



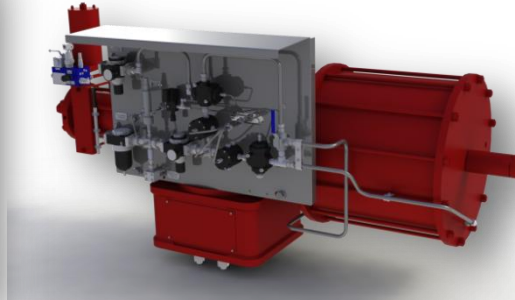
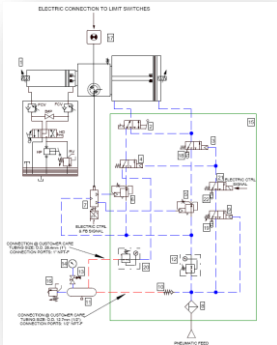
DVG Automation

Control System



INTRODUCTION

DVG Automation designs and manufactures instrument systems and skid mounted units for the following industrial sectors: Oil & Gas, Petrochemical & Refineries, Chemical, Power Generation



Pneumatic Controls System



DVG produce high integrity pneumatic actuator control system assembly in 316 Stainless Steel.

Tailor made to customer specifications or designed for customer by our in-house design team, utilizing pneumatic components specified by client or suggested by us.

Compact design in modular construction is also available.

Lighter, stronger and more compact than panel mounting.

It offers a significant reduction in total installed cost in both panel and cabinet mounted assemblies.

*DVG use a wide range of field proven components, valves, spool, poppet or direct acting type, filter regulators solenoid operators for both industrial & Hazardous Areas, Regulators, booster, Special features available such as low temperature service, sour gas application (higher H₂S content in natural gas).
Size available 1/4" to 1" sizes*

DVG Automation has already pre-engineered different solutions to meet most common required control systems. These solutions, based on standard components, offer reduced lead time, simplified purchasing, commissioning and start-up activities.



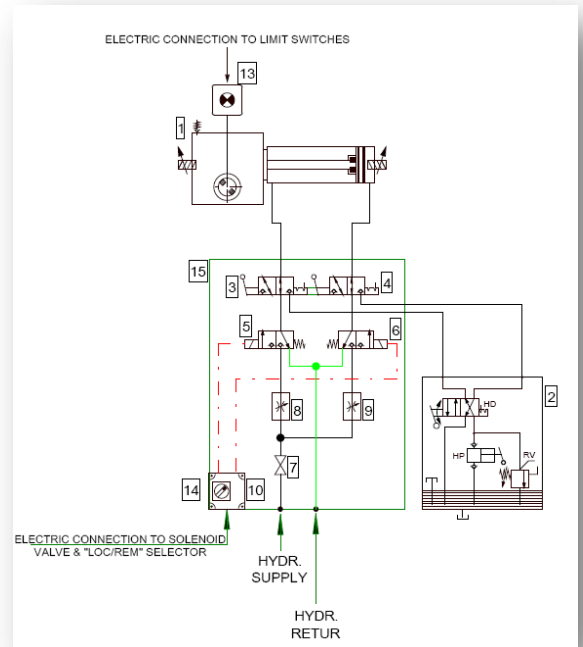
DVG Hydraulic controls system

DVG engineers and manufactures hydraulic controls and accessories with the highest requirements for the actuator industry.

Hydraulic control system can be On-Off or Modulating. Actuator contrail can be local or remote by electric, or hydraulic signals. Control systems can include devices for automatic operation or stay put in case of emergency conditions.

The control systems where applicable implies "manifold design": components are connected by a flanges or integrated in the purpose made cavities machined into the manifold.

This allows to have a very "compact" unit to reduce the number of connections by fittings and pipes and then to make the assembly and disassembly of each component easier, to minimize the risk of oil leakage also in case the system undergoes strong vibrations.



DVG Line Break

A line break detector, based on "rate of pressure", is a system capable of detecting ruptures and large-diameter leakages in pipelines and to provide shutdown.

