



**HYDAC INTERNATIONAL**

# KINESYS Area / 節能動力單元系統領域



**KINESYS**

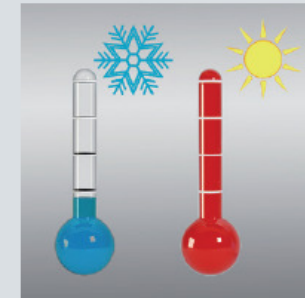
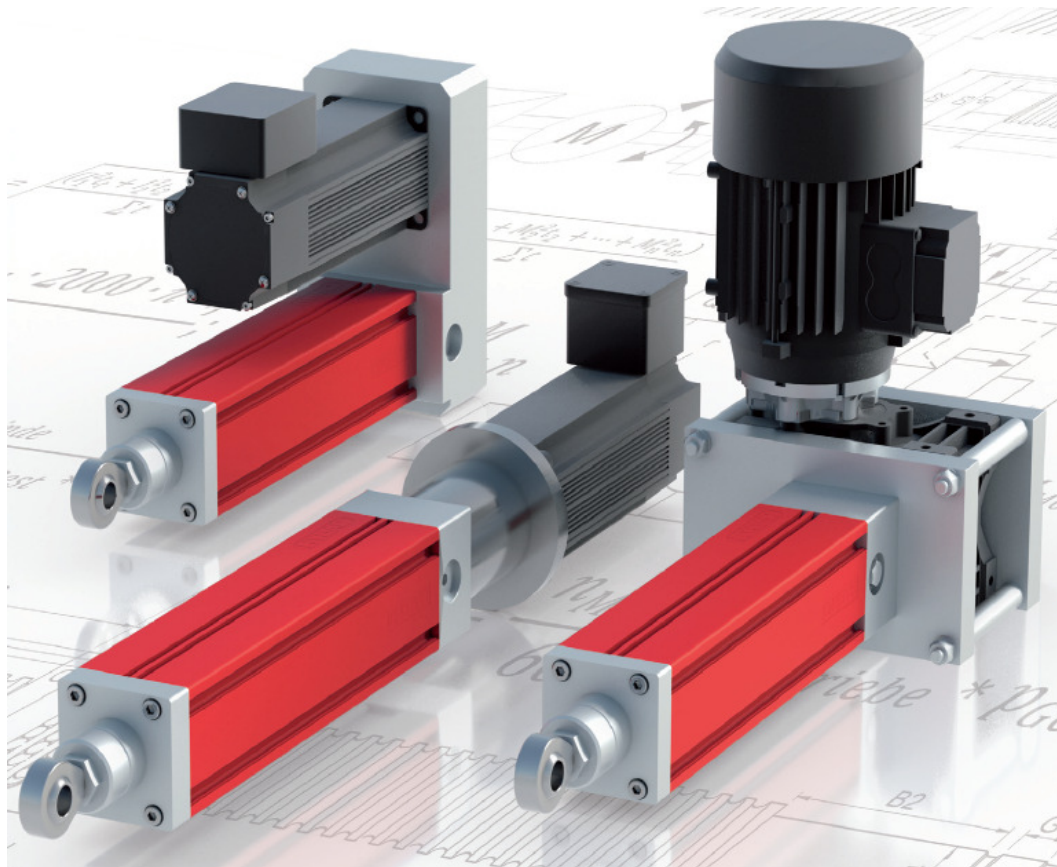
**HYDAC KineSys**

Electric Cylinders HEZ

KINESYS



**KINESYS**



**Low and high-temperature applications**

- Cold stores
- Furnaces
- etc.

