

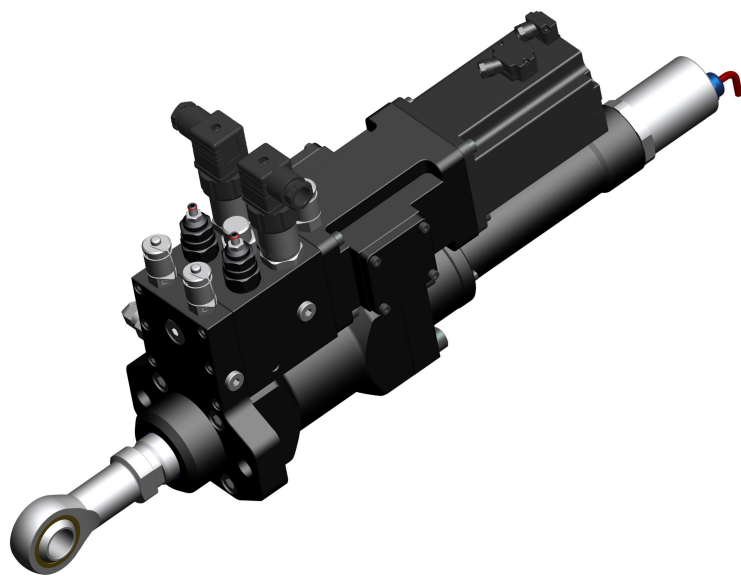


贵阳海之力液压有限公司  
Guiyang HYC **Hydraulic** Co.,Ltd.



# 产品手册 Product Manual

Version:2025-III



响应前沿技术需求

Addressing Cutting-edge Technology Needs

关注特殊应用领域

Focusing on Specialized Applications

**贵阳海之力液压有限公司**，成立于2014年，科技型中小企业，连续3届（9年）认定为国家高新技术企业。海之力液压定位于技术型、创新型公司，专注于机电液方向，响应前沿技术需求，关注特殊应用领域，坚持自主创新研发及其应用推广。公司研发团队工程经验丰富，擅长液压元件及机电液成套系统的创新研发。公司持有11项发明专利和多项实用新型专利，产品涉及领域有产业机械、机器人、市政设施、舰艇船舶、深海探测等。

Guiyang HYC Hydraulic Co., Ltd., established in 2014, is a technology-based SME and a three-term consecutively certified (9 years) National High-Tech Enterprise. Positioned as a technology-driven innovator, we specialize in mechanical-electrical-hydraulic integration, addressing cutting-edge technology needs while focusing on specialized application fields. Our expert R&D team, with proven engineering experience, excels in innovating hydraulic components and integrated mechatronic-hydraulic systems. Holding 11 invention patents and multiple utility patents, our solutions serve critical sectors including Industrial Machinery, Robotics, Municipal Infrastructure, Marine & Naval Vessels, and Deep-Sea Exploration Systems.

### ■ 主营产品 Core Products

- 四象限微型高压柱塞泵 Four-quadrant Micro High-pressure Piston Pumps
- 电静液作动器（EHA） Electro-Hydrostatic Actuators (EHA)
- 定制类液压元件 Customized Hydraulic Components
- 机电液集成设备 Integrated Mechatronic-Hydraulic Equipment



0851-86320695



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<http://www.hzl-hydraulic.com>



贵阳市乌当区高新路126号科技园2号厂房

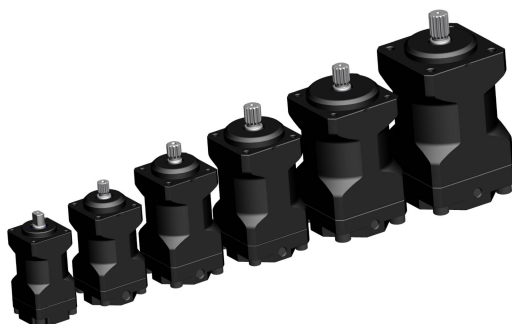


网站地址

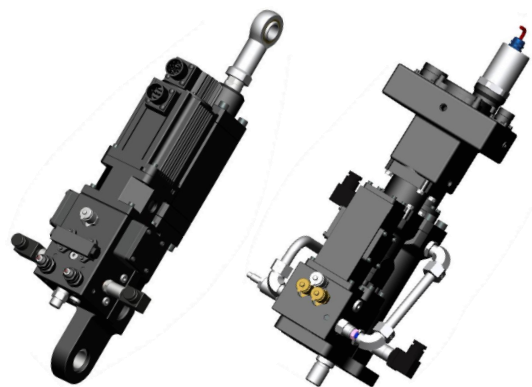


微信公众号

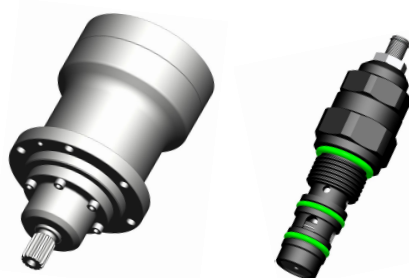
四象限微型高压柱塞泵  
Four-quadrant Micro High-pressure  
Piston Pumps