DVG has developed an Automatic Line Break Control specific for Pipeline either for Gas or Oil application.

DVG Line Break Control is available for the following applications

Low temperature -60°C

Sweet Gas - Sour Gas ($\text{H}_2\text{S} \leq 6\%$ / $\text{CO}_2 \leq 10\%$)



DVG Hydraulic Power Unit

DVG has gained outstanding experience to supply advanced engineering technology to the design and manufacture of hydraulic power unit (HPU).

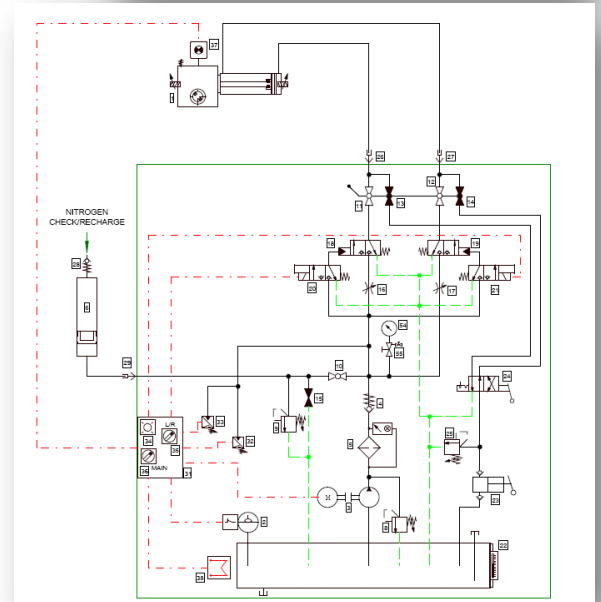
HPU are designed and manufactured, in order to meet with the highest requirements for operating modes and working conditions by a correct selection of schematics, components, materials and protection treatment.

The energy supply for the power pack operation can be electric (direct current or alternate current) and/or pneumatic (low pressure or high pressure).

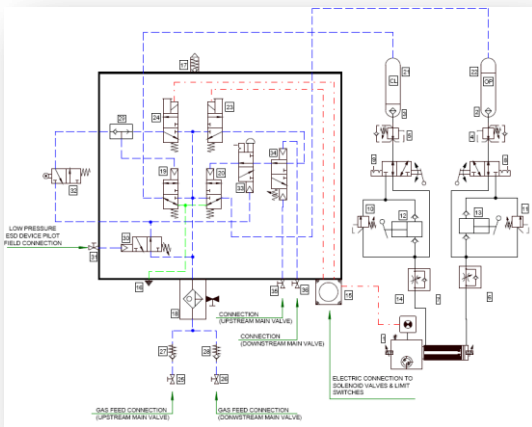
Hand pump manual override available on request for oil supply to the actuator in case of energy supply failure.

The power pack components can be supplied panel mounted or enclosed into a weatherproof cabinet.

Where no electric power supply is available due to a specific nature of the installation, DVG electro-hydraulic actuator can be solar powered with 24 VDC power battery packages.



Direct Gas and Gas Hydraulic Control system



DVG have developed a wide range of control systems and schematics in order to meet the different requirement of the gas power actuator applications.

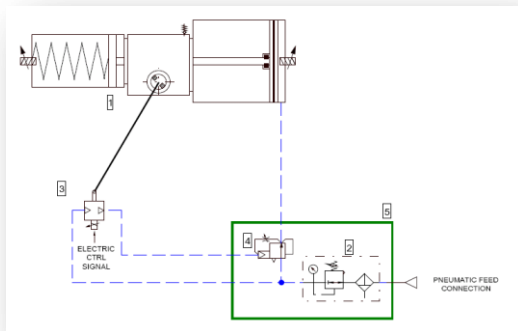
The basic control system of gas operated actuator mainly consists of 3/2 control valve, operated either by 2 solenoid valves for remote control or by two lever for locally operation, one for closing and one for opening.