極冷、極熱應用



**Mobile applications**

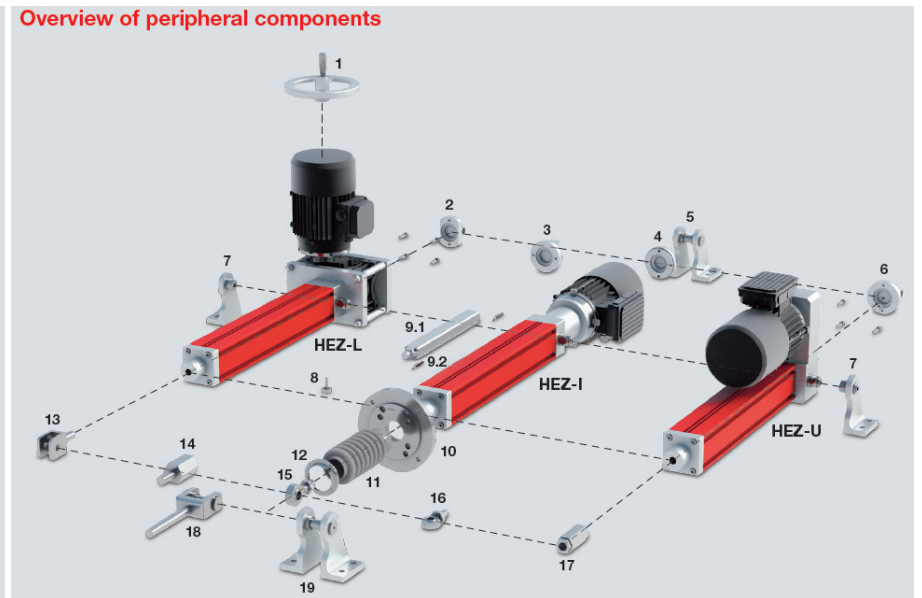
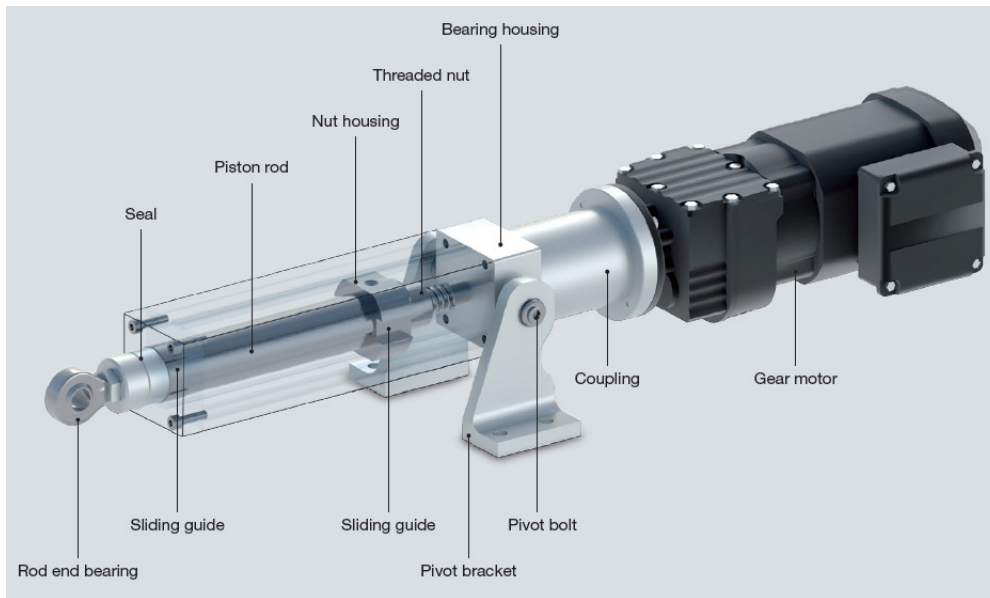
- Lifting in mobile operations  
12/24 V DC
- etc.

行動車輛升降貨物應用



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## KINESYS Area / 節能動力單元系統領域



電動缸結構圖示  
缸體是結合了螺桿、螺帽、滑塊、線軌的組合體

電動缸外部配備圖示

# KINESYS Area / 節能動力單元系統領域

動力驅動模式以及馬達樣式（非同步、同步、直流馬達）



## Spindle types

Depending on the operating conditions, a trapezoidal thread drive, ball screw drive or planetary roller screw drive can be used.

