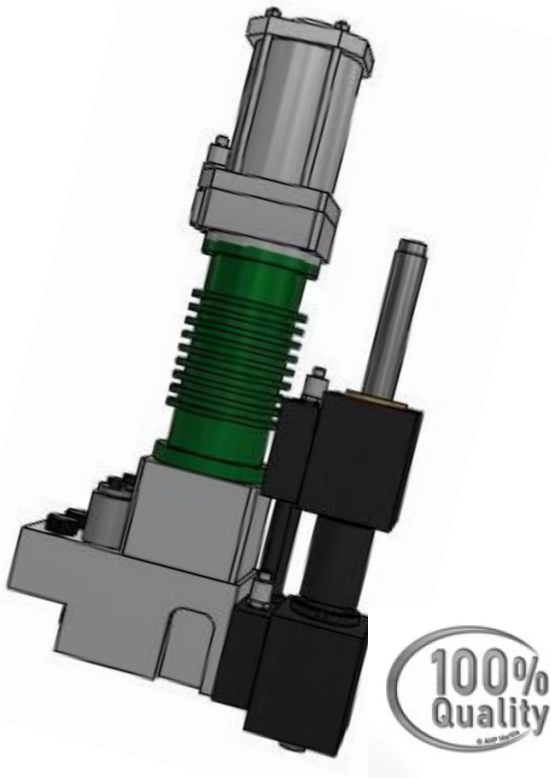


电动液压线性驱动器： e-ahp 提升型

Electro-hydraulic linear drive: e-ahp PROVE

- 紧凑的，位置独立的电动液压线性驱动器，带双头活塞杆的油缸
- 集成了位移和力传感器（可选）
- 四象限泵，没有旋转密封
- 高功率密度的油浸式三相伺服电机
- 位置独立的补偿器，用于温度以及油量补偿
- 电控锁定功能，即使在没有驱动功率的情况下也能保持位置或力（可选）
- 可实现复杂的控制和调节概念
- 适用于复杂的测试应用
- 纯电气插拔式接口





- Compact, position-independent electro-hydraulic linear drive with double rod cylinder
- Integrated position and force measurement (optional)
- 4-quadrant pump, without rotary seal
- Oil-flow-through 3-phase servo motor with high power density
- Position-independent compensator, for temperature and oil volume compensation
- Electrically switchable blocking to maintain position or force, even without drive power (optional)
- Enables the implementation of sophisticated control and regulation concepts
- Ideal for complex test applications
- Pure electrical plug & play interface



如有技术变更，恕不另行通知。现有技术资料请浏览www.ahp.de/eahp
Subject to technical changes without notice. Current data sheets at www.ahp.de/eahp

订购名称 (示例) **Order specifications (example)**

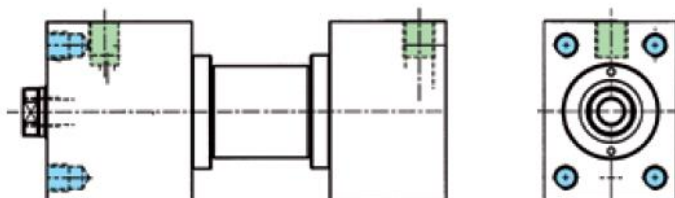
EAHP PRO.63/40.W04.201.150.MI.WMO.G1.VS11P11

活塞Ø Piston Ø	活塞杆Ø Rod Ø	结构类型 e-AHP Style EAHP	安装方式 Mounting mode	工作模式 Operating Mode 	行程 Stroke	活塞杆端形式 Piston rod end	位移测量系统 Position measuring system	速度 Speed	阀门切换 Valve Switching	压力传感器 Pressure-Sensors
50	32	U	04		150 - 1500	MI	WMO MT100 BA100	G1 G4, HD1, HD3	VS01 VS10 VS11	P01 ... P42
63	40									
80	50	Z								
100	60	W								
125	80	L								
160	100	G		201						
160	80	F		双作用式 double-acting	50 - 300 (1500)					
200	125									
200	100									