电静液作动器 (EHA)  
Electro-Hydrostatic Actuators



定制类液压元件  
Customized Hydraulic Components

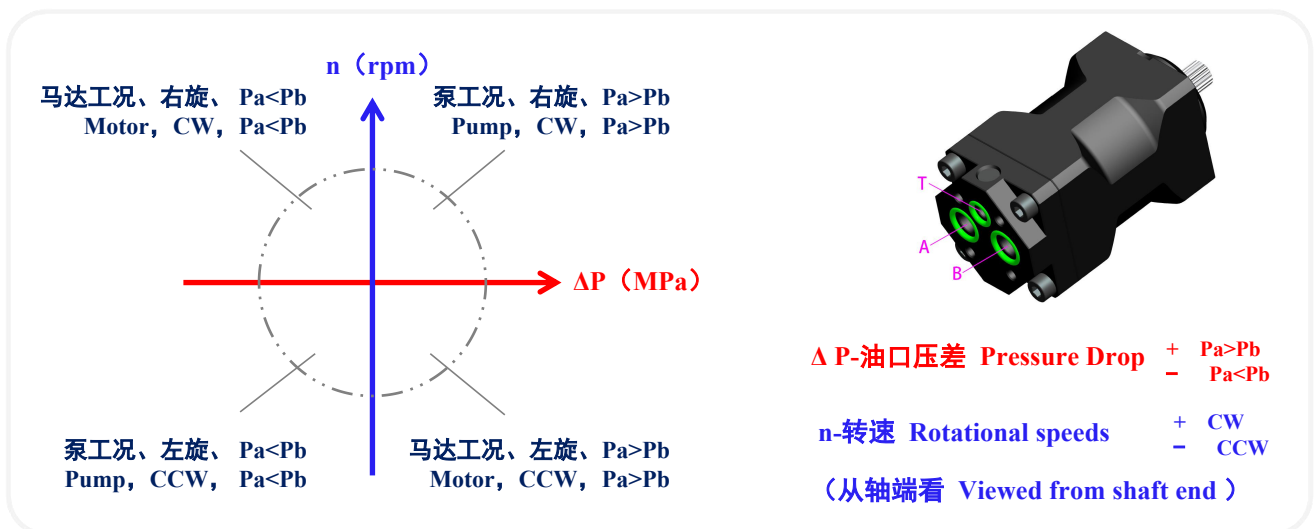


机电液集成设备  
Integrated Mechatronic-Hydraulic  
Equipment



### 产品简介 Product Overview

- HYC-MP1F系列四象限微型高压柱塞泵，主要针对伺服泵控容积调速系统的应用需求而研发，可四象限工作，适用于闭式回路，也适用于开式回路；结构紧凑，强调小型化和轻量化；工作压力高，调速范围宽  
HYC-MP1F Series Four-quadrant Micro High-pressure Piston Pumps are engineered for servo pump-controlled volumetric speed regulation systems. Capable of operating in all four quadrants, they are suitable for both closed and open circuits. Featuring a compact structure with emphasis on miniaturization and lightweight design, these pumps deliver high working pressure and wide speed regulation range



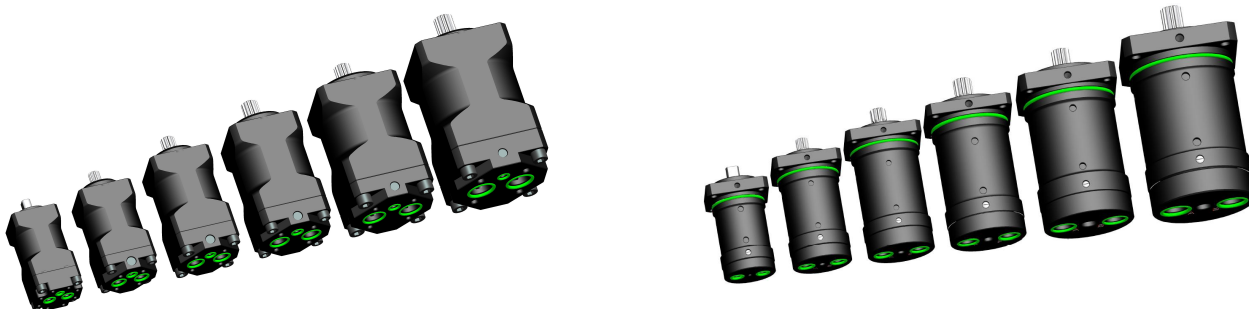
用户可根据此图判断不同工况下轴旋向与进出油口的转换关系 The four-quadrant diagram allows operators to determine the relationship between shaft rotation and port function transitions

