TriVAX® - SIMPLIFY YOUR ACTUATORS
TriVAX® - 简化您的执行器

智能电液阀门执行器
Smart electro-hydraulic valve actuator

HOERBIGER
because performance counts

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应用



在发电技术领域内的应用，例如：冷凝水快关阀
Use in applications in power plant technology, e.g. condensate quick closing stop valve





在化学处理工业中的应用，例如：结垢介质的截止阀
Use in applications in the chemical and process industries, e.g. shut-off valve for encrusted media

Applications



在石油和天然气工业中的应用，例如：储油罐和管道间的截止球阀
Use in applications in the oil and gas industry, e.g. shut-off ball valve between tank farm and pipeline



在给水排水工程中的应用，例如：污水处理中压闸阀
Use in applications relating to water and waste water technology, e.g. sewage treatment plant gate valve

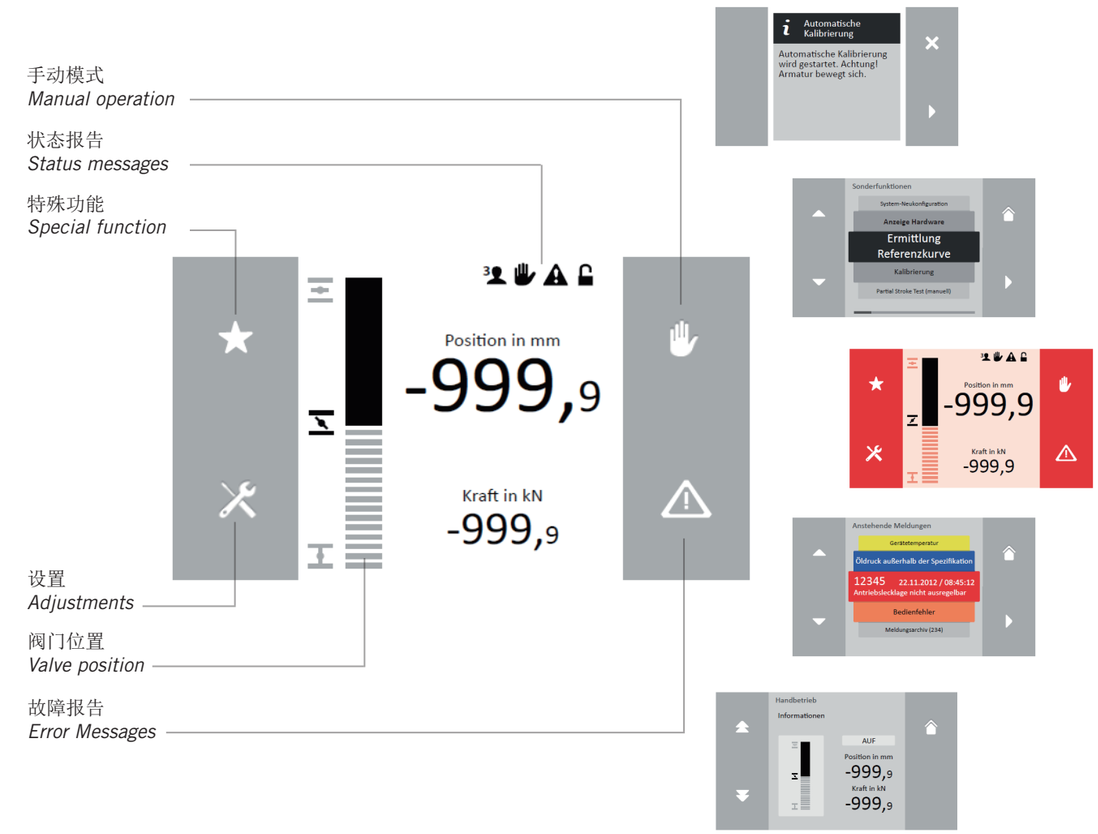
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用户界面

电子用户界面提供有关执行器位置、执行元件状态的信息以及直观的沟通和执行器的控制。
通过软键调用和控制的功能用不同语言的纯文本消息支持并能够轻松控制和编程执行器，无需打开外壳或拆卸盖板。
如果出现故障或错误消息，则屏幕颜色将根据 NAMUR 错误显示建议变为红色、橙色、黄色或蓝色。
显示器配备有自动亮度和对比度控制系统，在所有照明条件下都十分清晰。显示器受防刮耐压硼硅玻璃保护。