Automatic control groups for the actuator operation are also available completed with torque limiting devices, emergency low pressure shut down device, electric fail safe device and line-break devices.

Modulating Service

Typical application are for linear stem or rotary motion valves, high-pressure control valves, process valves, cage valve, butterfly control valves for several plants and steam conditioning application.



DVG provides a wide range of engineered solutions using field proven technologies and application

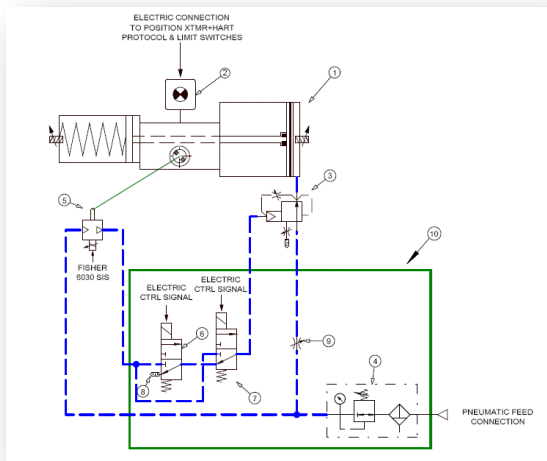
solution guarantying high performances and equipment longevity

State of the art control system for modulating / regulating Services are integrated by means of pneumatic and electro-pneumatic positioners, and Smart instrumentation such us Fischer DVC6000 series, ABB TZIDC, Neles Valvguard, Foxboro Eckardt, STI,



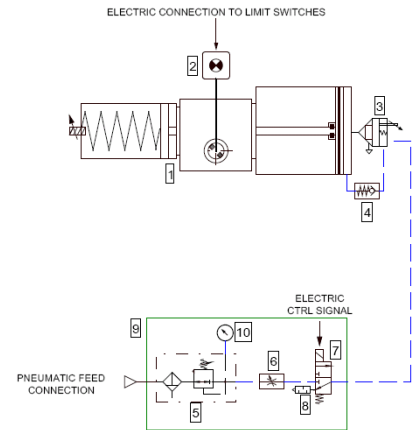
Partial Stoking Test

Partial Stroke Testing (PST) can improve the risk reduction factor and decrease the probability of failure on demand (PFD). In many processes such testing can be done without disturbing the process. Control System can be integrated with different type of PST system , mechanical , pneumatic, electro-pneumatic or with Smart field devices. Typical Digital Valve Controller used are Fischer DVC6000 series , Drallim Main Advantage by using Smart controller is the predictive maintenance by providing valve degradation analysis. In addition DVG Quick Exhaust Valve and DVG booster are used if fast stroking speed are required



Quick Acting System

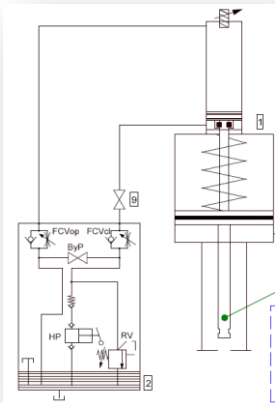
DVG produce sophisticated control system either for pneumatic or hydraulic actuator, spring return type, to meet the very short operating time (<1 sec) required in the technological and advanced power plant such as stem and gas turbine or compression where is required either high operation flexibility or high dynamic response.



Key feature include, large capacity quick exhaust valve, special dumping system, direct acting solenoid valve, high flow capacity dump valves, return oil recovery head flange chamber.

These system can be combined to achieve either the ON-OFF fast acting and Modulating Operation.

Hydraulic Manual Override



DVG Automation provides hydraulic manual override (MH) to operate the valve in absence of power supply. Hydraulic manual override is mounted directly on actuator cylinder and includes: hand-pump, directional control valve, oil tank, relief valve & check valve (for single acting units).



Remote hydraulic power units are

available: contact factory.

Additional ancillary control equipment can be provided upon request.

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