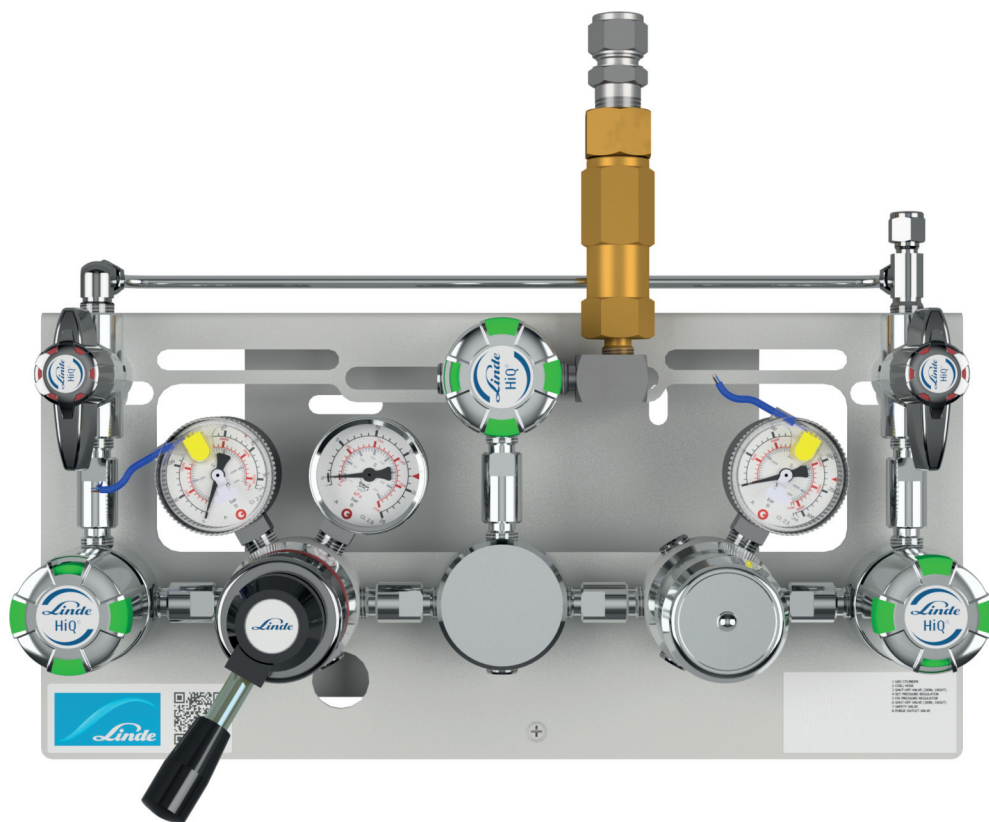




HiQ® REDLINE® A 28. Semi-automatic double source manifold with internal purging.



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 A 28 is a wall-mounted semi-automatic manifold designed for two gas sources and with internal purging. Each gas source might be one or more gas cylinders/bundles with inert, oxidising or flammable 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.

A manifold with two gas sources enables to change the cylinder(s) of the empty source without interrupting the gas supply. The semi-automatic gas supply functionality provides buffer time to perform the cylinder change at a more convenient moment than exactly when the source is close to empty. Gas purging of the high-pressure side after a cylinder change is performed with the process gas itself to get rid of impurities like air and moisture. The house of the manifold is made of chrome-plated brass.

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. Contact gauges, mounted on the high-pressure sides, intended for connection to a low-level gas alarm system, are 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 A 28

Product name	Material	Outlet pressure, bar(g)	Outlet pressure, psi(g)	Art. No.
Basic version with relief valve:				
A 28 B	Chrome-plated brass	14 ±1.75	203 ±25	342071
Basic version with contact pressure gauges and relief valve:				
A 28 B C	Chrome-plated brass	14 ±1.75	203 ±25	342072
A 28 B CO ₂ C*	Chrome-plated brass	14 ±1.75	203 ±25	342073
A 28 B C	Chrome-plated brass	50 ±3.75	725 ±54	342075
Standard version with safety valve and low pressure shut-off valve:				
A 28 B SV SOV	Chrome-plated brass	14 ±1.75	203 ±25	342076
Standard version with contact pressure gauges, safety valve and low pressure shut-off valve:				
A 28 B C SV SOV	Chrome-plated brass	14 ±1.75	203 ±25	342077
A 28 B CO ₂ C SV SOV*	Chrome-plated brass	14 ±1.75	203 ±25	342078
Standard version with dual stage, contact pressure gauges, safety valve and low pressure shut-off valve:				
A 28 B C CO ₂ DS SV SOV**	Chrome-plated brass	0.5-6	7-87	342070

* Manifold, intended for the gases CO₂ or N₂O, with a relief/safety valve seat made of EPDM. The nominal inlet pressure is 60 bar(g).

