

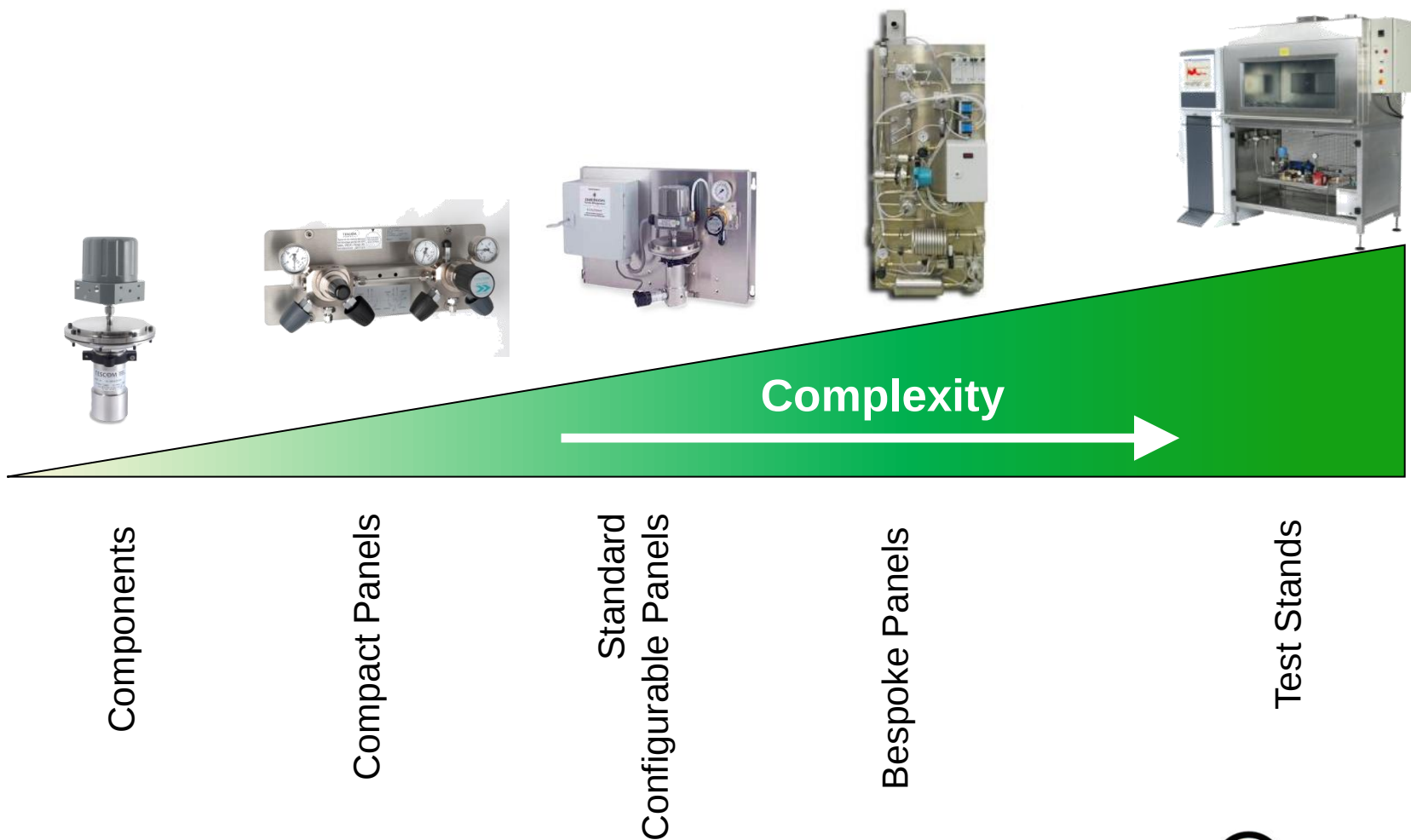
Applications Library



Serving all of your **pressure control needs...**

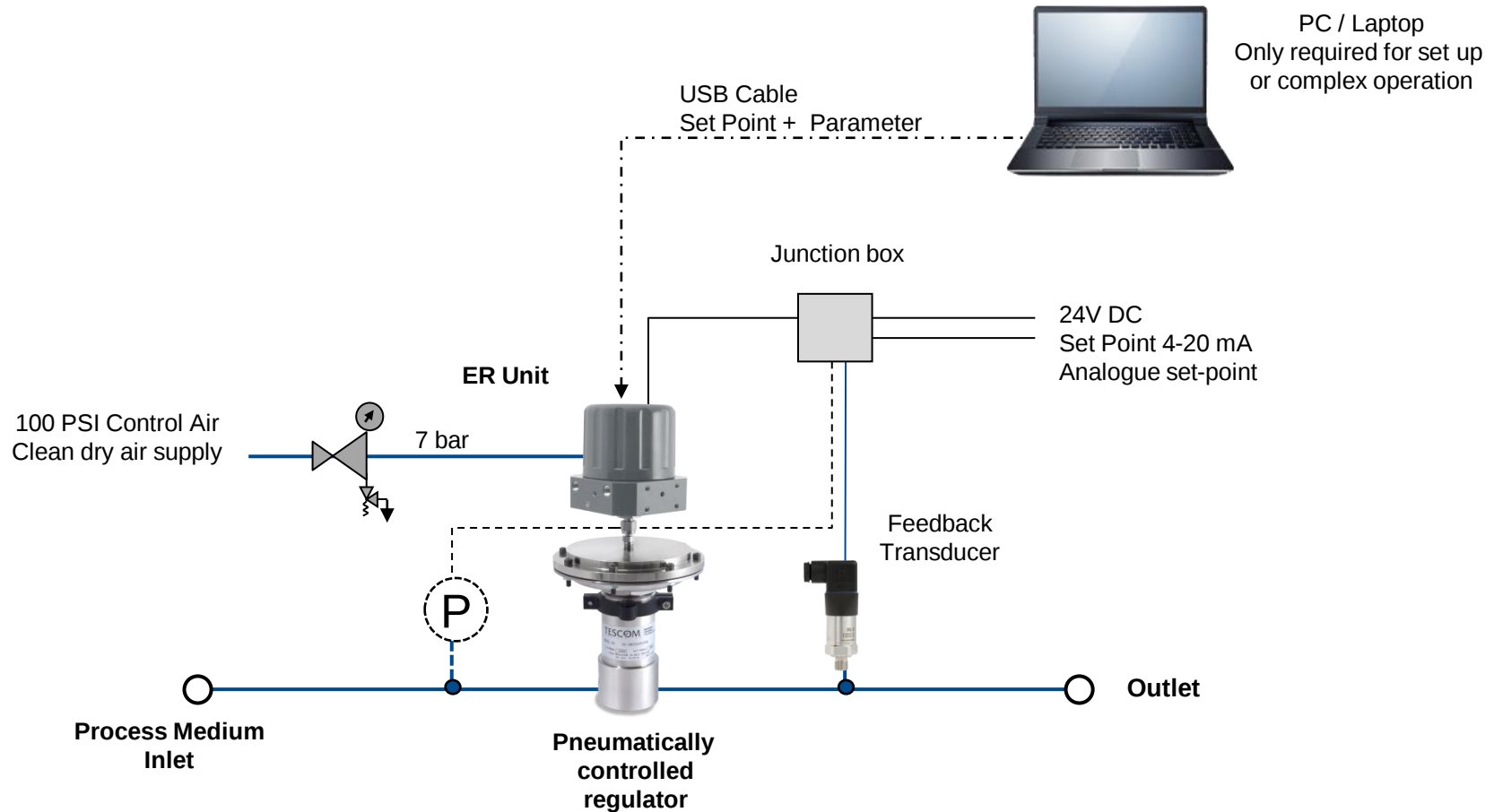
 **PressureControl**
SOLUTIONS

Product Range



Electronic Pressure Controls

Standard ER5000 Setup

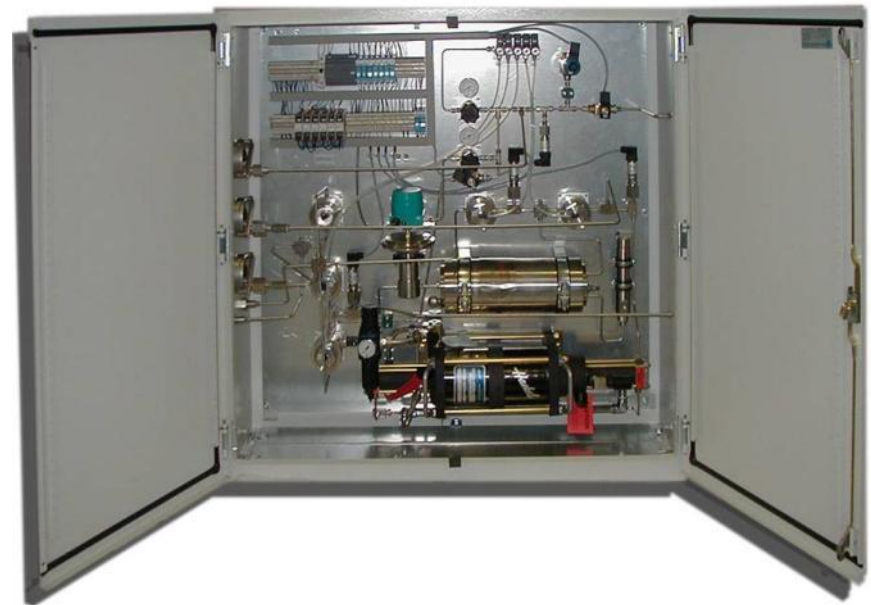


Gas and Fluid Supply

High Pressure Filling



- Function
 - Automatic filling of gas bottles
 - ER5000 controlled filling
 - PC controlled
 - Temperature control
- Medium
 - He, Ar, N₂ and air
 - Pressure up to 1,500 bar (20,000 psi).