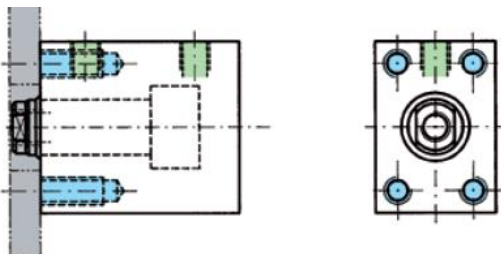
安装方式 **Mounting options**

04

Ø 50/32 - 100/60, 150 - 1500 mm



Ø 125/80 - 200/100; 50 - 300 mm

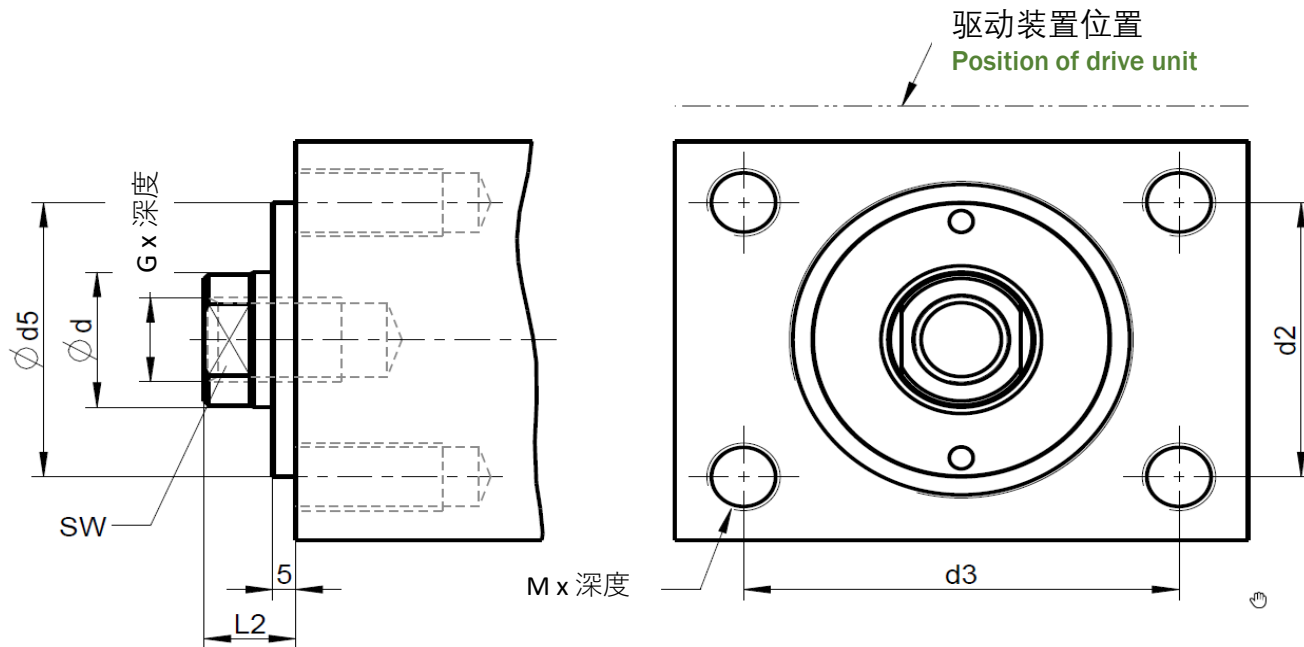


MI

活塞杆端适配BZ系列配件
Piston rods fits BZ accessories


安装 Mounting

连接尺寸 Connection dimensions



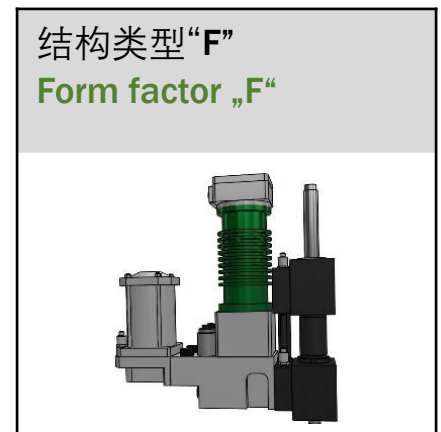
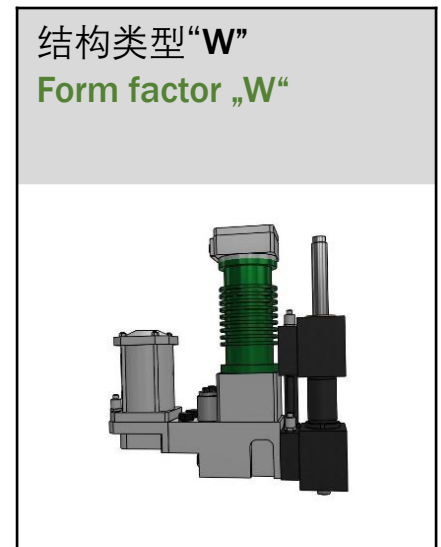
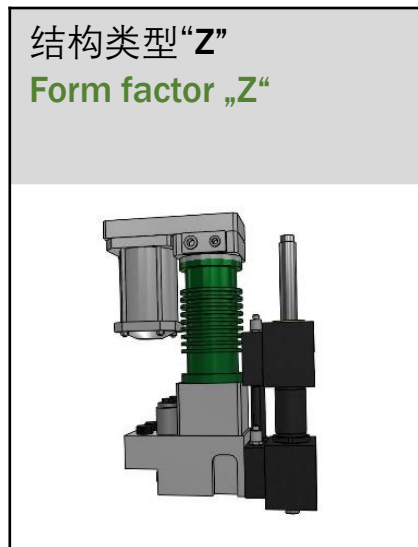
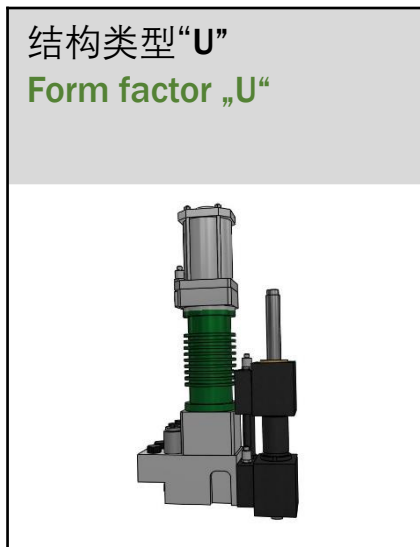
活塞Ø Piston Ø	活塞杆Ø Rod Ø	L2	G x 深度	Ød5 f7	D2	d3	M x 深度	SW
50	32	20	M20x30	65	65	95	M16x32	SW26
63	40	20	M27x40	65	65	95	M16x32	SW32
80	50	25	M30x40	90	80	120	M20x40	SW41
100	60	25	M42x60	110	108	158	M24x48	SW50
125	80	30	M48x70	110	180	130	M24x40	(4x90°) Ø8
160	100	30	M56x80	125	230	160	M36x55	(4x90°) Ø8
160	80	30	M48x70	125	230	160	M36x55	(4x90°) Ø8
200	125	40	M72x100	165	240	200	M48x80	(4x90°) Ø8
200	100	40	M56x80	165	240	200	M48x80	(4x90°) Ø8

可选项 **Options**
传感器 **Sensors**