** This manifold is intended for carbonisation of beverages and has no internal purging.

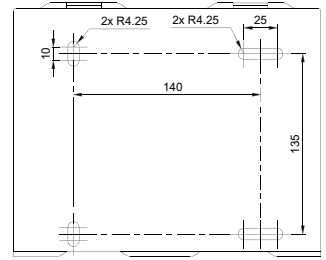
Technical data

Pressures	bar(g)	psi(g)
Maximum inlet pressure	230	3 336
Outlet pressure ranges	0.5-6	7-87
	14 ±1.75	203 ±25
	50 ±3.75	725 ±54
Relief/safety valve opening pressures	9.2/9	134/131
	21.6/21	313/305
	65/n.a.	943/n.a.
Outlet gauge ranges	-1 to 10	-15 to 145
	-1 to 25	-15 to 363
	0 to 80	0 to 1 160
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	Chrome-plated brass	
Shut-off valve, diaphragms	Hastelloy and/or Elgiloy	
Shut-off valve, seat	PCTFE	
Shut-off valve, poppet	Chrome-plated brass	
Pressure regulator, house	Chrome-plated brass	
Pressure regulator, diaphragm	Hastelloy	
Pressure regulator, seat	PCTFE (and PTFE when a 2 nd stage)	
Pressure regulator, poppet	Chrome-plated brass	
Relief/safety valve seat	FKM (standard) or EPDM (for CO ₂ or N ₂ O)	
Connections		
Process gas inlet(s)	NPT ¼" female	
Process gas outlet	NPT ¼" female	
Relief/safety valve outlet	12 mm tube fitting in stainless steel	
Purge outlet	6 mm tube fitting in stainless steel	
Weight	≤8.9 kg	≤19.6 lbs

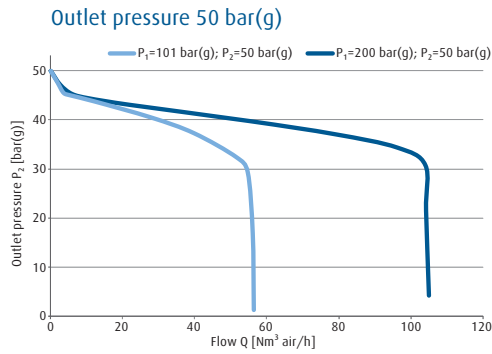
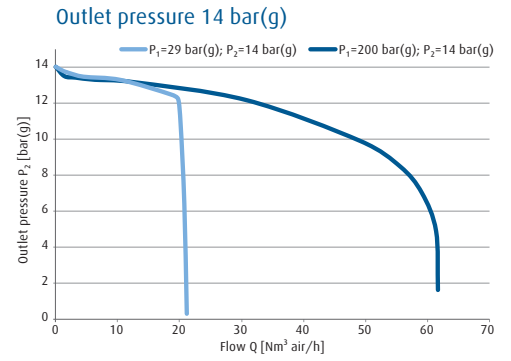
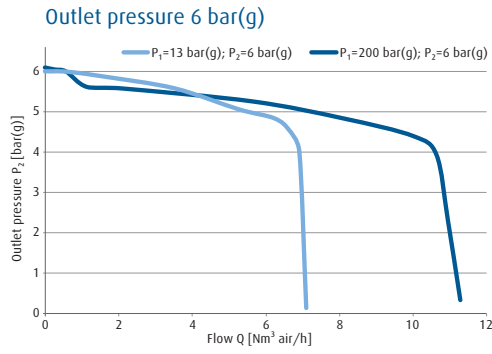