- 斜盘式轴向柱塞泵，球面配流 Swashplate axial piston pumps with spherical port plate
- 柱塞数量 Number of pistons: 9 ( $>1.6\text{cc/r}$ ) ; 7 ( $\leq 1.6\text{cc/r}$ )
- 双向旋转，进出油方向可逆 Bidirectional rotation capability with reversible port configuration
- 适应马达工况 Motor operation mode compatible
- 良好的低速性能 Excellent low-speed performance
- 尤其适用于电静液作动器 Specifically engineered for Electro-Hydrostatic Actuators (EHA)



## 产品简介 Product Overview

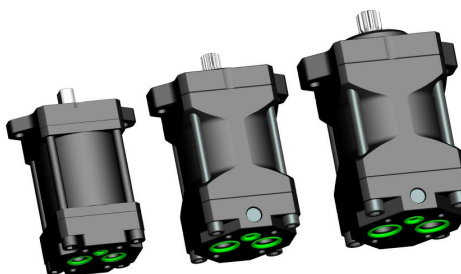
- 标准产品提供两种安装方式供选择：法兰式适用于泵与集成阀块串联设计；插装式适用于泵阀一体集成设计 Offers two mounting options: Flange-mounted for series-connected pump and manifold arrangements; Cartridge-mounted for monoblock pump-valve integration



- 安装接口形式可按需定制，最小起订量10台 Mounting configurations are customizable subject to MOQ 10 units



- 部分规格提供高转速级，压力转速乘积可达360,000MPa.rpm Selected models feature high-speed grade options, achieving pressure-speed products up to 360,000 MPa·rpm



### 型号说明 Model Specifications

| HYC | - | MP1 | F | 1 | B | /A | -C | -* |
|-----|---|-----|---|---|---|----|----|----|
|-----|---|-----|---|---|---|----|----|----|

HYC-海之力液压 HYC hydraulics

MP1-标准压力级微型泵 Standard pressure class ( $P_{max}=35MPa$ )

MHP1-高压级微型泵 High-pressure class ( $P_{max}=60MPa$ )

F-定排量 Fixed displacement

排量规格 Displacement (cc/r)

基础型 Prototype: 1 1.6 2.6 4 6.5 10

衍生型 Derivative model: 0.4 0.65 1.3 2 3.2 5 8

旋向 Rotation direction

B-双向旋转 Bidirection

转速级别 Speed class

省略-标准级 Omit: Standard

A-高速级 A: High-speed

安装形式 Installation type

省略-法兰安装 Omit: Flange mounting

C-插装式 C: Cartridge type

特殊定制代号（非定制产品省略） Special custom designation (Omit for standard products)

- 在必要时，本公司可能对产品型号编制规则进行修订，订货前请与本公司确认 The Vendor may revise the model designation system when needed. Confirm with the Vendor before ordering