- Test & Cal R&D, Instrumentation



Gas and Fluid Supply

Filling of Gas Cylinder



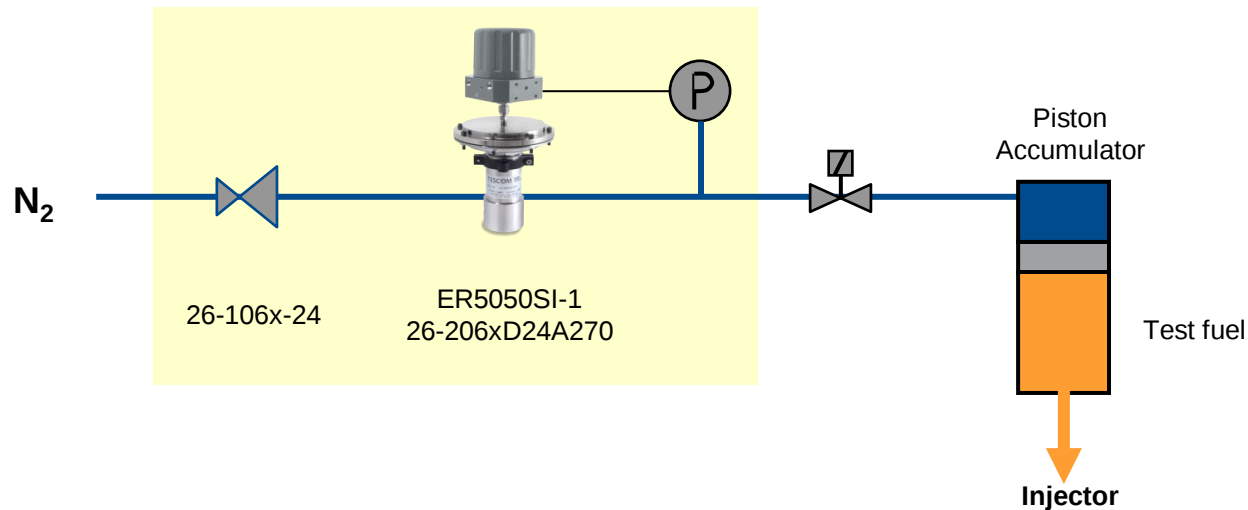
- Applications
 - Cycle testing
 - Leak testing
 - Burst Testing
 - General product tests
- Spec:
 - Gas and Hydraulic
 - Pressure up to 1500 bar (20,000 psi).



Gas and Fluid Supply Injector Test



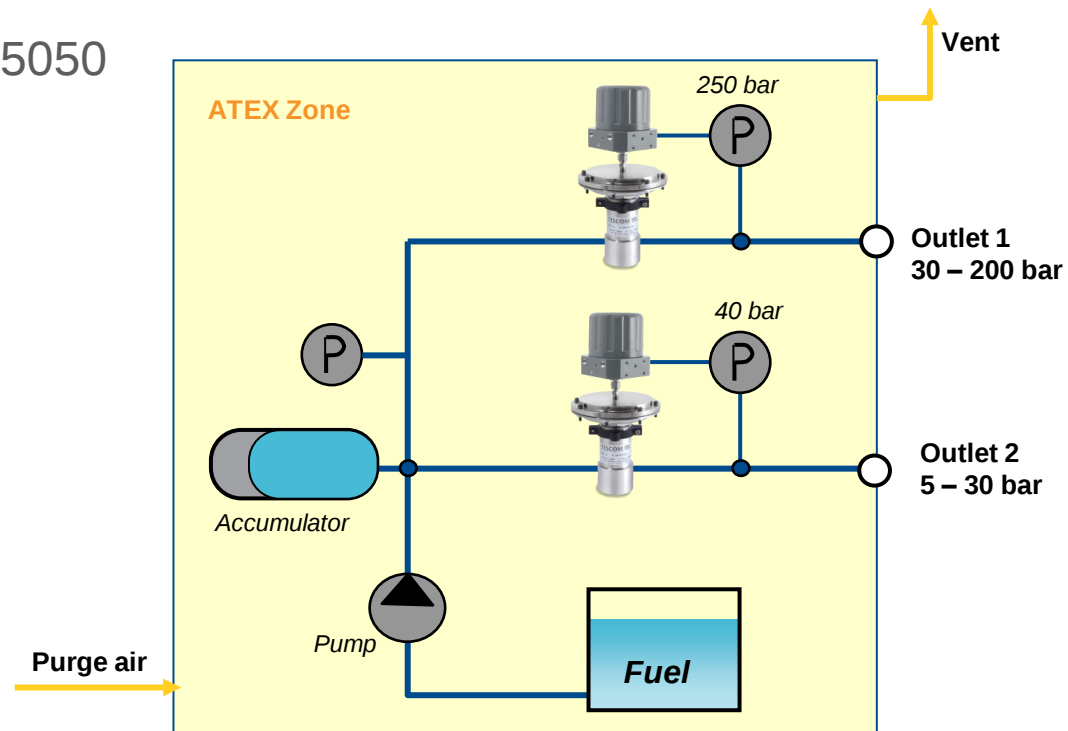
- Test of automotive injector valves
- Inert gas accumulator piston
- 2-stage regulation
- Pressure: 50 – 240 bar +/- 0.2% or better, in 3 pressure circuits
- ATEX-area compliant version
- Automotive R&D