 位置测量系统 Position measuring system		
位置测量系统 Position measuring system	WMO	不带位置检测系统 Without position measuring system
	MT100	MTS SSI Typ GBM (M12 插头, 24bit, 格雷编码, 计数方向上升, 同步模式) (M12, 24 bit, grey-code, ascending, synchronous)
	BA100	Balluff SSI Typ BTL7 (M12 插头, 24bit, 格雷编码, 计数方向上升, 同步模式) (M12, 24 bit, grey-code, ascending, synchronous)

 压力传感器 Pressure sensors		
压力传感器, A和B端 (每端250 bar) pressure sensors, A and B side (250 bar FS each)	P 0 _	为传感器预留位置 Only preparation for sensors
	P 1 _	STW M01 - 4-20mA, FS ≤ 0,5 %, M12x1 (5-polig) IP67
	P 2 _	STW M01 - 0...10V, FS ≤ 0,5 %, M12x1 (5-polig) IP67
	P 3 _	Wika精密传感器 P-30-4-20mA, FS ≤ ±0,05 %, M12x1 (4-polig) precision sensors
	P 4 _	Wika精密传感器 P-30-4-20mA, FS ≤ ±0,05 %, M12x1 (4-polig) precision sensors
系统压力传感器 (25 bar) system pressure sensor (25 bar FS)	P _ 1	STW M01 - 4-20mA, FS ≤ 0,5 %, M12x1 (5-polig) IP67
	P _ 2	STW M01 - 0...10V, FS ≤ 0,5 %, M12x1 (5-polig) IP67