# 四象限微型高压柱塞泵

## Four-quadrant Micro High-pressure Piston Pumps

### 技术参数表 Technical Data

| 产品系列<br>Product series                          |                         | 标准压力级<br>Standard     |       |       |                    |      |      |                    | 高压级<br>High-pressure |
|-------------------------------------------------|-------------------------|-----------------------|-------|-------|--------------------|------|------|--------------------|----------------------|
| 排量规格<br>Displacement (cc/r)                     | 基础型<br>Prototype        | 1                     |       | 1.6   | 2.6                | 4    | 6.5  | 10                 | 1                    |
|                                                 | 衍生型<br>Derivative model | 0.4                   | 0.65  | 1.3   | 2                  | 3.2  | 5    | 8                  | /                    |
| 旋转方向<br>Rotation direction                      |                         | 双向旋转<br>Bidirectional |       |       |                    |      |      |                    |                      |
| A/B口额定压力<br>Rated pressure (MPa)                |                         | 30                    | 30    | 30    | 30                 | 30   | 30   | 30                 | 50                   |
| A/B口最高压力<br>Max pressure (MPa)                  |                         | 35                    | 35    | 35    | 35                 | 35   | 35   | 35                 | 60                   |
| T口最高压力<br>Max pressure of T port (MPa)          |                         | 0.2                   | 0.2   | 0.2   | 0.2                | 0.2  | 0.2  | 0.2                | 0.2                  |
| 最低转速<br>Min speed (rpm) ①                       |                         | 200                   | 200   | 200   | 200                | 200  | 100  | 100                | 200                  |
| 最高转速<br>Max speed (rpm) ②                       | 标准级<br>Standard         | 6000                  | 6000  | 6000  | 6000               | 6000 | 5500 | 5000               | 6000                 |
|                                                 | 高速级<br>High-speed       | 12000                 | 12000 | 12000 | 未发布<br>Unpublished |      |      |                    |                      |
| 转动惯量<br>Moment of inertia (kg.cm <sup>2</sup> ) |                         | 0.20                  | 0.51  | 0.85  | 1.78               | 3.49 | 7.36 | 0.59               |                      |
| 重量<br>Weight (kg)                               | 标准级<br>Standard         | 0.45                  | 0.68  | 0.98  | 1.45               | 2.15 | 3.20 | 0.98               |                      |
|                                                 | 高速级<br>High-speed       | 0.52                  | 0.83  | 1.16  | 未发布<br>Unpublished |      |      |                    |                      |
|                                                 | 插装式<br>Cartridge type   | 0.40                  | 0.64  | 0.89  | 1.30               | 1.93 | 2.92 | 未发布<br>Unpublished |                      |

① 指连续长时间满载运行所允许的最低转速，短时调速可从零起调 Minimum speed for continuous full-load operation with zero-speed start capacity

② 最高转速只能在进口增压工况下短时使用，详情请咨询本公司 Maximum speed requires pressurized inlet conditions; please contact us for operational limits

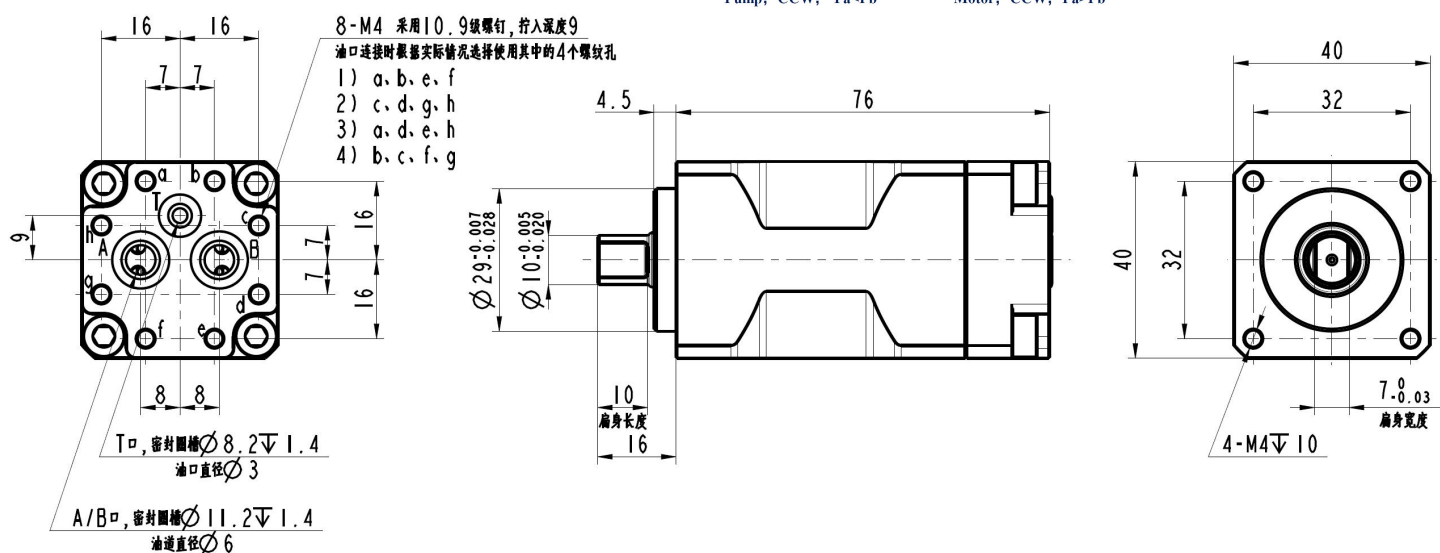
- 由于使用工况的复杂多样，不能保证上表所列参数适用于特定的用途，选型前请于本公司确认，以技术协议为准 Due to the complexity and diversity of using conditions, there is no guarantee that the parameters listed above are suitable for specific purposes. Please confirm with the company before selection and subject to the technical agreement.
- 必要时我们将修订技术参数表，并在公司网站上发布新版技术资料 If necessary, we will update the technical data on the company website.