Gas and Fluid Supply Injector Test



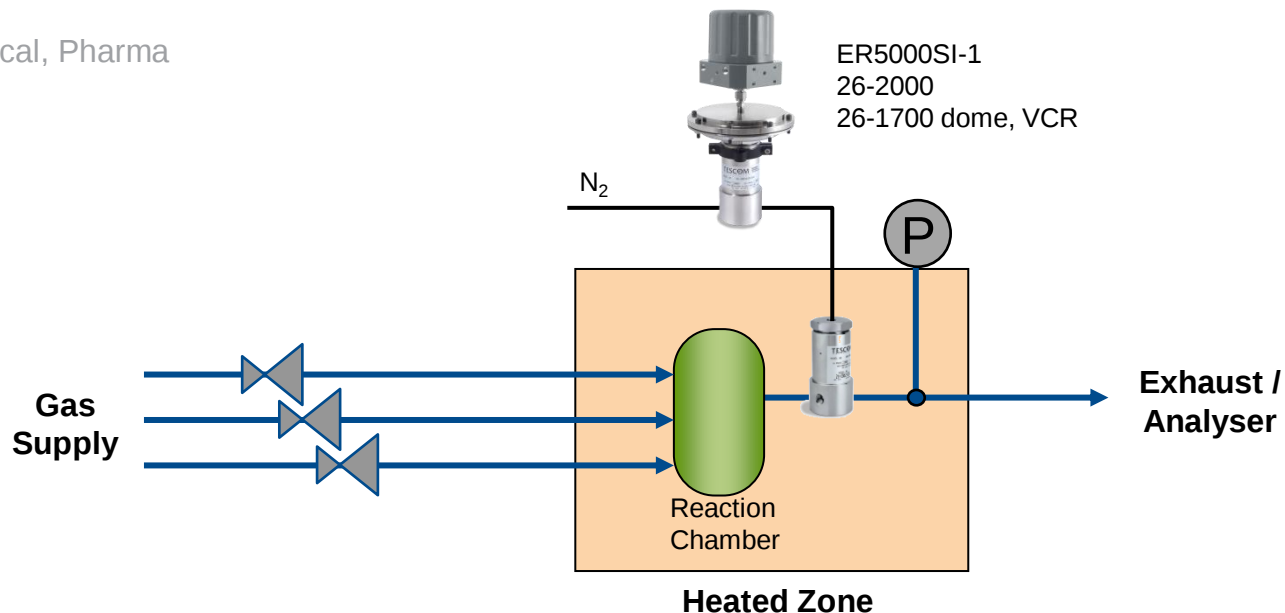
- Supply for an injector test
- Two circuits
- ATEX compliant: ER5050
- Automotive R&D



Gas and Fluid Supply Chemical Reaction Chamber



- Back Pressure regulation maintains constant pressure in the reaction chamber
- Temperature up to 200° C
- Pure metal VCR fitting in the hot area
- PC controlled pressure cycle
- R&D Chemical, Pharma

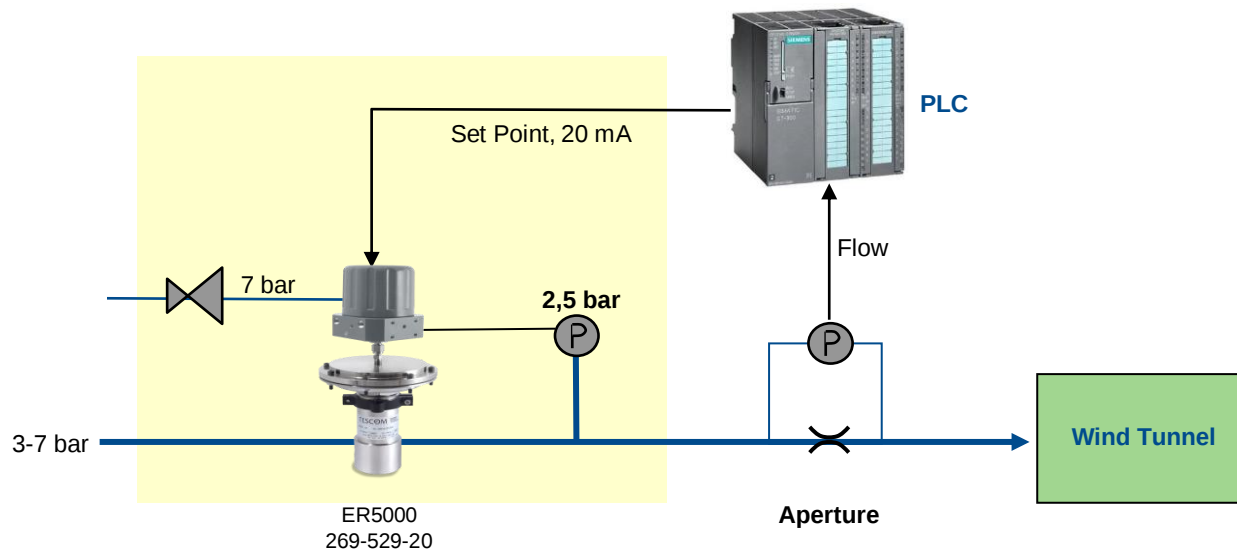


Gas and Fluid Supply

Wind Tunnel



- Cooling air supply for wind tunnel experiments
- PLC main control
- Compressed air at room temperature, pressure: 3 - 7 bar
- Flow: 20 – 140 g/s (1,000 – 6,000 l/min), Cv: up to 45
- Flow measurement by pressure drop at an aperture
- R&D Instrumentation

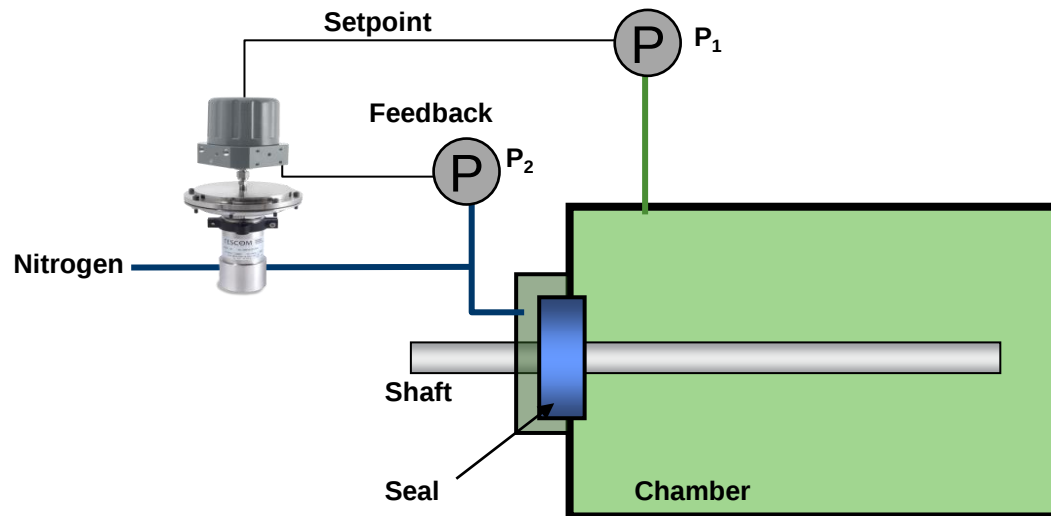


Gas and Fluid Supply

Pressure Tracking



- Apply on the outer side a constantly higher pressure as on the inside
 $P_2 = P_1 + \text{Offset}$
- Use chamber pressure as setpoint
- Set “Zero%” parameter as offset
(Miscellaneous Window, value in % of sensor range)
- Chemical Pharma, R&D