结构类型 Form-factors



信息 Information

结构类型“Z”和“G”仅在部分行程长度以下时可用
尺寸规格及3D数据请见 www.ahp.de/eahp
可根据需求特别定制

Type "Z" and "G" are only available up to a limited stroke length.
Dimensions and 3D data at www.ahp.de/eahp
Special designs available on request

技术参数 Technical data

G型号 (标准/高速)

G version (standard / high velocities)

活塞φ[mm]/活塞杆φ[mm] Piston Ø / Rod Ø (d)		50 / 32		63 / 40		80 / 50		100 / 60	
速度, 型号 Speed, Version		G1	G2	G1	G2	G1	G2	G1	G2
持续力, [kN]1) Continuous force, [kN] 1)	推动和拉动方向 Push and pulldirection	10		17,5		27,5		45	
最大力, [kN]2) Maximum force, [kN] 2)	推动和拉动方向 Push and pulldirection	25		37,5		62,5		100	
速度, [mm/s]3) Speed, [mm/s] 3)	伸出和缩回 Extending and retracting	150	300	100	175	60	100	37,5	67,5
加速度, [m/s²]4) Acceleration, [m/s²] 4)	拉动, pulling	1,5	3	1	1,75	0,6	1	0,375	0,675
额定功率, 电机[kW] Rated power, motor [kW]		3,5	6,2	3,5	6,2	3,5	6,2	3,5	6,2
泵流量[L/min] Pump flow rate [L/min]		12,5	22,5	12,5	22,5	12,5	22,5	12,5	22,5



更多信息请见第15页
Further Remarks on page 15

技术参数 **Technical data**

G型号 (标准/高速)

G version (standard / high velocities)

活塞φ[mm]/活塞杆φ[mm] Piston Ø / Rod Ø (d)		80 / 50		100 / 60	
速度, 型号 Speed, Version		G3 *)	G4 *)	G3 *)	G4 *)
持续力, [kN]1) Continuous force, [kN] 1)	推动和拉动方向 Push and pulldirection	27,5		45	
最大力, [kN]2) Maximum force, [kN] 2)	推动和拉动方向 Push and pulldirection	62,5		100	
速度, [mm/s]3) Speed, [mm/s] 3)	伸出和缩回 Extending and retracting	200	400	125	250
加速度, [m/s ²]4) Acceleration, [m/s ²] 4)	拉动, pulling	2	4	1,25	2,5
额定功率, 电机[kW] Rated power, motor [kW]		16	32	16	32
泵流量[L/min] Pump flow rate [L/min]		40	80	40	80

*)初步数据, 3D模型正在准备中

*) Preliminary data, 3D models in preparation



更多信息请见第15页
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技术参数 Technical data

HD型号(高持久力)

HD version (high durable forces)

活塞φ[mm]/活塞杆φ[mm] Piston Ø / Rod Ø (d)		50 / 32	63 / 40	80 / 50	100 / 60
速度, 型号 Speed, Version		HD1			
持续力, [kN]1) Continuous force, [kN] 1)	推动和拉动方向 Push and pulldirection	15	25	40	65
最大力, [kN]2) Maximum force, [kN] 2)	推动和拉动方向 Push and pulldirection	25	37,5	62,5	100
速度, [mm/s]3) Speed, [mm/s] 3)	伸出和缩回 Extending and retracting	150	100	60	37,5
加速度, [m/s²]4) Acceleration, [m/s²] 4)	拉动, pulling	1,5	1	0,6	0,375
额定功率, 电机[kW] Rated power, motor [kW]		6,2			
泵流量[L/min] Pump flow rate [L/min]		12,5			



更多信息请见第15页
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技术参数 Technical data

HD型号(高持久力)

HD version (high durable forces)

活塞φ[mm]/活塞杆φ[mm] Piston Ø / Rod Ø (d)		80 / 50	100 / 60
速度, 型号 Speed, Version		HD3 (*)	
持续力, [kN]1) Continuous force, [kN] 1)	推动和拉动方向 Push and pulldirection	40	65
最大力, [kN]2) Maximum force, [kN] 2)	推动和拉动方向 Push and pulldirection	62,5	100
速度, [mm/s]3) Speed, [mm/s] 3)	伸出和缩回 Extending and retracting	200	125
加速度, [m/s ²]4) Acceleration, [m/s ²] 4)	拉动, pulling	2	1,25
额定功率, 电机[kW] Rated power, motor [kW]		32	
泵流量[L/min] Pump flow rate [L/min]		40	