### 法兰式标准产品安装尺寸 Standard Flange Mounting Dimensions

#### HYC-MP1F1B

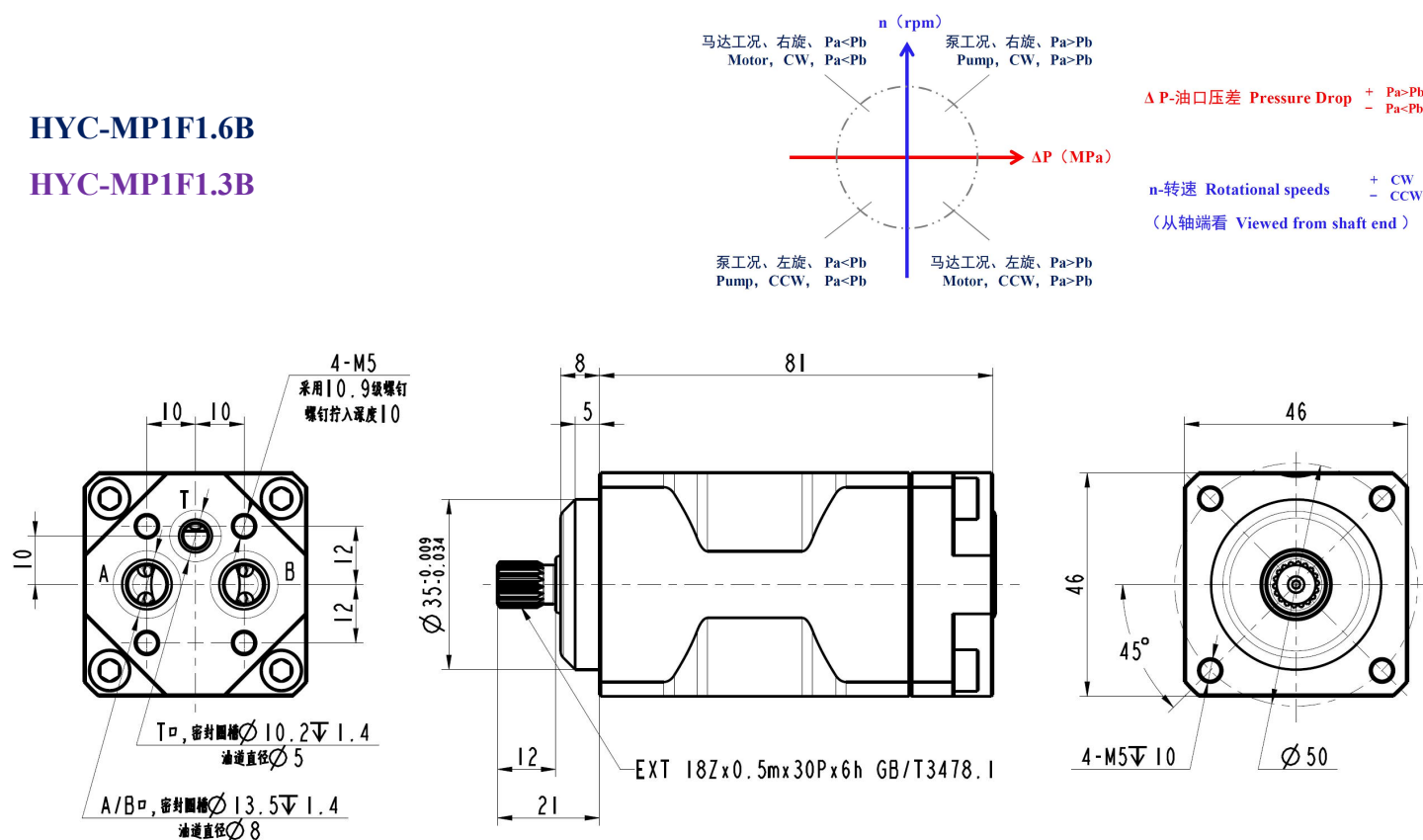
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#### HYC-MP1F0.4B