Gas and Fluid Supply

Gas Supply Panel



- Pressure Test of components
- ER5000 & 26-2000, valves
- Multiple set points via push-button
- Aerospace all Industries



Gas and Fluid Supply

Pulse Test



- Purge gas supply for component cleaning
- Variable ON / OFF timing
- Cycle counter
- VA valves, timing relay, counter
- Inert gases, up to 690 bar (10,000 psi)
- Aerospace all Industries

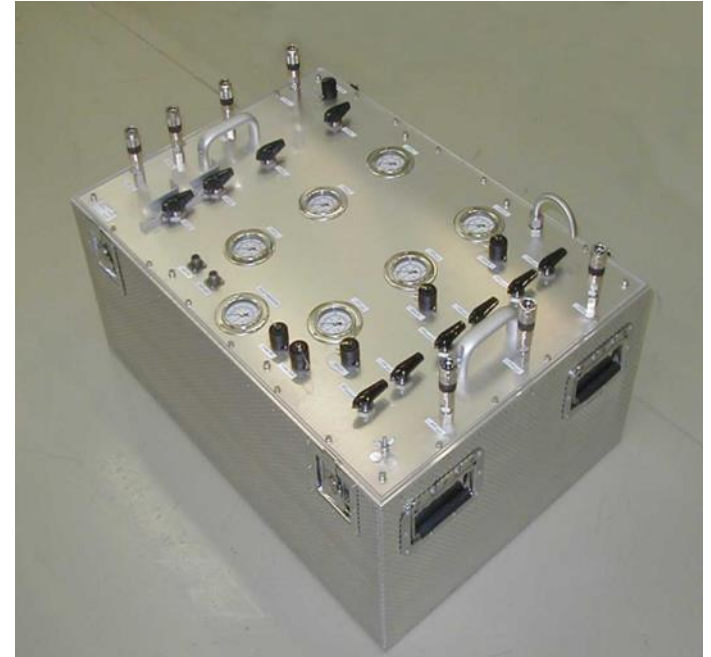
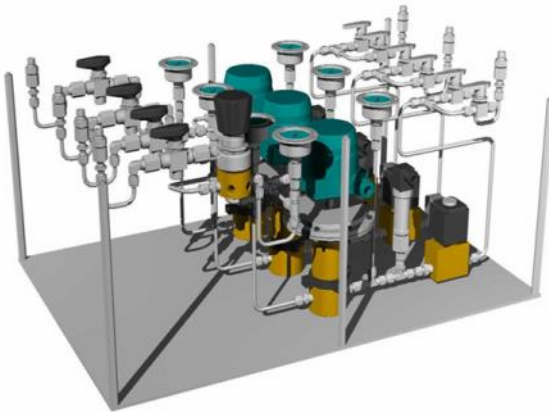


Gas and Fluid Supply

Gas Supply Box



- Portable mixed gas supply system
- ER5000 & 26-2000, 44-1800, valves
- Software for full remote control of the system
- Supply gas for laser calibration system
- Aerospace R&D



Gas and Fluid Supply

Methane Supply Rebuild



- Methane supply in a power plant
- Regulator, flow meter, valves
- Redundant design
- Power Machine Building

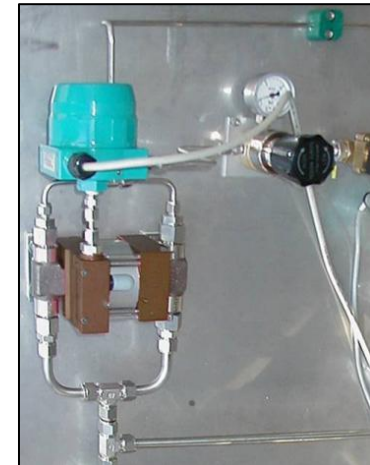
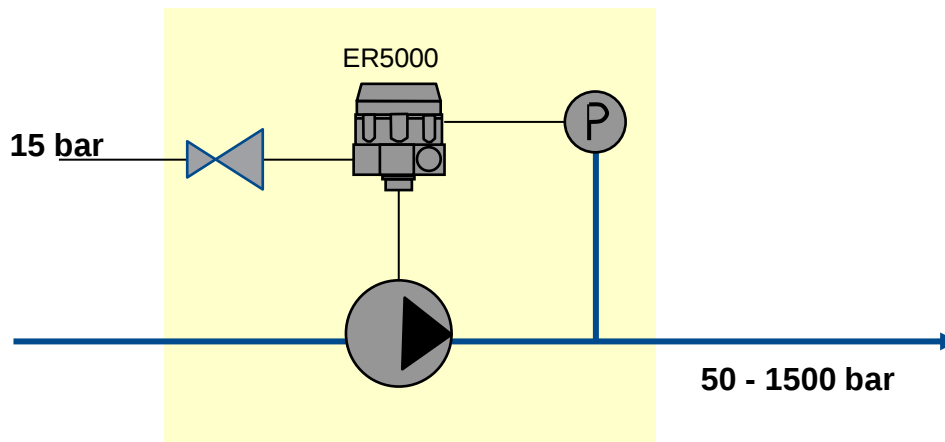


Gas and Fluid Supply

Direct Pump Control



- Direct control of a pneumatically driven fluid pump or gas booster
- Electronic controlled pressure ramp and end pressure
- Machine Building all Industries

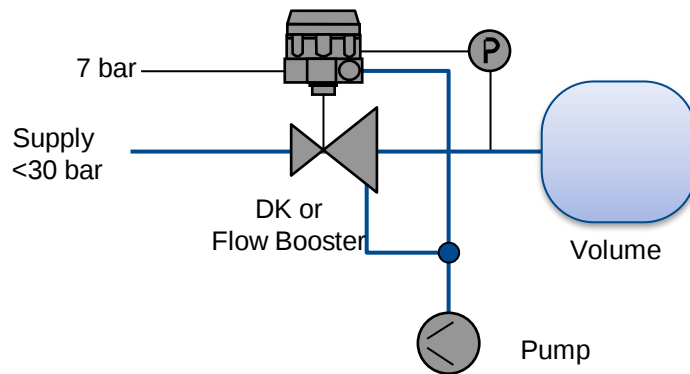


Gas and Fluid Supply

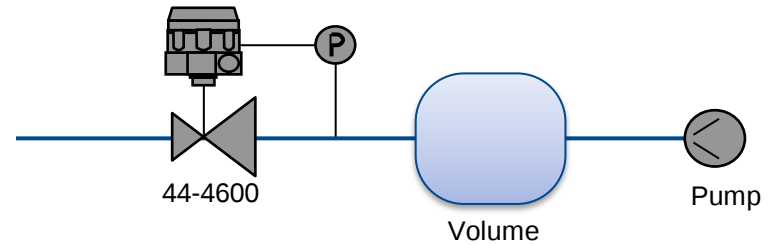
Vacuum Control



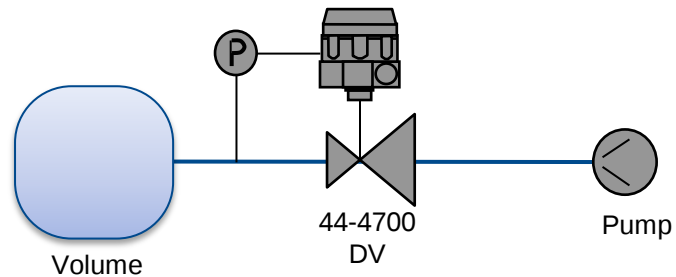
Setup 3:



Setup 1:



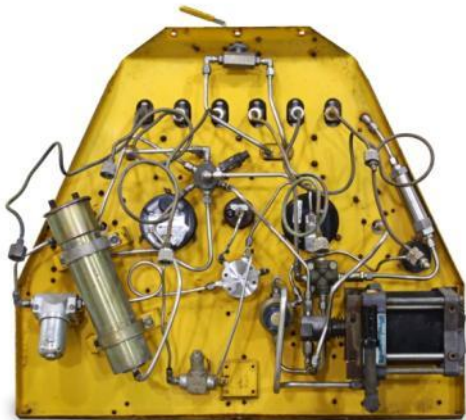
Setup 2:



Gas and Fluid Supply Panel Rebuild



- Rebuild and clean up of a charging cart panel
- Gases: Nitrogen, Oxygen
- Integrated gas booster
- Fewer leak paths increase durability and serviceability
- Automotive Instrumentation, Machine Building

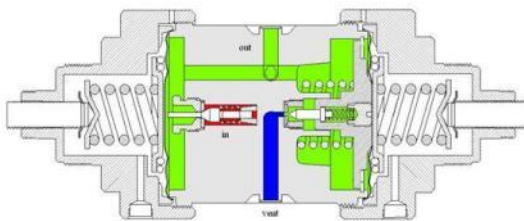


Gas- und Fluid Supply

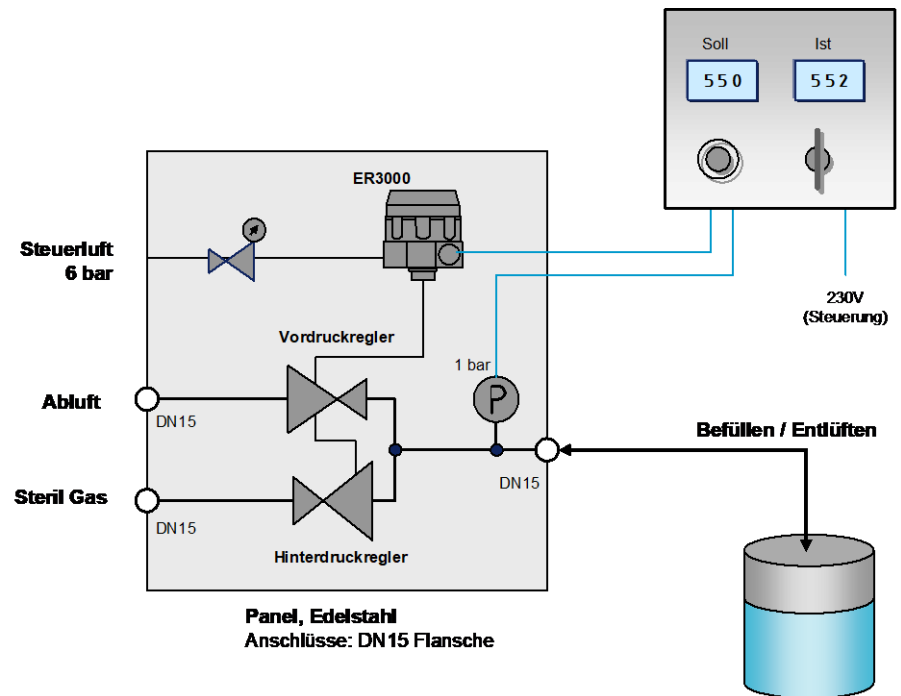
Inert gas - Blanketing



- Precise pressure supply for pharmaceutical filling
- Automatically pressure controls
- Customer specific design
- Pharmaceutical Life Science



Tracking Regler Spring Bias Dome Loaded für ER3000 Ansteuerung



Gas and Fluid Supply

N2-Supply Panel



- Nitrogen blanketing
- 6 Chanel, 0.1-1,7 bar
- Customer specific PLC interface and monitoring function
- Electronics Pharmaceutical, Machinery

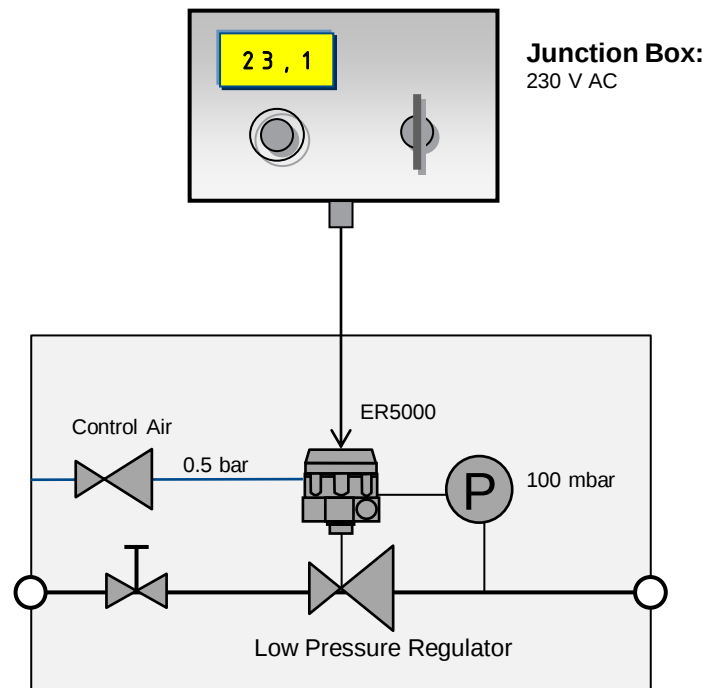


Gas and Fluid Supply

Natural Gas Supply Panel



- Supply of a burner test stand with natural gas or Methane
- Pressure: 5 to 65 mbar
Flow: 7 m³/h
- Junction Box with pressure set point and digital display
- Machine Building