### Trapezoidal thread drive

Application of trapezoidal thread spindles:

- low positioning speed (< 35 mm/s)
- low duty cycle (< 50 %)
- impact load possible
- possibility of self-locking
- cost-effective applications
- medium positioning accuracy ( $\geq 0.1$  mm)

### Ball screw drive

Application of ball screw spindles:

- high positioning speed
- high duty cycle
- high degree of efficiency (> 85 %)
- highly dynamic applications
- high positioning accuracy ( $\geq 0.05$  mm)

### Planetary roller screw drive

Application of planetary roller screw spindles:

- demanding applications
- impact load possible
- designed for high powers

## Motor types

### Asynchronous motor

For simple lifting applications, without precise stroke regulation:

- cost-effective
- retraction and extension
- with reversing contactor switch
- with proximity switches and frequency inverter (for description see page 8)

### Synchronous motor

Suitable for applications with control and regulation processes performed via frequency inverter:

- accurate positioning via distance measuring system or encoder
- highly dynamic operation
- short-time overload capacity (to overcome holding torque and abrupt torque changes)
- speed/velocity control and regulation

### DC motor

Suitable for low-power, portable drive solutions:

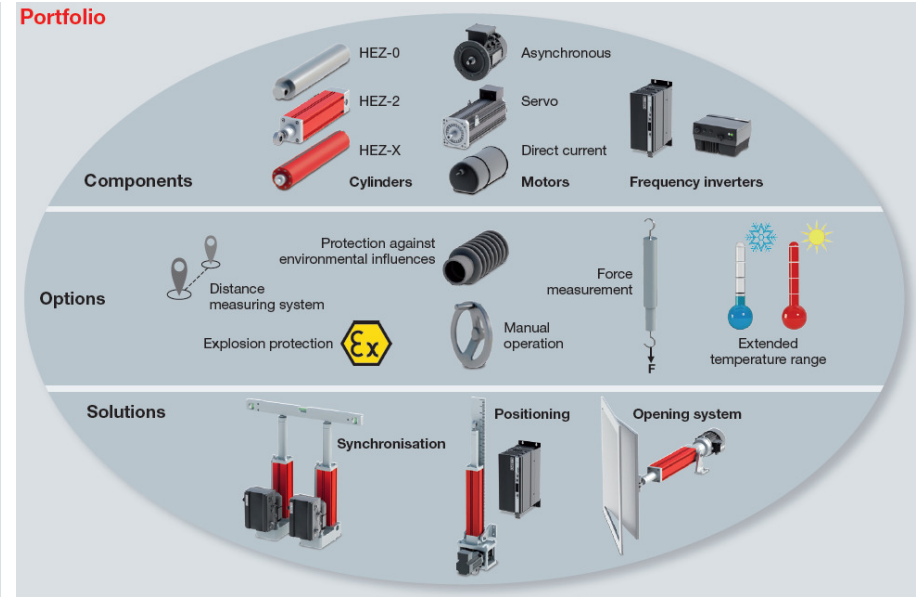
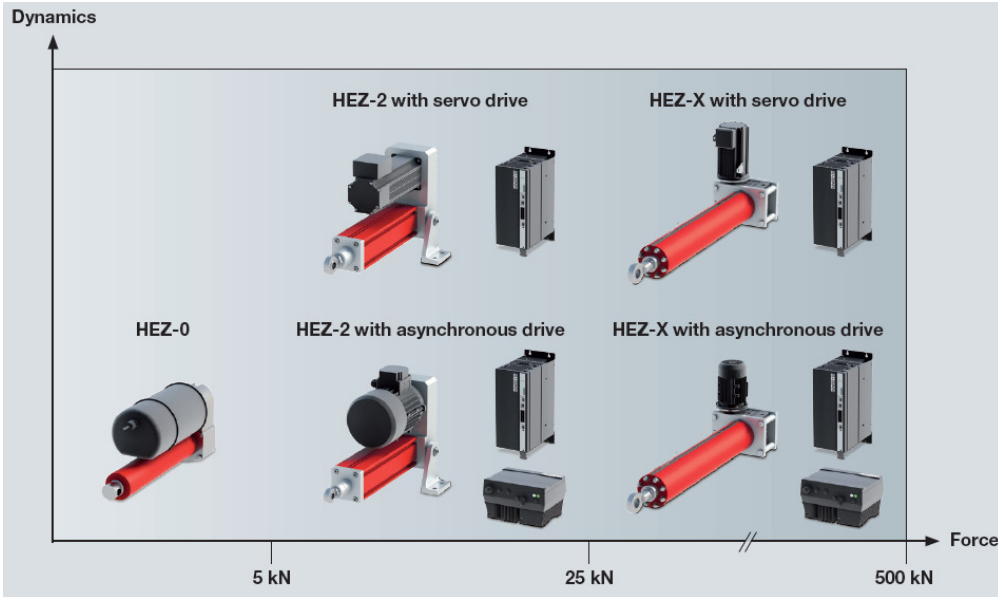
- inexpensive
- mobile
- small