*)初步数据, 3D模型正在准备中

*) Preliminary data, 3D models in preparation

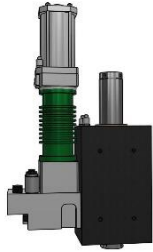


更多信息请见第15页
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结构类型 Form-factors

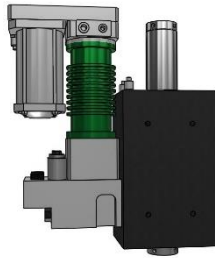
结构类型“U”行程上限300mm

Form factor „U“ up to 300 mm stroke



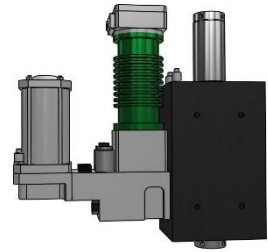
结构类型“Z”行程上限300mm

Form factor „Z“ up to 300 mm stroke



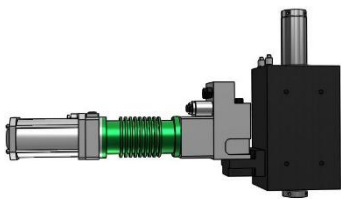
结构类型“W”行程上限300mm

Form factor „W“ up to 300 mm stroke



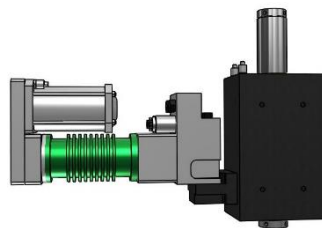
结构类型“L”行程上限300mm

Form factor „L“ up to 300 mm stroke



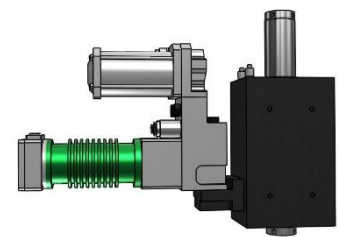
结构类型“G”行程上限300mm

Form factor „G“ up to 300 mm stroke



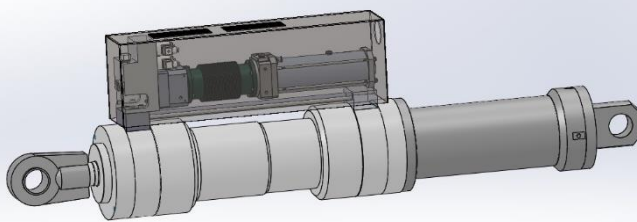
结构类型“F”行程上限300mm

Form factor „F“ up to 300 mm stroke



结构类型“U”基于DHZ行程，行程300mm起

Form factor "U" on DHZ basis from 300 mm stroke



仅作示例性说明。可根据要求设计。
Illustration exemplary only.
Possible designs on request.



信息 Information

结构类型“Z”和“G”仅在部分行程长度以下时可用
尺寸规格及3D数据请见 www.ahp.de/eahp
可根据需求特别定制

Type "Z" and "G" are only available up to a limited stroke length.
Dimensions and 3D data at www.ahp.de/eahp
Special designs available on request

技术参数 **Technical data**

G型号(标准/高速)

G version (standard / high velocities)

活塞φ[mm]/活塞杆φ[mm] Piston Ø / Rod Ø (d)		125 / 80		160 / 100		160 / 80		200 / 125		200 / 100	
速度, 型号 Speed, Version		G1	G2	G1	G2	G1	G2	G1	G2	G1	G2
持续力, [kN]1) Continuous force, [kN] 1)	推动和拉动方向 Push and pulldirection	65		100		125		175		200	
最大力, [kN]2) Maximum force, [kN] 2)	推动和拉动方向 Push and pulldirection	150		250		300		400		500	
速度, [mm/s]3) Speed, [mm/s] 3)	伸出和缩回 Extending and retracting	25	47,5	15	27,5	12,5	22,5	10	17,5	8	15
加速度, [m/s ²]4) Acceleration, [m/s ²] 4)	伸出和缩回 Extending and retracting	0,25	0,475	0,15	0,275	0,125	0,225	0,1	0,175	0,08	0,15
额定功率, 电机[kW] Rated power, motor [kW]		3,5	6,2	3,5	6,2	3,5	6,2	3,5	6,2	3,5	6,2
泵流量[L/min] Pump flow rate [L/min]		12,5	22,5	12,5	22,5	12,5	22,5	12,5	22,5	12,5	22,5