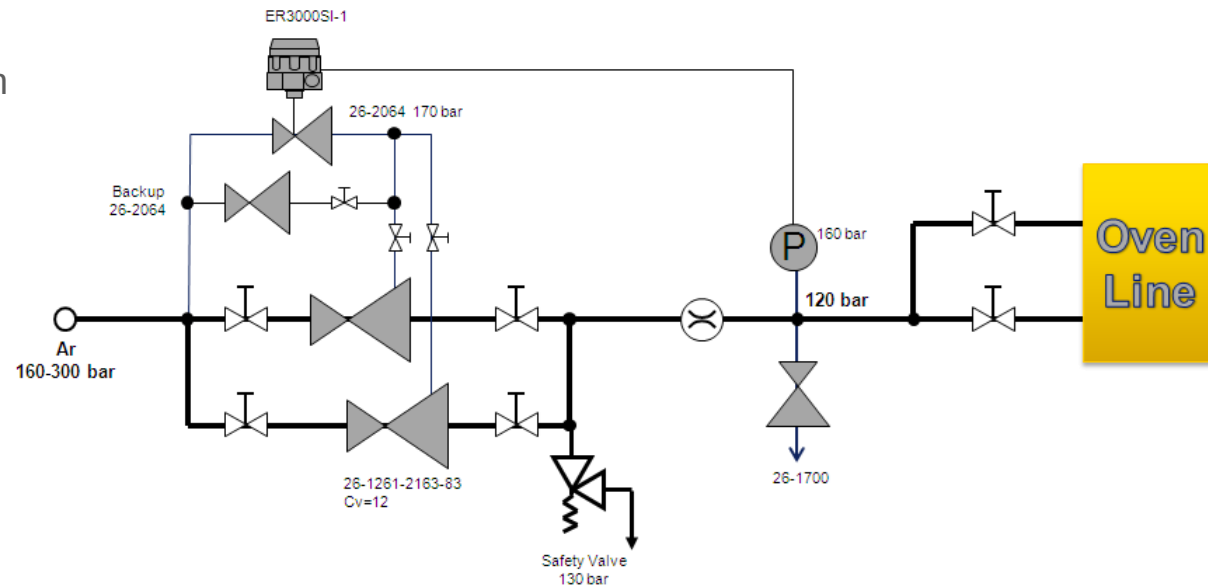


Gas and Fluid Supply

Argon Supply



- Function
 - Argon supply for a sintering process
 - High flow 26-1200 with 26-2000 & ER3000 as pilot
 - Redundant setup for 24/7 production
- Medium
 - Argon
 - Pressure: 120 bar
 - Flow: approx. 140 m³/min
- Industrial Production,
Automotive,

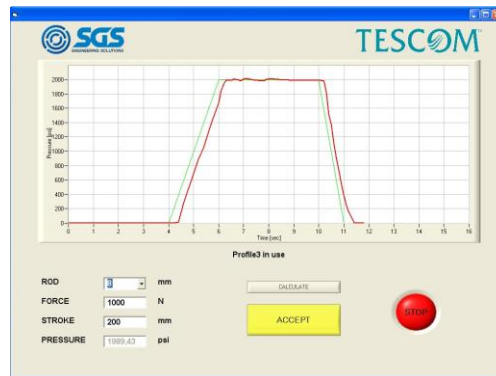


Gas- and Fluid Supply

Gas Strout Filling



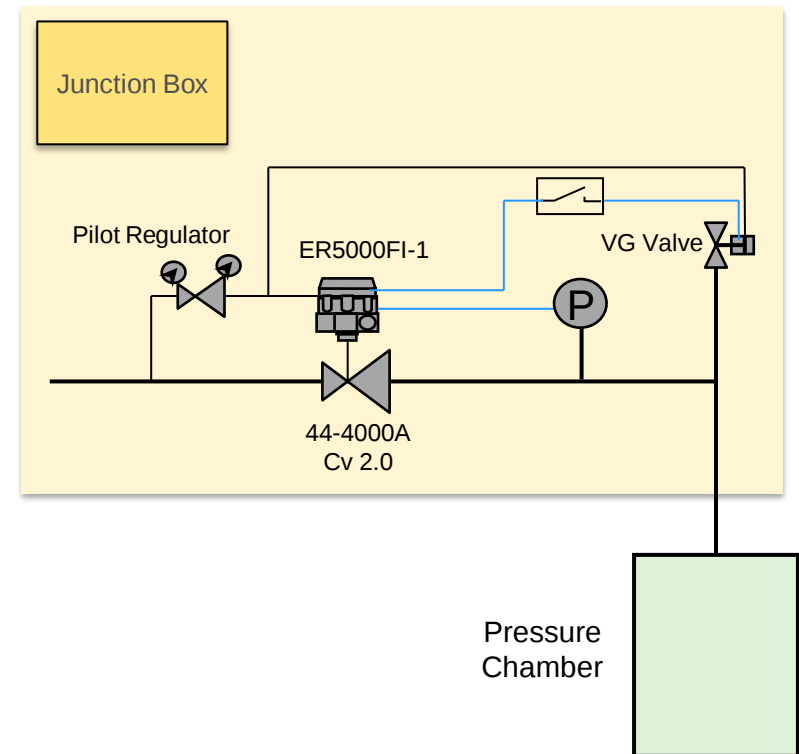
- Function
 - Filling of gas struts
 - ER5000 pressure panel
 - Software to control pressure and ramp rate
- Medium
 - Air
 - Pressure typically 70 bar
- Production testing (Automotive)



Gas- and Fluid Supply Pressure Chamber



- Function
 - Pressure simulation of a diving chamber
 - ER Kit II with ER5000FI
 - 44-4000 regulator + VG vent valve
 - Runs pressure cycles
- Medium
 - Air
 - Pressure: 50 bar
- Life Science

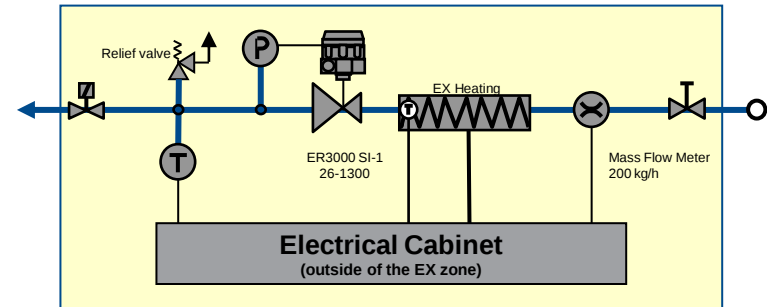


Alternative Fuel

CNG Test Stand



- Function:
 - CNG supply for an engine test cell.
 - including CNG preheating
 - Simulation of operations conditions.
 - Central CNG gas container + 2 test cells
- Test Media:
 - CNG (synthetic or natural gas)
 - Pressure: 18 - 32 bar
 - Flow: to 150 kg/h
 - Temperature: 20 - 45 ° C
- Features:
 - Mass flow measurement
 - ATEX compliant
- Automotive F&E



Alternative Fuels – Fuel Cell



- Hydrogen supply panel for fuel cell buses
- 44-6000 regulator, VA valve, 3rd party components.
- System Design, Assembly & Test
- Automotive Instrumentation

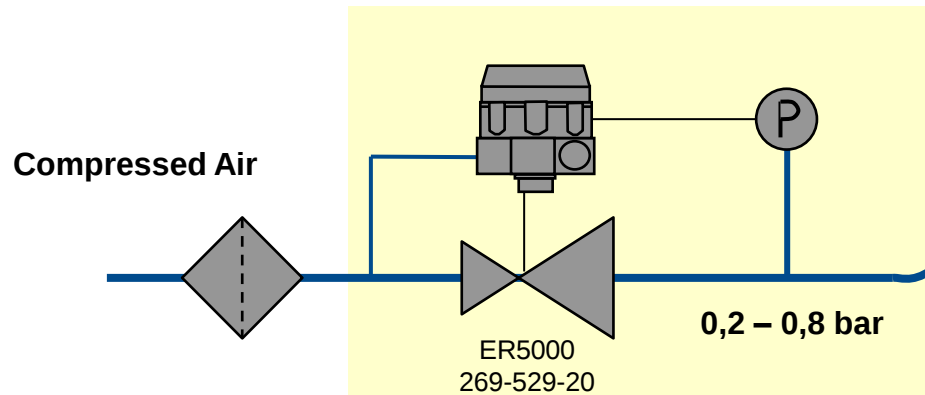


Proof & Burst Testing

Large Volume Pressure Test



- Pressure test of an entire aircraft cabin
- High flow at low pressure: 200 – 800 mbar
- ER5000 + flow booster (Cv = 45)
- Aerospace Machine Building

