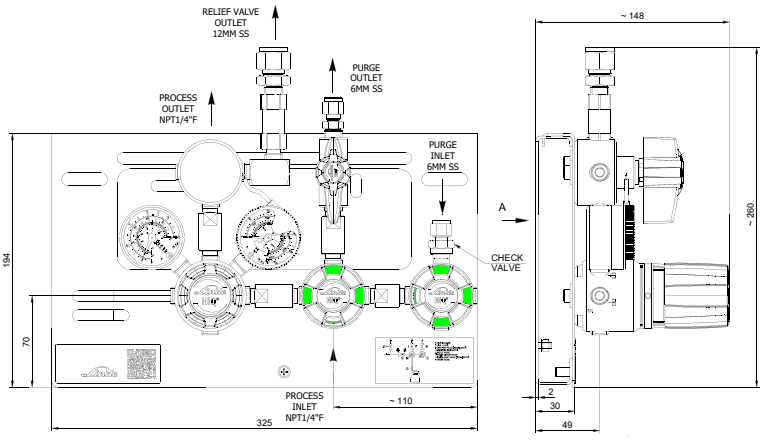


Images, P&IDs and drawings

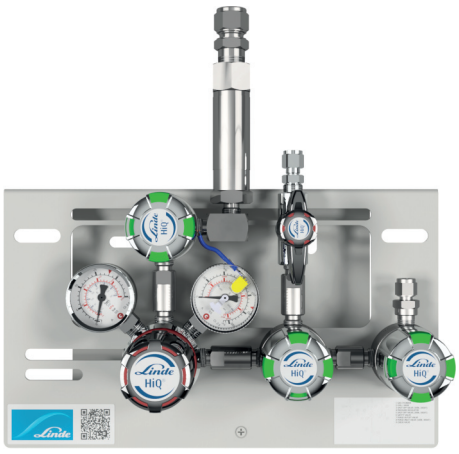
Basic version with contact pressure gauge and relief valve

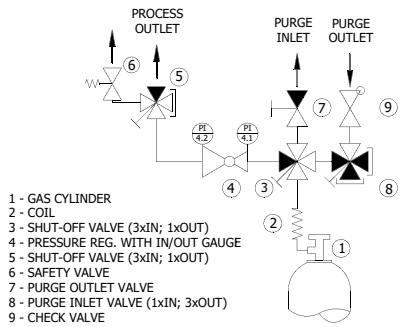


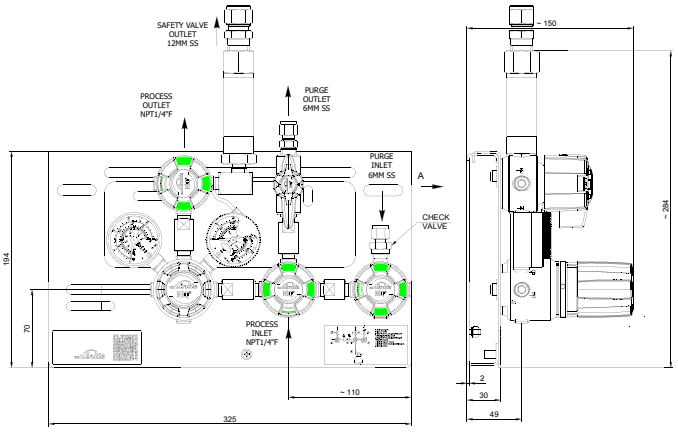




Standard version with contact pressure gauge, safety valve and low pressure shut-off valve







Linde Gas AB
Rättarvägen 3, SE-169 68 Solna, Sweden
Tel +46 8 731 10 00, www.linde-gas.se

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