更多信息请见第15页
Further Remarks on page 15

技术参数 **Technical data**

G型号(标准/高速)

G version (standard / high velocities)

活塞φ[mm]/活塞杆φ[mm] Piston Ø / Rod Ø (d)		125 / 80		160 / 100		160 / 80		200 / 125		200 / 100	
速度, 型号 Speed, Version		G3)	G4)	G3)	G4)	G3)	G4)	G3)	G4)	G3)	G4)
持续力, [kN]1) Continuous force, [kN] 1)	推动和拉动方向 Push and pull direction	65		100		125		175		200	
最大力, [kN]2) Maximum force, [kN] 2)	推动和拉动方向 Push and pull direction	150		250		300		400		500	
速度, [mm/s]3) Speed, [mm/s] 3)	伸出和缩回 Extending and retracting	82,5	175	50	100	40	80	32,5	62,5	25	50
加速度, [m/s ²]4) Acceleration, [m/s ²] 4)	伸出和缩回 Extending and retracting	0,825	1,75	0,5	1	0,4	0,8	0,325	0,625	0,25	0,5
额定功率, 电机[kW] Rated power, motor [kW]		16	32	16	32	16	32	16	32	16	32
泵流量[L/min] Pump flow rate [L/min]		40	80	40	80	40	80	40	80	40	80

*) 初步数据, 3D模型正在准备中

*) Preliminary data, 3D models in preparation



更多信息请见第15页
Further Remarks on page 15

技术参数 Technical data

HD型号(高持久力)

HD version (high durable forces)

活塞φ[mm]/活塞杆φ[mm] Piston Ø / Rod Ø (d)		125 / 80	160 / 100	160 / 80	200 / 125	200 / 100
速度, 型号 Speed, Version		HD1				
持续力, [kN]1) Continuous force, [kN] 1)	推动和拉动方向 Push and pulldirection	100	150	200	250	300
最大力, [kN]2) Maximum force, [kN] 2)	推动和拉动方向 Push and pulldirection	150	250	300	400	500
速度, [mm/s]3) Speed, [mm/s] 3)	伸出和缩回 Extending and retracting	25	15	12,5	10	8
加速度, [m/s ²]4) Acceleration, [m/s ²] 4)	伸出和缩回 Extending and retracting	0,25	0,15	0,125	0,1	0,08
额定功率, 电机[kW] Rated power, motor [kW]		6,2				
泵流量[L/min] Pump flow rate [L/min]		12,5				



更多信息请见第15页
Further Remarks on page 15

技术参数 Technical data

HD型号(高持久力)

HD version (high durable forces)

活塞φ[mm]/活塞杆φ[mm] Piston Ø / Rod Ø (d)		125 / 80	160 / 100	160 / 80	200 / 125	200 / 100
速度, 型号 Speed, Version		HD3 *)				
持续力, [kN]1) Continuous force, [kN] 1)	推动和拉动方向 Push and pulldirection	100	150	200	250	300
最大力, [kN]2) Maximum force, [kN] 2)	推动和拉动方向 Push and pulldirection	150	250	300	400	500
速度, [mm/s]3) Speed, [mm/s] 3)	伸出和缩回 Extending and retracting	82,5	50	40	32,5	25
加速度, [m/s²]4) Acceleration, [m/s²] 4)	伸出和缩回 Extending and retracting	0,825	0,5	0,4	0,325	0,25
额定功率, 电机[kW] Rated power, motor [kW]		32				
泵流量[L/min] Pump flow rate [L/min]		40				

*)初步数据, 3D模型正在准备中

*) Preliminary data, 3D models in preparation



更多信息请见第15页
Further Remarks on page 15



提示 Remarks

技术参数相关




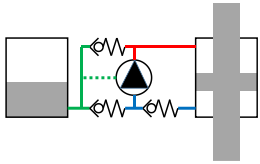
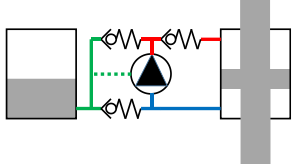
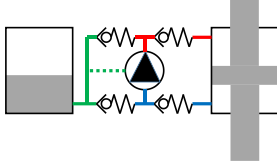
related to technical data