Installation

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

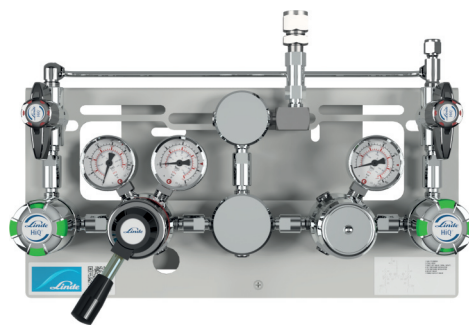


Accessories

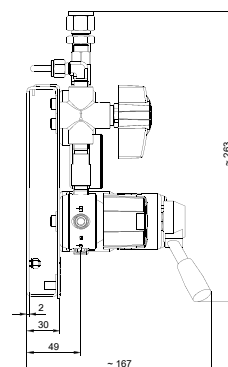
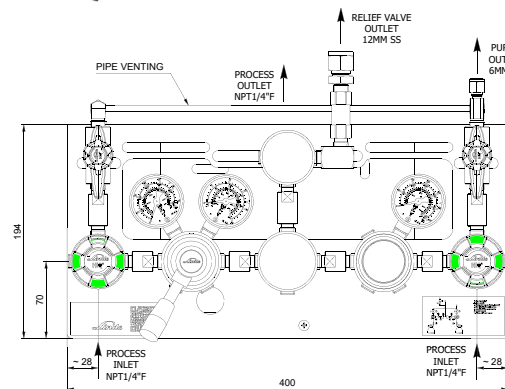
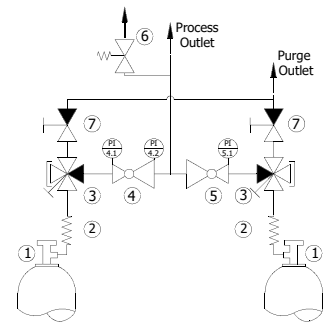
High-pressure hoses, coils and/or extension header rails for connection to the gas cylinder(s)/bundle(s) are ordered separately. Note that a tube fitting outlet connection is not included in the manifold.

Images, P&IDs and drawings

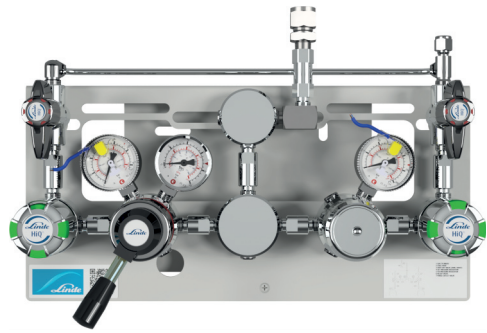
Basic version with relief valve



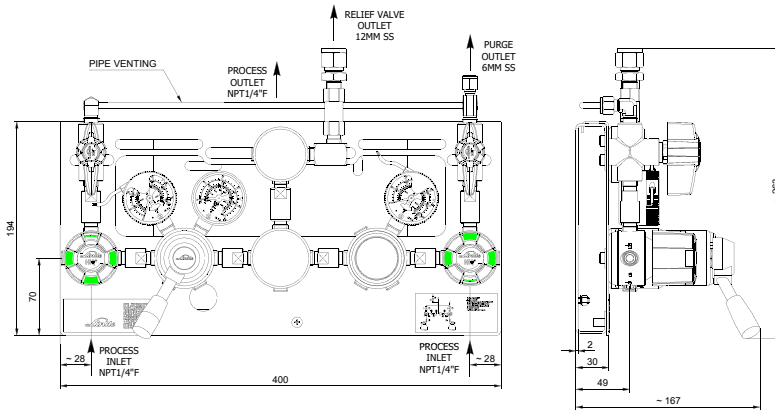
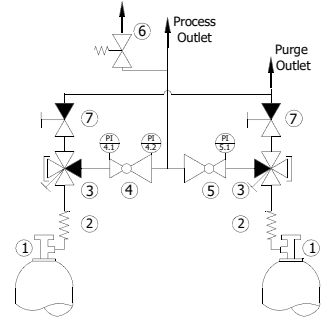
- 1 - GAS CYLINDER
- 2 - COIL / HOSE
- 3 - SHUT-OFF VALVE (3xIN; 1xOUT)
- 4 - SET PRESSURE REGULATOR
- 5 - FIX PRESSURE REGULATOR
- 6 - RELIEF VALVE
- 7 - PURGE OUTLET VALVE