Human-Machine-Interface

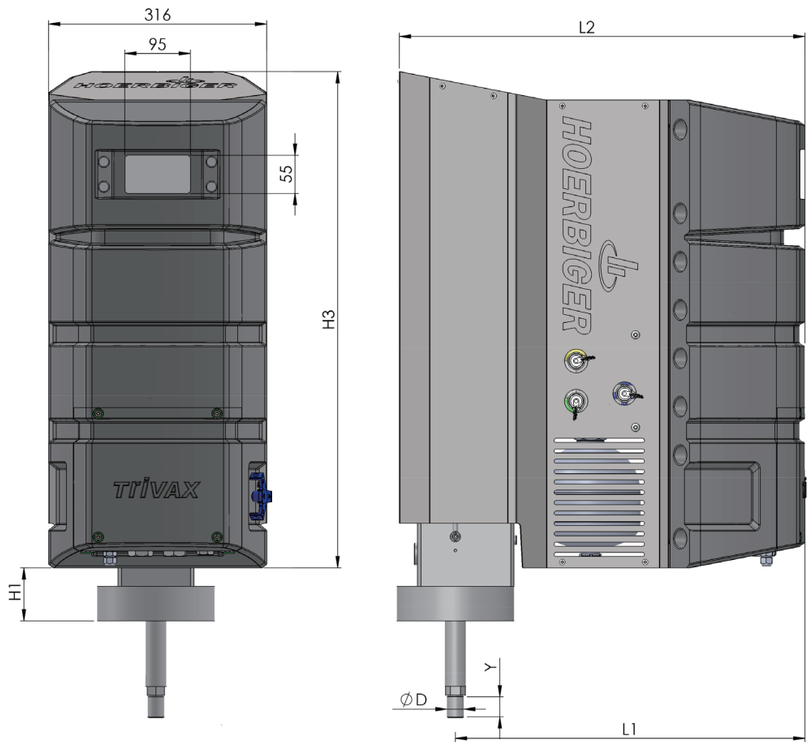
The electronic user interface displays information about the drive position and the state of the final control element, provides intuitive communication and controls the drive.
The functions, which can be invoked and controlled by way of soft keys, are supported with plain text messages in various languages and allow easy control and programming of the drive system, without the need for opening the housing or removing covers.
If faults or error messages occur, the color of the display changes in accordance with NAMUR fault indication recommendations to the colors red, orange, yellow or blue.
The display is equipped with automatic brightness and contrast control and is easy to read in all lighting conditions. It is protected by a scratch- and pressure-resistant borosilicate pane.



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尺寸

Dimensions



尺寸 / size	L1	L2	H1	H3	D	Y	重量 / weight
4x11	467	560	24.5	776	M20	35	121 kg
4x12	479	560	26.5	776	M24	55	134 kg
4x13	499	604	26.5	844	M42	75	169 kg
4x14	526	661	47.5	855	M48	120	226 kg

连接

Connections

尺寸 size	双倍推力 actuating force DA [kN]	单倍推力 actuating force SA [kN]	液压缸 hydraulic cylinder Ø / 行程 stroke [mm]	法兰 flange 符合 / according to DIN 3358
4x11	5 – 48	0 – 14	63 / 最大 220	F12
4x12	35 – 76	5 – 24	80 / 最大 220	F14
4x13	70 – 177	20 – 54	125 / 最大 220	F25
4x14	170 – 360	50 – 117	180 / 最大 220	F35

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设计

TriVAX – HOERBIGER 电液阀门执行器，具有电子“感官”

它结合液压、机电技术和电子技术的优势以及便于安装和电动阀门执行器易于操控的特点与一体，还可以集成安全功能。

与传统系统相比，TriVAX 的结构明显更加紧凑，而且能提供高功率和转矩储备。

HOERBIGER TriVAX 的封闭和无管道结构排除泄漏的可能性，所以致动器可运行长达 5 年或按照 DIN EN 15714-2 开关最大次数而无需保养。

TriVAX 的集成电子元件实现通过新图形用户界面本地控制或通过使用模拟和数字控制信号和可编程反馈选项的控制室遥控。标准现场总线系统的接口允许 TriVAX 接入新的和现有自动化设计中。

为保证设备高效和安全地运行，HOERBIGER TriVAX 配备多种诊断和特殊功能。诊断数据根据 NAMUR 建议分析、显示并传送到控制室。

Concept

TriVAX - The HOERBIBER electrohydraulic valve actuator with an electric, look & feel‘

TriVAX blends the advantages of hydraulic, mechanical and electric technologies with the ease of installation and handling of electric valve actuators and allows the integration of safety functions.

It offers extensive thrust and torque reserves, yet has a considerably more compact design than conventional systems.

Thanks to the closed and piping-free construction of the HOERBIGER TriVAX, leaks are impossible and the drive requires no maintenance up to 5 years or up to max. number of cycles according to DIN EN 15714-2.

The integrated electronic system of the TriVAX allows the actuator to be locally controlled using the new graphic user interface as well as remotely actuated via the control center using analog and digital control signals with programmable feedback options. Interfaces with standard field bus systems allow the TriVAX to be integrated in both new and existing automation concepts.