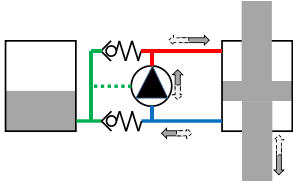
-
- 1) 压力方向上的力不能持续超过平均10秒的时间。对于周期中所需的额外拉力和快速移动时的拉力，必须按时间比例考虑，并标准化相应的连续力值。需要通过机器/机器框架进行充分的通风和/或散热，以达到规定的持续负载系数。在特殊情况下，可能需要风扇来进行冷却。
 - 1) **The continuous force in the direction of pressure must not be exceeded on a time average of more than 10 seconds. For additional tensile forces and forces in rapid traverse required in the cycle, these must be taken into account pro rata temporis and standardised to the respective continuous force values. Sufficient ventilation and/or heat dissipation via the machine/machine frame is required to achieve the specified continuous load factor. In individual cases, a fan may be required for cooling.**
 - 2) 系统可在短时间内建立、保持和主动调节在压缩或拉伸方向上的最大峰值力。随着力的增加和控制，连续荷载1)不得超过平均值。最大力可通过“保持压力”或“保持张力”选项来进行长期保持。
 - 2) **Maximum peak force in compression or tension direction, which the system can build up, hold and regulate actively for a short time. With force build-up and control, the continuous load1) must not be exceeded on average over time.**
 - 3) 抵抗压力或牵引力的最大速度。随着力>连续负载力和/或系统温度> 60度时，最大速度可降低25%。
 - 3) **Maximum speed against compressive force or with tractive force. With forces > continuous load force and/or system temperatures > 60 degrees, the maximum speed can be reduced by up to 25%.**
 - 4) 伸缩过程中会存在典型加速度。
 - 4) **Typical acceleration during extension or retraction.**

操作模式 Operating State

e-ahp提升型支持以下操作模式

The hydraulic circuit of the e-ahp PROVE enables the following operating mode

1. 基本位置 Basic position		
 <p>(只带有“保持拉力”选项) (option only "Hold tensile force")</p>	 <p>(只带有“保持压缩力”选项) (option only "Hold compression force")</p>	 <p>(带有“保持压缩力和保持拉力”选项) (with both options "Hold compression and tension forces")</p>
		
<p>驱动器静止位置不动 Rest position of the actuator without movement</p>		
<p>无外部压力。外部拉力可达到最大值。驱动器关闭。 No external compressive forces. External tensile force possible up to maximum force. Drive switched off.</p>	<p>无外部拉力。外部压缩力可达到最大值。驱动器关闭。 No external tensile forces. External compression force possible up to maximum force. Drive switched off.</p>	<p>外部力可达到最大值。驱动器关闭。 External forces possible up to the maximum force. Drive switched off.</p>

2. 伸缩, 控制模式操作 Extension and retraction, Control mode operation

<p>使缩回、伸展和控制模式操作 Enables retraction, extension and control mode operation</p>
<p>也可用于控制力的增加和释放, 直至推力或拉力达到最大值。外部推力或拉力达到最大值时。驱动器: 伸出和缩回, 主动控制力或位置。 Also for the controlled build-up and release of a pushing or pulling force up to maximum force. External a pushing or pulling forces up to the maximum force. Drive: retracting and extending, as well as active control of force or position.</p>



更多操作模式的可选阀回路

Optional valve circuits for further Operating Modes

如果安装了对应的可选项，e-ahp提升型的液压回路允许通过电磁阀激活以下附加操作模式。

The hydraulic circuit of the e-ahp PROVE allows the activation of the following additional operating modes via electric valves, if the corresponding options are installed.

	3.保持压缩力 Hold pushing force
允许建立和保持压缩力 Enables the build-up and holding of a pushing force	
通过止回阀进行主动设置和保持压缩力可达最大力。无外部牵引力。 驱动器： <u>仅可扩展。</u> Active building-up and holding of a pushing force by means of a non-return valve up to maximum force. <u>No</u> external pulling forces. Actuator: <u>only extending.</u>	

	4.保持牵引力 Hold tensile force
允许建立和保持拉力 Enables the build-up and holding of a tensile force	
通过主动建立和维持拉力将阀止回至最大力。无外部压缩力。驱动器： <u>仅可伸缩</u> Active building-up and holding of a tensile force by means of a non-return valve up to maximum force. <u>No</u> external pushing forces. Actuator: <u>only retracting.</u>	



提示 Information

只有将整个驱动器返回工厂时，才能安装可选项！

The subsequent installation of options is only possible at the factory when returning the complete drive!