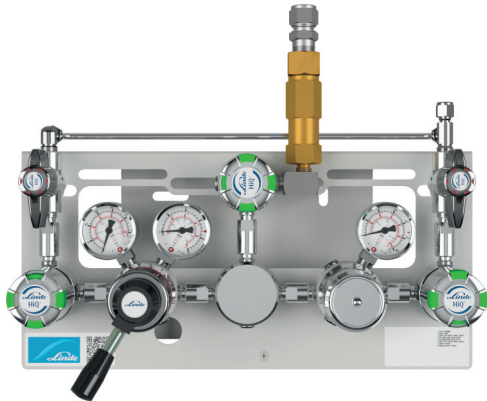
Images, P&IDs and drawings Basic version with contact pressure gauges and relief valve



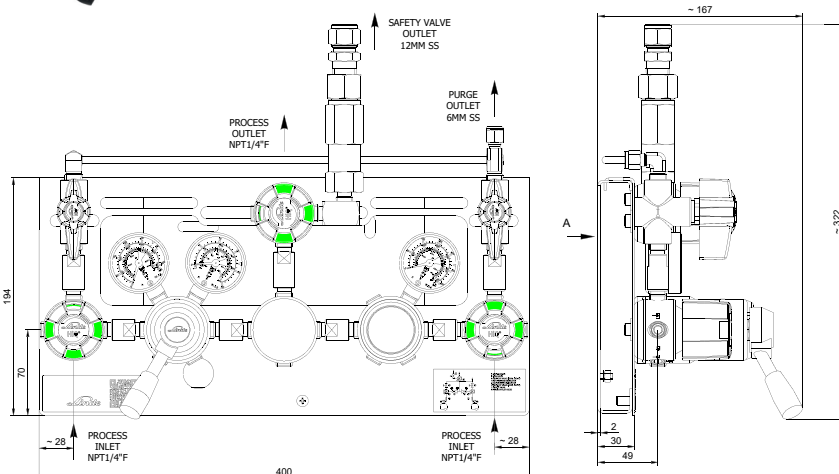
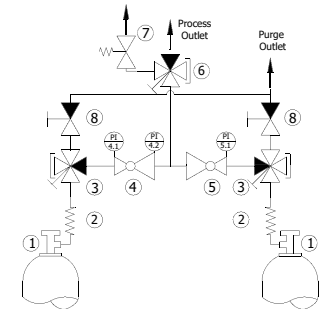
- 1 - GAS CYLINDER
- 2 - COIL / HOSE
- 3 - SHUT-OFF VALVE (3xIN; 1xOUT)
- 4 - SET PRESSURE REGULATOR
- 5 - FIX PRESSURE REGULATOR
- 6 - RELIEF VALVE
- 7 - PURGE OUTLET VALVE



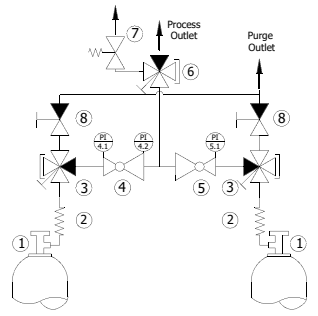
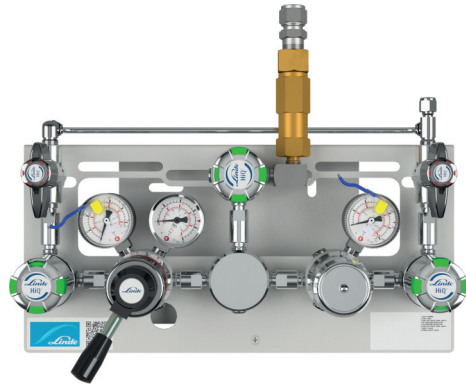
Standard version with safety valve and low pressure shut-off valve