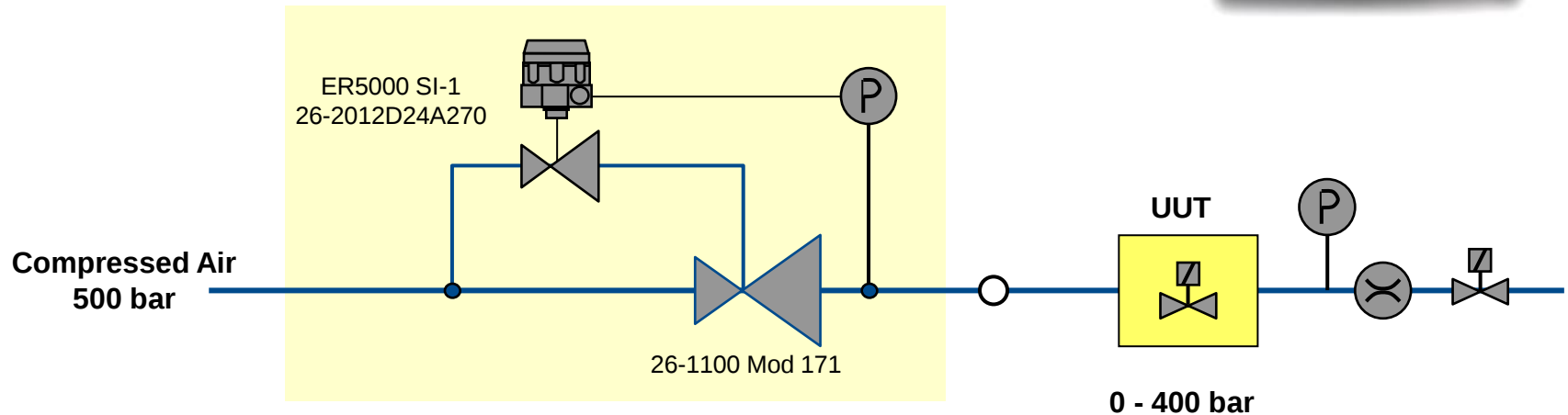


Proof & Burst Testing

High Pressure Valve Test



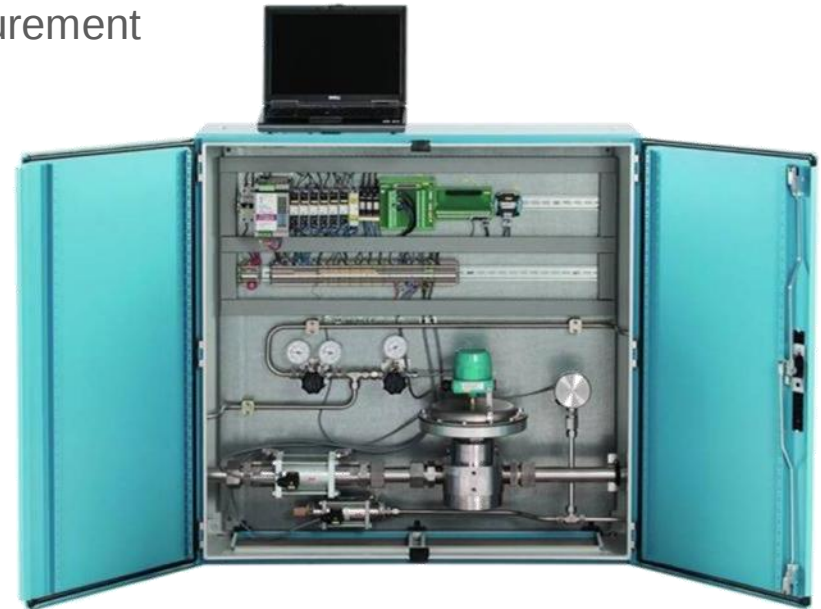
- Test medium: Air, max. test pressure 400 bar
- High pressure, high flow regulator 26-1100 inlet 1000 bar, dome loaded, $C_v = 1.0$
- Controlled by ER5000 + 26-2000 as pilot
- Instrumentation Automotive, R&D, Machine Building



Leak and Flow Testing Valve Test Stand



- Function
 - Test of aerospace valves
 - Multi channel pressure and flow measurement
 - Automatic test sequences for:
 - 'open & close' pressure
 - response timing
- Test medium:
 - Air
 - Test pressure: 1 to 20 bar (15 - 300 psi)
 - Flow: 2000 kg/h
- Aerospace Oil & Gas, Machine Building, R&D

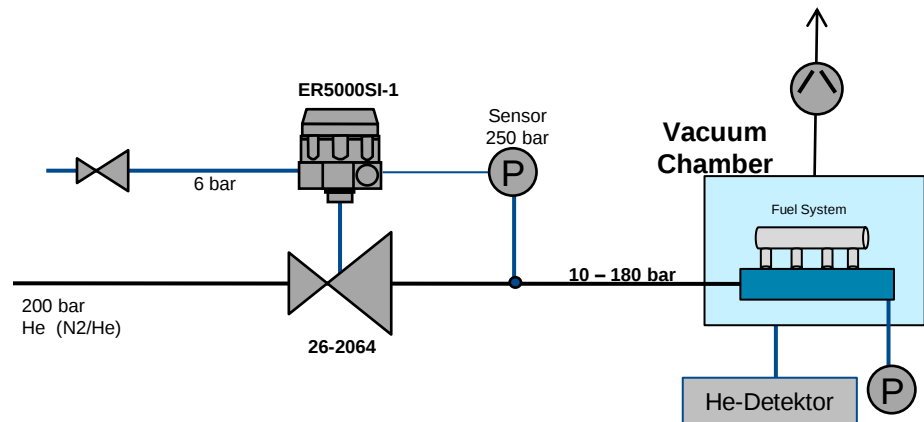


Leak and Flow Testing

He-Leak Test Stand



- Function
 - Highly sensitive test of fuel rails
 - Trace Gas – Chamber method
 - Vacuum chamber
- Test medium:
 - He or He/N₂ Mixture
 - Pressure: 10 – 180 bar
- Automotive Instrumentation

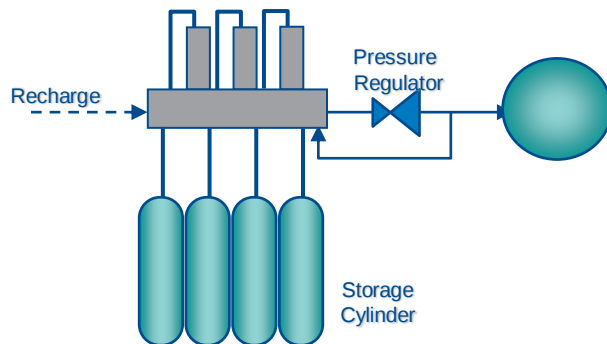


Manifold Blocks

Cascade System



- Auto cascade
- Efficient filling of pressure vessels
- Auto withdrawal beginning with the lowest charged storage cylinder to the highest
- Totally mechanical system; no power required
- Recharging port
- Aerospace Life Science, Instrumentation, Oil & Gas