#### HYC-MP1F1.6B

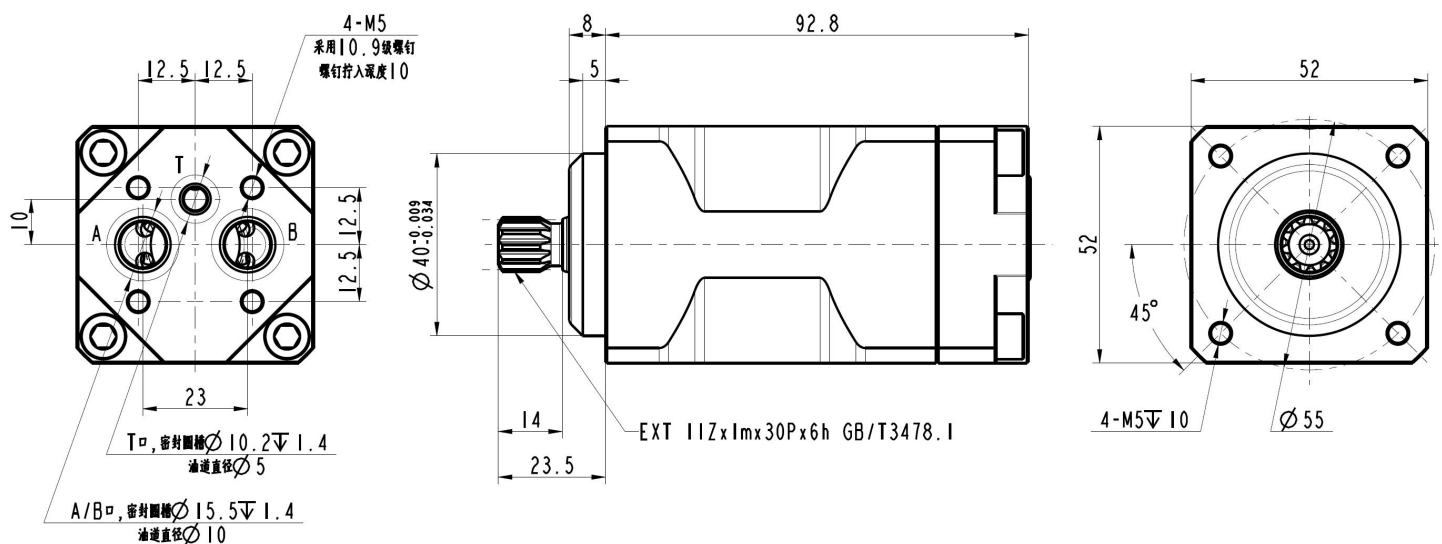
#### HYC-MP1F1.3B



### 法兰式标准产品安装尺寸 Standard Flange Mounting Dimensions

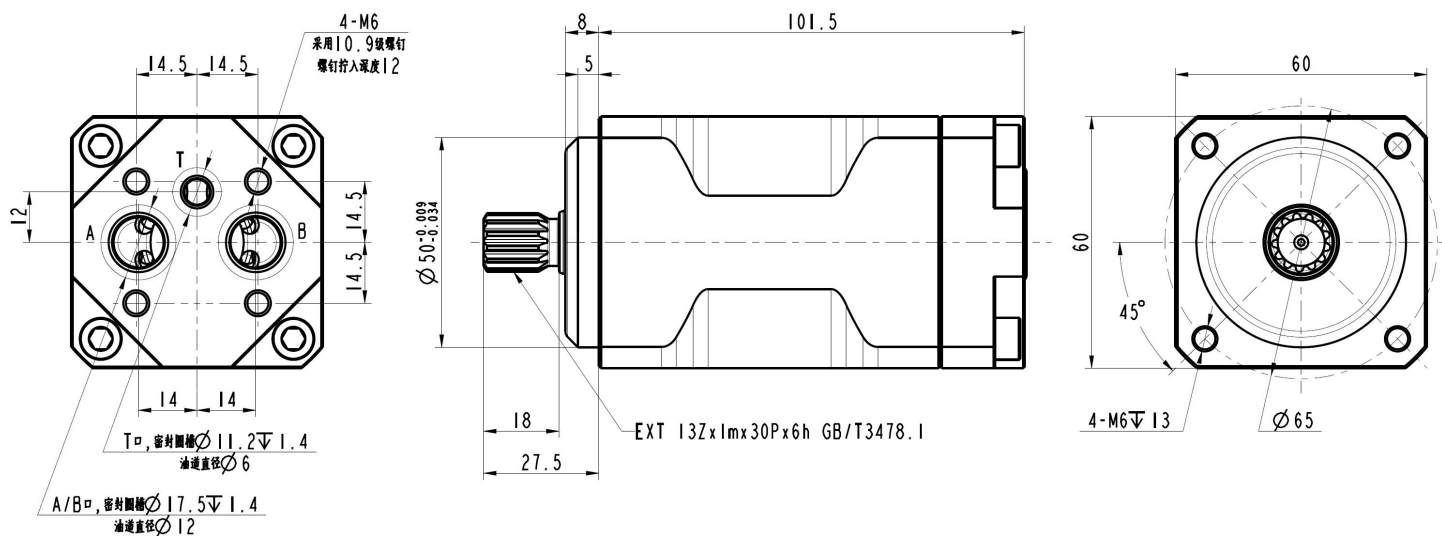
#### HYC-MP1F2.6B

#### HYC-MP1F2B



