



Introduction

Flowbus Corporation is recognized as a leader in the valve and damper automation market, providing high-quality actuators to customers. Major business areas include the design and manufacture of industrial valve actuators as well as the damper automation and safety systems that enable our customers to improve their performance while lowering their total installation and running costs. Industrial plants are likely to diversify and become more complex than ever before. Accordingly, Flowbus Corporation's innovative engineering skills have given us the necessary knowledge to design electro hydraulic power units (HPUs) as per the customer's demand. The type of HPUs having innovative valve actuator technology can be equipped with hydraulic supply units and PLC control systems. In addition, this instrumentation can control the adapted valves of several valve groups and diverter dampers in the Heat Recovery Steam Generator (HRS) or bypass stack application.

Key Advantages

01 Optimized performance

- Step control or open close function
- Internal control, monitoring and transferring signals to the main control room by using a programmable controller (PLC)

02 Connection to BUS system possible

03 Reliable solutions for your safety

- Possible functions for failsafe position in case of electric power supply failure
- Double motor pump units with automatic changeover
- Special designs for operation in explosive environments

04 One-stop solution

- Commissioning, service, and installation of interconnecting cables
- Installation of the hydraulic unit and of the interconnecting pipe

05 Convenient design system

- Automatic oil flushing function
- Text display or local control panel for indication of operating modes, signalizations, and alarms
- Design for mineral oil or fire-resistant hydraulic fluid
- Options for outdoor installation that can be easily maintained

Bus System Communications

HPUs with bus communications are available via all major protocols; they can be customized depending on the application.

Integrated Control and Monitoring

Flowbus HPUs allow step control or open close function as well as internal control, monitoring, and transfer of signals to the main control room with a PLC. The unit provides local open and close selector switches, local position indication, pressure level, and temperature indication as a standard.

Reliable and Safety Function

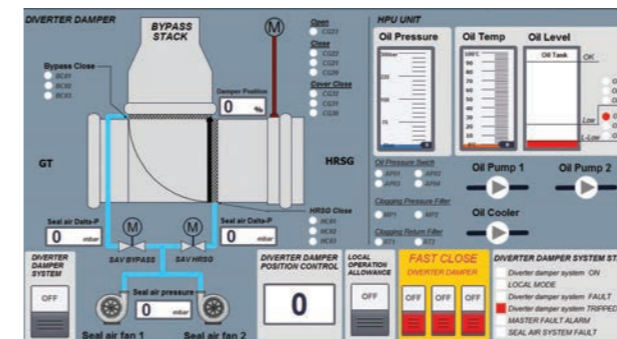
Flowbus HPUs are specially designed for operating in an explosive environment as per the customer's request. The HPUs provide perfect solutions for failsafe positions such as blocking in the last control position, moving to positions open or close by using hydraulic accumulators or with a spring force, and accumulators for severe emergency strokes in case of electric power supply failure.

Increased Flexibility for Users

Flowbus HPUs have a text display or a local control panel for indicating operating mode signalizations and alarms for a user-friendly device. It is designed for mineral oil and fire-resistant hydraulic fluids and it also includes an auto oil flushing function, which helps in easy removal of residual impurities, thus increasing its flexibility in the customer's application. Additionally, HPUs are installed with hydraulic units, interconnecting pipes, and interconnecting cables.

Custom Engineering Service

Flowbus HPUs are designed for convenience of outdoor installation, which are easily maintainable. This makes it easy to install the HPU anywhere on the platform. Flowbus is going to work with the customer during the design, installation, commissioning, and maintenance and field service support phases.



Technical Specification

01 Hydraulic Power Unit Specs

- Operating pressure up to 350 bar
- Flow rates up to 1,500 lpm
- Hydraulic fluid capacity up to 5,000 liters
- Ambient temperature: Standard range from -10 to +60°C
Low service up to -45°C

02 Hydraulic Actuator Specs

- Output torque: Linear force up to 2,000,000 N
Quarter turn torque up to 800,00 Nm
- Ambient temperature: Standard range from -20 to +80°C
Low service up to -50°C
High service up to +120°C

03 NEMA Enclosure / IP Rating

- NEMA 4X / IP65

Standard Specification

- Consisting of an oil tank with filling connection, drain valve, maintenance cover, air venting filter, and oil level gauge
- Double motor pump units with automatic changeover
- Pressure filter unit with clogging indicator and bypass
- Pressure relief valve for system protection
- Bladder accumulator unit with safety block
- 1 pressure transmitter
- 1 temperature transmitter for system protection
- 2 contact level switches for system protection
- PLC control for the complete hydraulic power unit including signal exchange for warning and alarm status indication, PROFIBUS DP interface
- 1 mobile pressure test device with pressure gauge and hose

Option

- Local Control
- Redundant PLC control by using MODBUS TCP interface
- Hydraulic unit for fire-resistant hydraulic fluid
- Piston-type accumulator unit
- Oil-cooling/heating systems
- HPU cover panel for outdoor placement
- Return line filter unit (in single or double execution)
- Redundant pressure filter unit
- Redundant sensing equipment of the HPU
- Hydraulic cylinders with safety release units (single/triple) in accordance with the customer's demand
- Air conditioner for LCP
- Accessory: -Recharge and test kit for accumulator of bladder type
-Oil filling pump