



VULCANO平台

ETEL

VULCANO平台

模块化设计

Vulcano平台拥有高动态性能、高双向重复精度和优异的位置稳定性，其高刚性和对称式的机械设计允许短行程运动并快速稳定。该平台配真空吸力设备，满足ISO1超净车间要求。该平台易于配置，可配不同模块（Theta、ZT或Z3T），能更好地满足个性化的应用要求。该平台的应用范围包括（但不限于）晶圆工艺控制应用，例如叠对测量、关键尺寸、薄膜测量以及大型面板/基体的其它后段制程。

完整解决方案

ETEL前向整合

ETEL正在推进向前集成战略。ETEL的先进运动平台不仅包括先进的运动系统及相应的先进运动控制单元，还获益于ETEL的QuiET主动避振系统。ETEL因此成为唯一能提供如此丰富产品的运动系统供应商！



| VULCANO XY | 标准模块 | 运动系统平台 | 运动系统性能 | 典型测量值 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|----------------------|---------------------|------------------------|----------------|------------|-----------------------|------|-------|-------|-------|---------------------|---------------------|-------|-------------|--|--------|---------|--|----------------------------|--------|--------|--------|-------|--|--|---|--|--|-------|---|-------|------|--------|--------|---------|--------|---------|---------|--------|-------|---------------------|---------------------|------------------------|---------|---------|---------|--------------------|----------|---------|----------------------|---------------------|----------------------------|--------|--------|-----------------------|--------|---------|---------|---------|---|---|----------------|--------|---------|--|--------|---|---|--------------|----------------------------|--------|--------|---|---|---|---|--------|------|--|--|--|--|--|---|
| <p>Vulcano XY系统为三件式结构的紧凑型及经济型工程解决方案，带机械轴承和高端光学编码器。</p> <p>下轴由两个直线电机组成，采用龙门控制模式，在三个独立的直线轴承上运动。</p> <p>上直线电机叠放在高刚性、轻量化的底板上，标配行程达650 mm。</p>  <table border="1"> <thead> <tr> <th></th> <th>Y1-Y2</th> <th>X</th> </tr> </thead> <tbody> <tr> <td>行程范围</td> <td>最大至 650 mm</td> <td>最大至 650 mm</td> </tr> <tr> <td>最高转速</td> <td>2 m/s</td> <td>2 m/s</td> </tr> <tr> <td>最大加速度</td> <td>25 m/s²</td> <td>25 m/s²</td> </tr> <tr> <td>位置稳定性</td> <td colspan="2">最小至 ±0.7 nm</td> </tr> <tr> <td>双向重复精度</td> <td colspan="2">±350 nm</td> </tr> <tr> <td>运动和稳定时间 (25 mm, ±100 nm以内)</td> <td>150 ms</td> <td>140 ms</td> </tr> <tr> <td>最大有效负载</td> <td colspan="2">40 kg</td> </tr> </tbody> </table> | | Y1-Y2 | X | 行程范围 | 最大至 650 mm | 最大至 650 mm | 最高转速 | 2 m/s | 2 m/s | 最大加速度 | 25 m/s ² | 25 m/s ² | 位置稳定性 | 最小至 ±0.7 nm | | 双向重复精度 | ±350 nm | | 运动和稳定时间 (25 mm, ±100 nm以内) | 150 ms | 140 ms | 最大有效负载 | 40 kg | | <p>RTTB旋转轴</p>  | <p>VULCANO XYT</p>  <p>Vulcano XYT平台包括标准的Vulcano XY平台，并增加了RTTB旋转模块，该旋转模块含高分辨率编码器，并将其安装在高端机械轴承处。</p> | <ul style="list-style-type: none"> 结构小巧 纳米级位置稳定性 短行程和短稳定时间 高动态性能 高双向重复精度 高位置稳定性 符合ISO1级超净车间要求 <table border="1"> <thead> <tr> <th></th> <th>Y1-Y2</th> <th>X</th> <th>THETA</th> </tr> </thead> <tbody> <tr> <td>行程范围</td> <td>490 mm</td> <td>420 mm</td> <td>367°±2°</td> </tr> <tr> <td>最高转速</td> <td>1.5 m/s</td> <td>1.5 m/s</td> <td>60 rpm</td> </tr> <tr> <td>最大加速度</td> <td>25 m/s²</td> <td>25 m/s²</td> <td>169 rad/s²</td> </tr> <tr> <td>位置稳定性</td> <td>±1.1 nm</td> <td>±0.8 nm</td> <td>±1.9 nm @ R=150 mm</td> </tr> <tr> <td>双向重复精度</td> <td colspan="2">±350 nm</td> <td>±0.3 arcsec</td> </tr> <tr> <td>运动和稳定时间 (25 mm, ±100 nm以内)</td> <td>150 ms</td> <td>140 ms</td> <td>-</td> </tr> <tr> <td>最大有效负载</td> <td>-</td> <td>-</td> <td>30 kg</td> </tr> </tbody> </table> | | Y1-Y2 | X | THETA | 行程范围 | 490 mm | 420 mm | 367°±2° | 最高转速 | 1.5 m/s | 1.5 m/s | 60 rpm | 最大加速度 | 25 m/s ² | 25 m/s ² | 169 rad/s ² | 位置稳定性 | ±1.1 nm | ±0.8 nm | ±1.9 nm @ R=150 mm | 双向重复精度 | ±350 nm | | ±0.3 arcsec | 运动和稳定时间 (25 mm, ±100 nm以内) | 150 ms | 140 ms | - | 最大有效负载 | - | - | 30 kg | <p>运动和稳定时间 10 μm ± 100 nm</p>  | | | | | | | | | | | | | | | | | | | | | | | | |