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## KINESYS Area / 節能動力單元系統領域



1. Frequency inverter (HFI-MM) + Asynchronous motor
2. Switch cabinet frequency inverter (HFI-CM) + Synchronous motor
3. Switch cabinet frequency inverter (HFI-CM) + Servo motor (HSM)



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## KINESYS Area / 節能動力單元系統領域

**Frequency inverter (HFI-MM) + Asynchronous motor**  
變頻器+非同步馬達

KINESYS



**KINESYS**

### Operation with decentralised HYDAC surface-mounted frequency inverter (HFI-MM) and asynchronous motor

For drive solutions with simple control requirements, a frequency inverter is supplied, mounted directly on the electric motor.

#### Properties:

- Smooth start-up
- Variable feed speeds and travel profiles
- Simple positioning tasks
- Analogue and digital inputs/outputs, and optional common bus systems
- Free-of-charge parameterisation software HMM Start-Up
- System tailored to customer application



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## KINESYS Area / 節能動力單元系統領域

**Switch cabinet frequency inverter (HFI-CM)  
+ Synchronous motor**

變頻控制器+同步馬達

KINESYS



### Operation with HYDAC switch cabinet frequency inverter (HFI-CM) and asynchronous motor

For more demanding applications, a more powerful inverter is used for control. This inverter is installed outside the HEZ, in a switch cabinet.

#### Properties:

- More complex travel profiles
- Advanced positioning tasks
- Various inputs/ outputs possible, including bus systems
- Free-of-charge parameterisation software HFI-CM Start-Up
- System tailored to customer application



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## KINESYS Area / 節能動力單元系統領域

**Switch cabinet frequency inverter (HFI-CM)  
+ Servo motor (HSM)**

變頻控制器+伺服馬達

KINESYS



### Position-regulated operation with HYDAC switch cabinet frequency inverter (HFI-CM) and HYDAC servo motor (HSM)

For high-precision control, regulation and positioning, the servo motor is the ideal drive. For high powers with a wide range of speeds and loads, extremely high positioning accuracy can be achieved.

The frequency inverter is mounted externally, in a switch cabinet.

#### Properties:

- Maximum positioning accuracy
- Maximum system dynamics
- A cam disc function can be mapped
- Various inputs/outputs possible, including bus systems
- Free-of-charge parameterisation software HFI-CM Start-Up
- System tailored to customer application



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## KINESYS Area / 節能動力單元系統領域

### HEZ-electric cylinders version U

U型電動缸-行動裝置設備應用

整組插拔組裝模式 (Plug & Play)

KINESYS



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### DESCRIPTION

The KineSys HEZ – electric cylinders version U are suitable for the use in mobile machinery and equipment. The compact closed housing protects from environmental influences. The selectable line voltage of the motors provides a wide range of applications in vehicle and industrial sector. A displacement encoder can be integrated.

### FEATURES

- Positioning force up to 6,8 kN dynamic, 18 kN static
- Speed 11 – 54 mm/s
- Stroke 50 – 600 mm
- Installation of proximity switches possible
- Protection class up to IP 65
- Line voltage 12, 24, 36 VDC and 230, 400 VAC



- .小巧免維護
- .可油缸整合極限開關或是encoder
- .動態出力可達680Kg、靜態出力可達1800Kg.
- .採用DC 12, 24, 36伏特，或是AC 交.流230, 400伏特。
- .行程50-600 mm.
- .速度11-54 mm/s.

### PRODUCT ADVANTAGES

- Compact design
- Service-free
- Integration of limit switches on the cylinder
- Integration of displacement encoder is possible
- Plug-and-Play ready