#### HYC-MP1F4B

#### HYC-MP1F3.2B

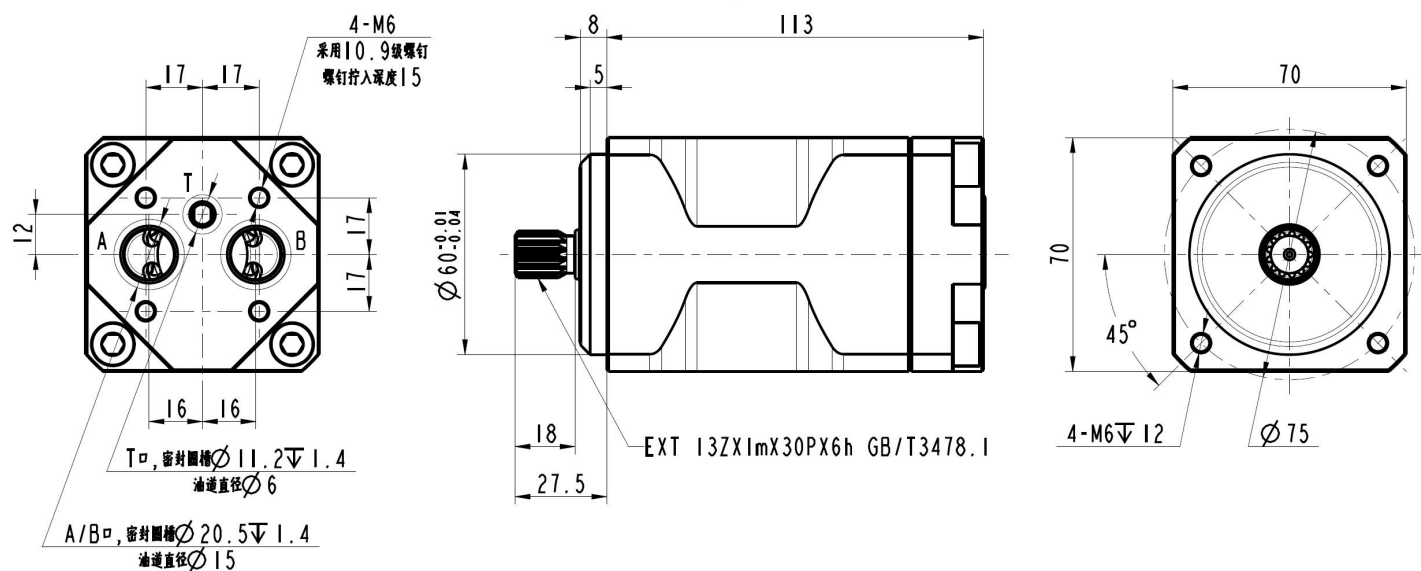




### 法兰式标准产品安装尺寸 Standard Flange Mounting Dimensions

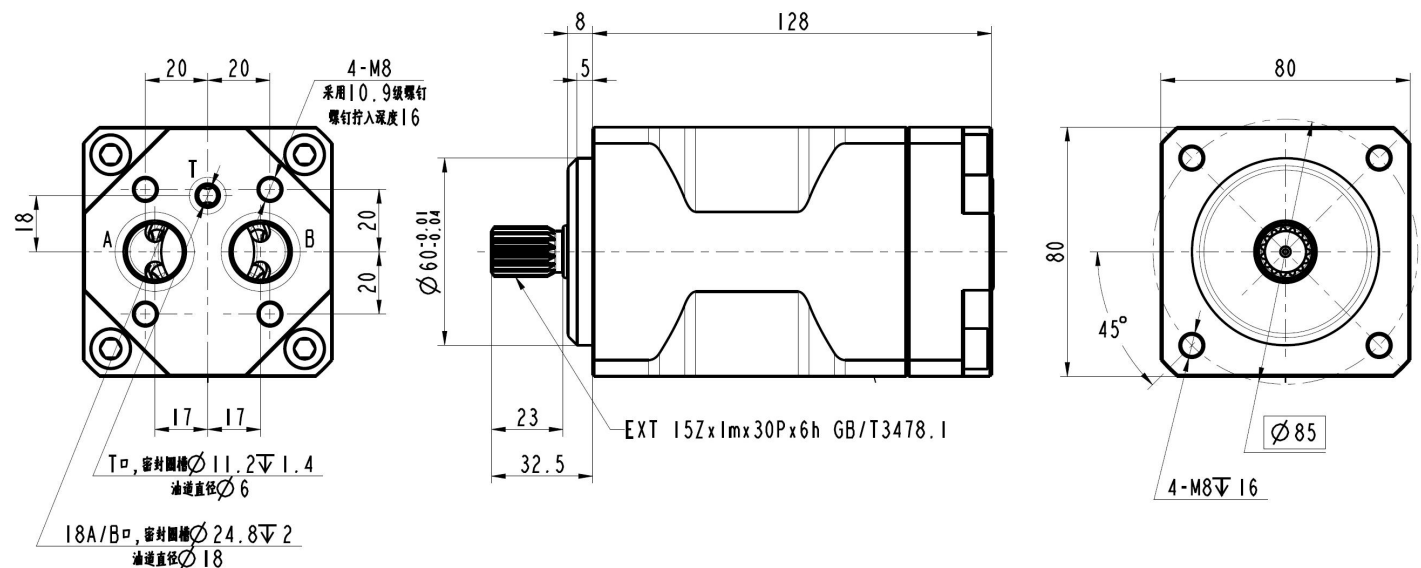
#### HYC-MP1F6.5B

#### HYC-MP1F5B



#### HYC-MP1F10B