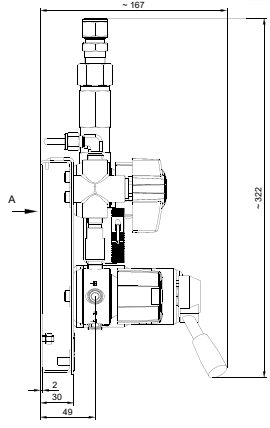
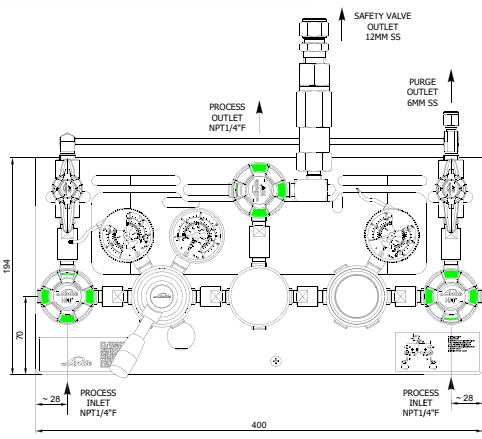
- 1 - GAS CYLINDER
- 2 - COIL
- 3 - SHUT-OFF VALVE (3xIN; 1xOUT)
- 4 - SET PRESSURE REGULATOR
- 5 - FIX PRESSURE REGULATOR
- 6 - SHUT-OFF VALVE (3xIN; 1xOUT)
- 7 - SAFETY VALVE
- 8 - PURGE OUTLET VALVE



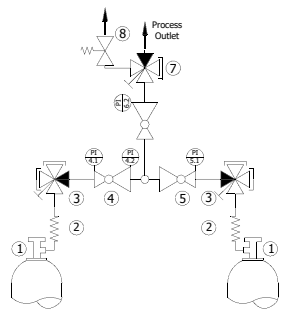
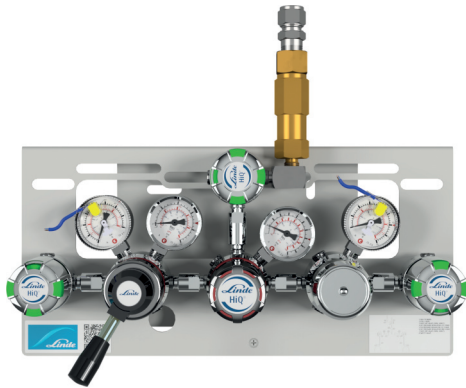
Images, P&IDs and drawings Standard version with contact pressure gauges, safety valve and low pressure shut-off valve



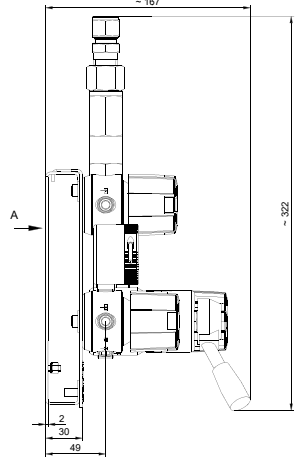
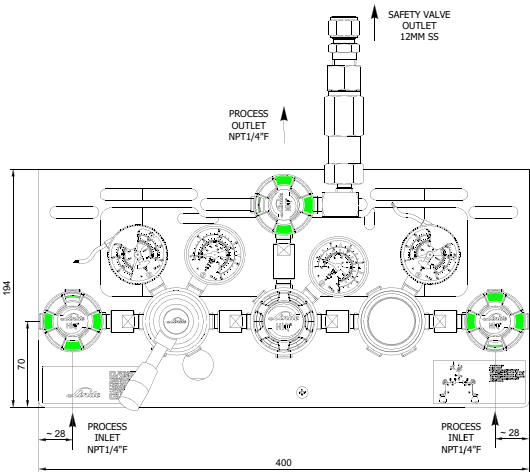
- 1 - GAS CYLINDER
- 2 - COIL
- 3 - SHUT-OFF VALVE (3xIN; 1xOUT)
- 4 - SET PRESSURE REGULATOR
- 5 - FIX PRESSURE REGULATOR
- 6 - SHUT-OFF VALVE (3xIN; 1xOUT)
- 7 - SAFETY VALVE
- 8 - PURGE OUTLET VALVE



Standard version with dual stage, contact pressure gauges, safety valve and low pressure shut-off valve



- 1 - GAS CYLINDER
- 2 - COIL
- 3 - SHUT-OFF VALVE (3xIN; 1xOUT)
- 4 - SET PRESSURE REGULATOR
- 5 - FIX PRESSURE REGULATOR
- 6 - PRESSURE REG. 2ND STAGE
- 7 - SHUT-OFF VALVE (3xIN; 1xOUT)
- 8 - SAFETY 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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