| | Y1-Y2 | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 行程范围 | 最大至 650 mm | 最大至 650 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最高转速 | 2 m/s | 2 m/s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最大加速度 | 25 m/s ² | 25 m/s ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 位置稳定性 | 最小至 ±0.7 nm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 双向重复精度 | ±350 nm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 运动和稳定时间 (25 mm, ±100 nm以内) | 150 ms | 140 ms | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最大有效负载 | 40 kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Y1-Y2 | X | THETA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 行程范围 | 490 mm | 420 mm | 367°±2° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最高转速 | 1.5 m/s | 1.5 m/s | 60 rpm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最大加速度 | 25 m/s ² | 25 m/s ² | 169 rad/s ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 位置稳定性 | ±1.1 nm | ±0.8 nm | ±1.9 nm @ R=150 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 双向重复精度 | ±350 nm | | ±0.3 arcsec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 运动和稳定时间 (25 mm, ±100 nm以内) | 150 ms | 140 ms | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最大有效负载 | - | - | 30 kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | Y1-Y2 | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 行程范围 | 最大至 650 mm | 最大至 650 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最高转速 | 2 m/s | 2 m/s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最大加速度 | 25 m/s ² | 25 m/s ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 位置稳定性 | 最小至 ±0.7 nm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 双向重复精度 | ±350 nm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 运动和稳定时间 (25 mm, ±100 nm以内) | 150 ms | 140 ms | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最大有效负载 | 40 kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Y1-Y2 | X | 细调Z轴 | 摇摆 | 粗调Z轴 | THETA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 行程范围 | 490 mm | 420 mm | ±2 mm | ±0.1° | 15 mm | 364° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最高转速 | 1.5 m/s | 1.5 m/s | - | - | - | 95.5 rpm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最大加速度 | 2.5 m/s ² | 25 m/s ² | - | - | - | 55 rad/s ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 位置稳定性 | ±0.6 nm | ±0.7 nm | ±1.9 nm | ±0.0043 arcsec | - | ±0.0038 arcsec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 双向重复精度 | ±350 nm | | ±10 nm | - | - | ±0.35 arcsec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 运动和稳定时间 (25 mm, ±100 nm以内) | 150 ms | 140 ms | - | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 最大有效负载 | 2 kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



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ETEL