

FLOWBUS[®]



EEHA Series

**Integrated Self-Contained System
Electro Hydraulic Actuators**

Key Advantages : Compact Electro Hydraulic Actuators

FLOWBUS® Corporation produces reliable and robust electro hydraulic actuators equipped with ball, butterfly, plug, and industrial valves. It enables remote control of valves on demand. The Flowbus electro hydraulic actuator is specifically designed with a compact rack and pinion configuration in offshore, marine, vessel, ballast, ballast water treatment, and onshore applications. The complete system solutions of electro hydraulic actuators developed by Flowbus provide advantages of easy and economical installation and reliability to customers.

Compact Design and Wide Range of Output Torques

The EEHA Series is designed with a rack and pinion configuration and the torque output ranges from 140 N.m to 7780 N.m, which offers the most economical solution with a fairly constant torque throughout the stroke. The actuators are rated for continuous operation at supply pressures ranging from 80 to 210bar.

Ambient Temperature Ranges

The EEHA Series actuators are designed for operating temperatures of -10°C to +60°C as standard. Options are available for low and high temperatures of -20°C and +80°C respectively. Special requirements can be met on request. Consult Flowbus for higher and lower temperature applications.

Integrated Self-Contained System

The EEHA Series actuators form a self-contained system that is available to connect between actuators, and the control system is exclusively electrical. This system combines the advantages of a hydraulic system and an electrical unit perfectly and reduces procurement and assembling time in hazardous areas. In addition, the self-conditioned checking system can enable supervision of the entire system, ensuring reliable operation of the sensory and signal-modifying functions to guarantee reliability.

Easy and Precise Valve Position Detection

The EEHA Series is equipped with a local control panel (LCP) inside, which enables detection of the full-open/full-close position or calibration. This LCP is able to check the operating status and perform alarm monitoring. In addition, the built-in position controller is available to separate as an option.

Protection Class IP67 or IP68

To be on the safe side, the protection class against water and dust is no less than IP66 or IP67 as standard. The requirement for IP68 is optional.

Flexible Actuator Installation

The EEHA Series is simple and easy to install. All-around positioning including horizontal and vertical positioning is available for installation at any position depending on the industrial application.

Manual Emergency Operation

The actuators are equipped with manual override capabilities in the case of emergency operation of the valve. The actuators are also equipped with couplings for achieving rapid connection to a portable hand pump for emergency operation.

Local and Remote Operations

Through command of a digital voltage signal and an analog 4-20mA signal, the EEHA Series is capable of enabling both local and remote operations. Upon customer request, the EEHA Series can perform position control and step control depending on the application.

Mechanical Locking Device

When the actuator reaches its end position, the mechanical locking device effectively locks the valve by mechanically functioning independently of the hydraulic oil pressure by using a double pilot check valve. The device provides reliable performance even with heavily contaminated hydraulic oil. It prevents turning of the valve that may be caused by excessive pressure or flow in the pipeline.

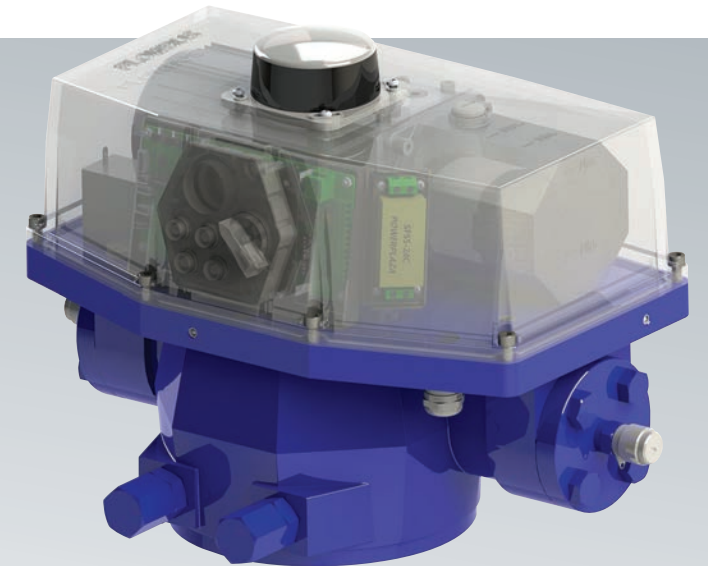
Customized Engineering Service

The Flowbus EEHA Series is designed to prevent failure and ensure minimal repair cost. The EEHA Series is constructed to the highest quality standards using engineer experience and the latest manufacturing techniques. Flowbus will work with the customer during the design, installation, commissioning, maintenance, and field service phases.