To ensure efficient and safe operation of the system, the HOERBIGER TriVAX is equipped with numerous diagnostic and special functions. The diagnostic data is evaluated, displayed and transmitted to the control center in accordance with NAMUR recommendations.



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客户优势

TriVAX 是一款智能阀门执行器，具有封闭的无管结构，集成控制电子元件和与致动器通讯的用户界面。

优势：

即插即用 – 因为集成功能单元，减少了安装、调试和维护时间

- 通过具诊断功能的直观图形用户界面简化参数化
- 自动调试玄幻和和限位位置识别
- 电功率输入低

无管结构使运行可靠高效

- 功率储备高，驱动力和转矩高，结构紧凑
- 通过蓄能器集成安全功能，例如：弹簧复位或液压蓄能器
- 保养费用低 – 免保养运行长达 5 年或至 DIN EN 15714-2 规定的最大开关次数。

应用方式灵活

- 因为气密密封外壳和防爆封装可以在有爆炸危险和污染的环境中使用
- 通过位置、扭矩或力选择限位位置识别
- 通过模块化设计实现各种控制方法和附加选项

Customer benefits

TriVAX is an smart valve actuator, which has a closed, piping-free design, integrated control electronics and a user interface that allows communication with the drive.

Advantages:

Plug & Work - Reduced installation, start-up and maintenance times due to integrated functional unit

- easy configuration due to intuitive graphic user interface with diagnostic functions
- automatic start-up cycle and limit position detection
- low electrical load

Reliable and efficient operation due to piping-free design

- high power reserves, due to compact design suitable for high thrust and torque
- integratable safety functions via energy accumulator such as spring return or hydraulic accumulator
- low maintenance expenditure - maintenance-free operation for up to 5 years or up to max. number of cycles according to DIN EN 15714-2.

Flexible application options

- in environments prone to explosions and subject to pollution, due to hermetically sealed housing and flameproof enclosure
- optional limit position detection via position or torque / thrust
- diverse control possibilities and additional options due to modular design

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技术数据

Technical data

分类	Category	TriVAX
电源电压	Operating Voltage	3ph 400V 50Hz / 1ph 230V 50Hz
爆炸保护	Explosion Protection	ATEX - Ex II2G/D Ex de IIB T4
防护等级	Protection class	IP65 / IP67
环境温度范围	Ambient temperature range	-25 / +70°C
定位精度	Positioning accuracy	± 2% of full scale
工作循环	Duty cycle	S3-10% / S3-25%

致动器：

直线型致动器

- 双倍推力 ： 5 – 360 [kN]
- 单倍推力 ： 15 – 117 [kN]
- 行程： 最大 220 [mm]

旋转型致动器

- 双倍转矩 ： 11 – 67 [kNm]
- 单倍转矩 ： 5.6 – 68 [kNm]

控制系统：

- 直观的用户界面：
  显示器 4.3 “
  控制和致动器通信的软键
  本地/远程/0/复位选择开关
- 远程操作（控制室控制系统）
- 诊断功能
- 控制信号：0/24 V DC, 4-20 mA，
  现场总线 (Profibus PA / FFB / HART)
- 模拟输出信号：位置反馈报告 4-20 mA
  （选配 HART Protokoll）
- 数字输出信号（可配置）：
  限位位置/运行信息
  选择开关位置
  故障和警告消息

功能：

- 简单 ON/OFF
- 智能 ON/OFF
- 智能定位
- 液压故障安全（蓄能器）
- 机械故障安全（弹簧）

选配紧急手动模式：

手泵

Actuator:

Linear actuator

- Thrust double-acting (DA): 5 - 360 [kN]
- Thrust single-acting (SA): 15 - 117 [kN]
- Stroke: max. 220 [mm]

Quarter turn actuator

- Torque double-acting (DA): 11 - 67 [kNm]
- Torque single-acting (SA): 5,6 - 68 [kNm]

Control unit:

- Intuitive user interface:
  Display 4,3“
  Softkeys for control and drive communication
  Selector switch Local / Remote / 0 / Reset
- Remote control (Control room steering)
- Diagnostic functions
- Control signals: 0/24 V DC, 4-20 mA,
  fieldbus (Profibus PA / FFB / HART)
- Analog output signal: Position feedback 4-20 mA
  (Optional with HART protocol)
- Digital output signals (configurable):
  End positions / Run signal
  Selector switch position
  Faults and alarms

Functions:

- Simple ON/OFF
- Smart ON/OFF
- Smart positioning
- Fail Safe hydraulic (accumulator)
- Fail Safe mechanical (spring)

Option Emergency Manual Override:

- Hand pump

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