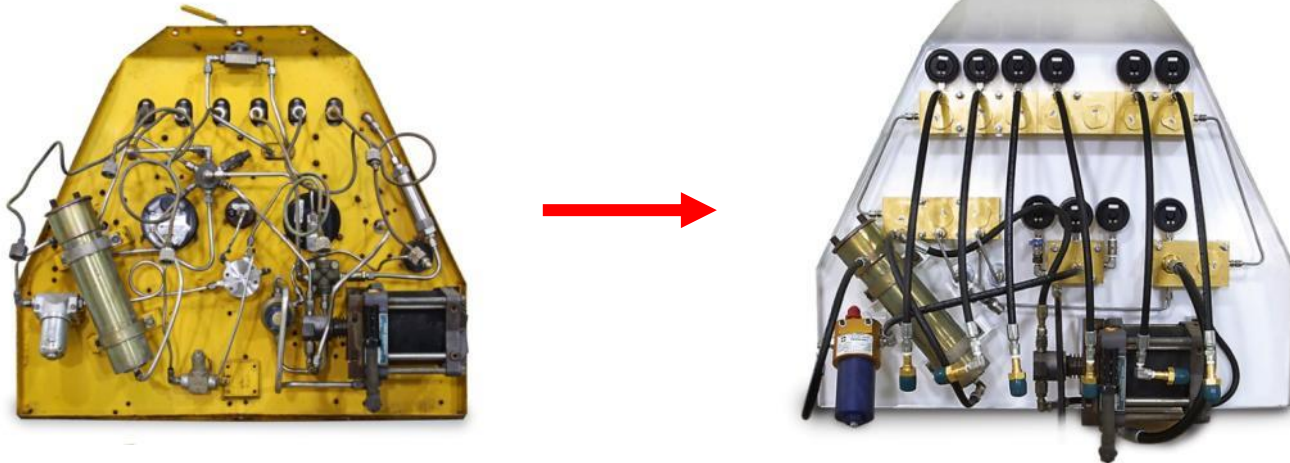


Manifold Blocks

Panel Rebuild



- Rebuild and clean up of a charging cart panel
- Gases: Nitrogen, Oxygen
- Integrated gas booster
- Fewer leak paths increase durability and serviceability
- Defense Instrumentation, Oil & Gas

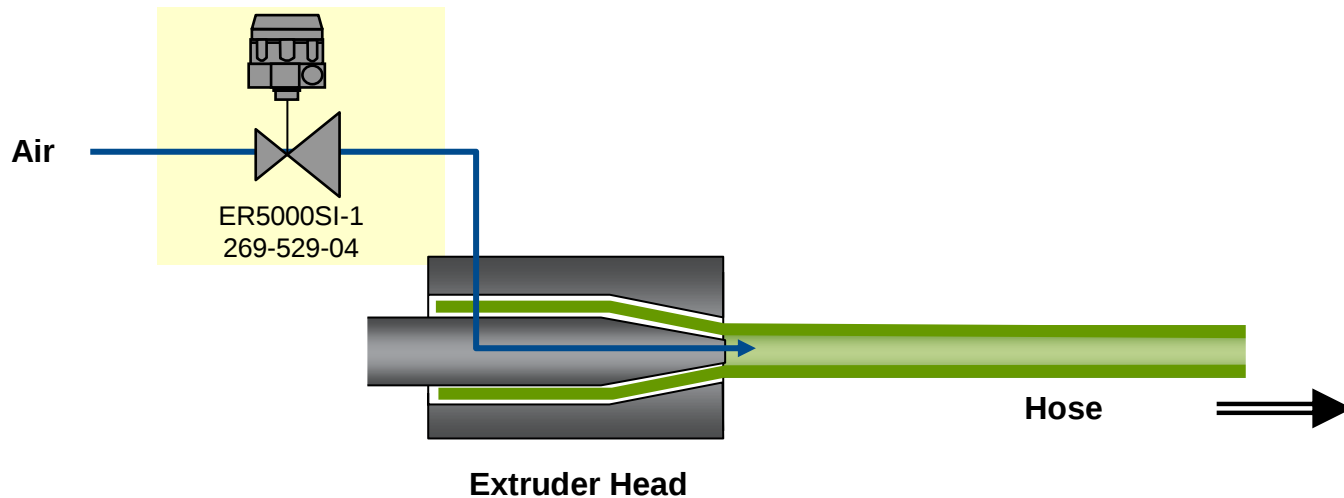


Automation

Extruder support



- Control of support pressure during hose extrusion
- Pressure: 1.0 - 1.4 bar abs.
- Fast venting required
- Chemical Instrumentation, Machine Building

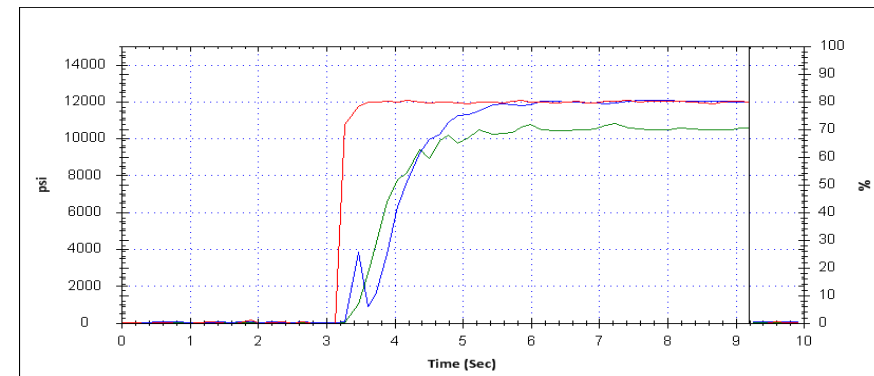
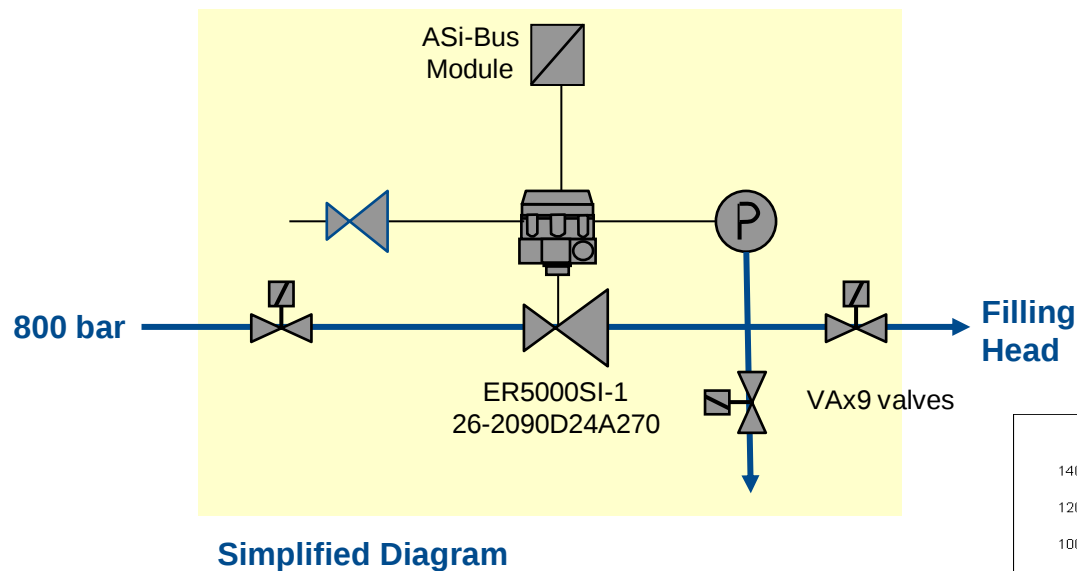


Automation

Airbag filling 1



- High Pressure filling of air bag cylinder
- Integrated into welding station
- 800 bar inlet, up to 600 bar filling pressure
- ASi-Bus interface, control via filling-station plc
- Automotive Machine Building



Automation

Super Plastic Forming



- Plc controlled pressure cycle
- Low pressure purging
- Machine Building Instrumentation