Operating Speed

The operating speed of the EEHA Series can be changed upon customer request.

Model	Acting time (s)	
	at 50 Hz	at 60 Hz
EEHA 028-030-DA	Approx. 7	Approx. 6
EEHA 032-040-DA	Approx. 14	Approx. 12
EEHA 040-050-DA	Approx. 14	Approx. 12
EEHA 048-060-DA	Approx. 24	Approx. 20
EEHA 064-080-DA	Approx. 34	Approx. 28
EEHA 080-100-DA	Approx. 66	Approx. 55



Versatile Micro Hydraulic Power Pack

The EEHA Series is operated by Mini Power Pack, which is the power source for operation. The power pack consists of an electric motor, hydraulic pump, oil tank, and hydraulic manifold. These power packs are usually fitted directly into the actuator, thus providing a hydraulically independent unit that is connected to the control cabinet by just electric cabling.

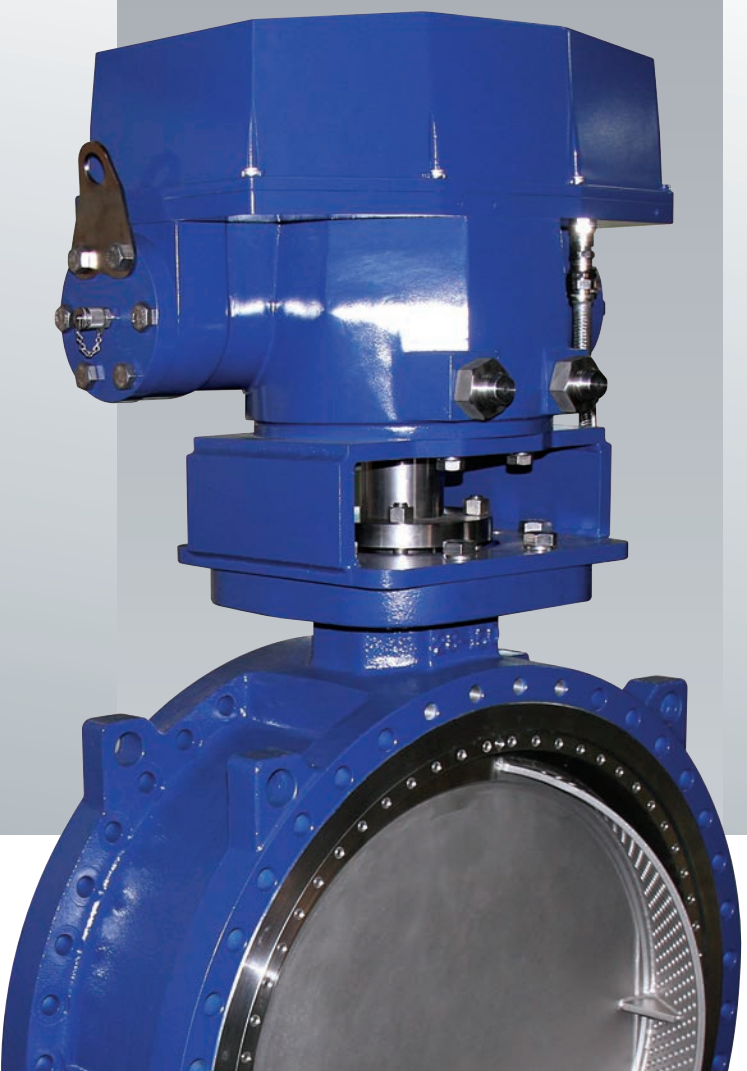
- **Versions** Double-acting bidirectional motor and pump
- **Ambient Temperature** Standard: -10 to +60°C, Option: -20 to +80°C
- **Electro-Motor** 70-300 W 4P with thermal protector
- **Voltage** 220 V AC/380 V AC, 50/60 Hz ±10% or 24 V DC on request (Voltage Specification can be changed upon customer request)
- **Hydraulic Pump** 0.19 cc/rev ~ 0.64 cc/rev
- **Cable Entry** G3/4", M20, or any type on request
- **Operating Pressure** Max. 150 bar
- **Oil Tank Volume** 480-1480 cc
- **Hydraulic Oil** ISO VG 15-46

Multiple Communication Protocols

The EEHA Series is available via all major protocols, and it can be customized depending on the application.

Low Power Consumption

Low power consumption ensures high efficiency. Installation of the device is easy and inexpensive.



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Due to continuous development, product data is subject to change without prior notice.
Literature #HA.008.03.Rev.0 APR/16