#### HYC-MP1F8B

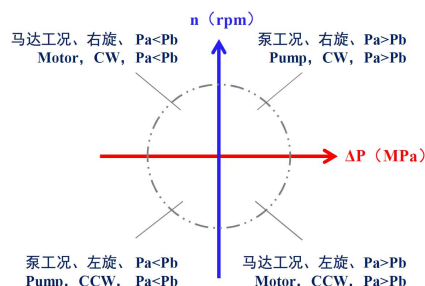


### 插装式标准产品安装尺寸 Standard Cartridge Mounting Dimensions

**HYC-MP1F1B-C**

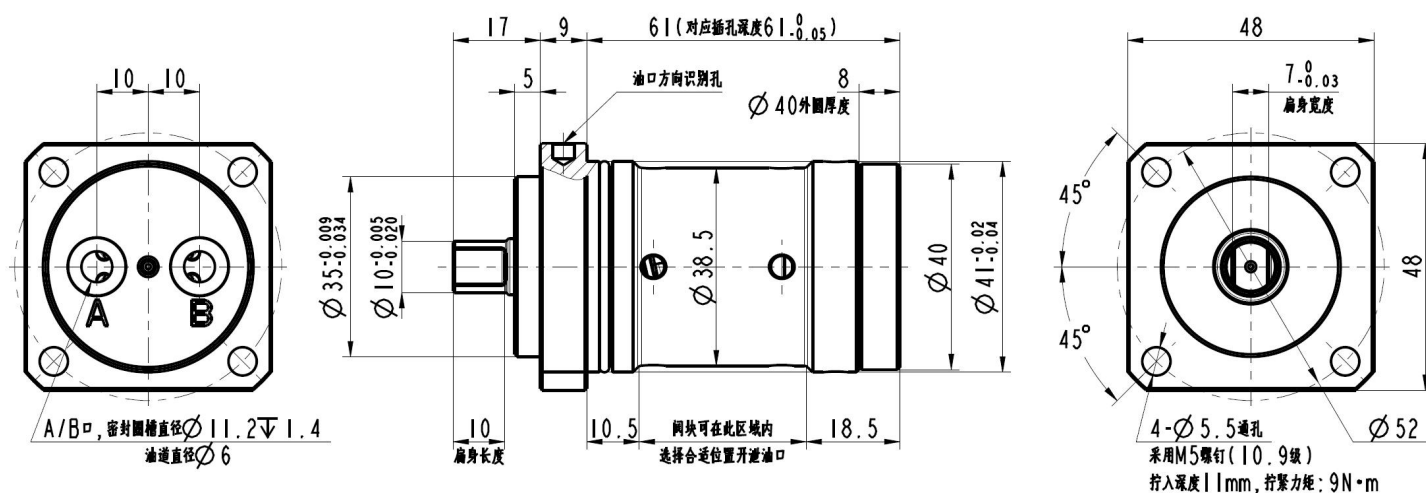
**HYC-MP1F0.65B-C**

**HYC-MP1F0.4B-C**

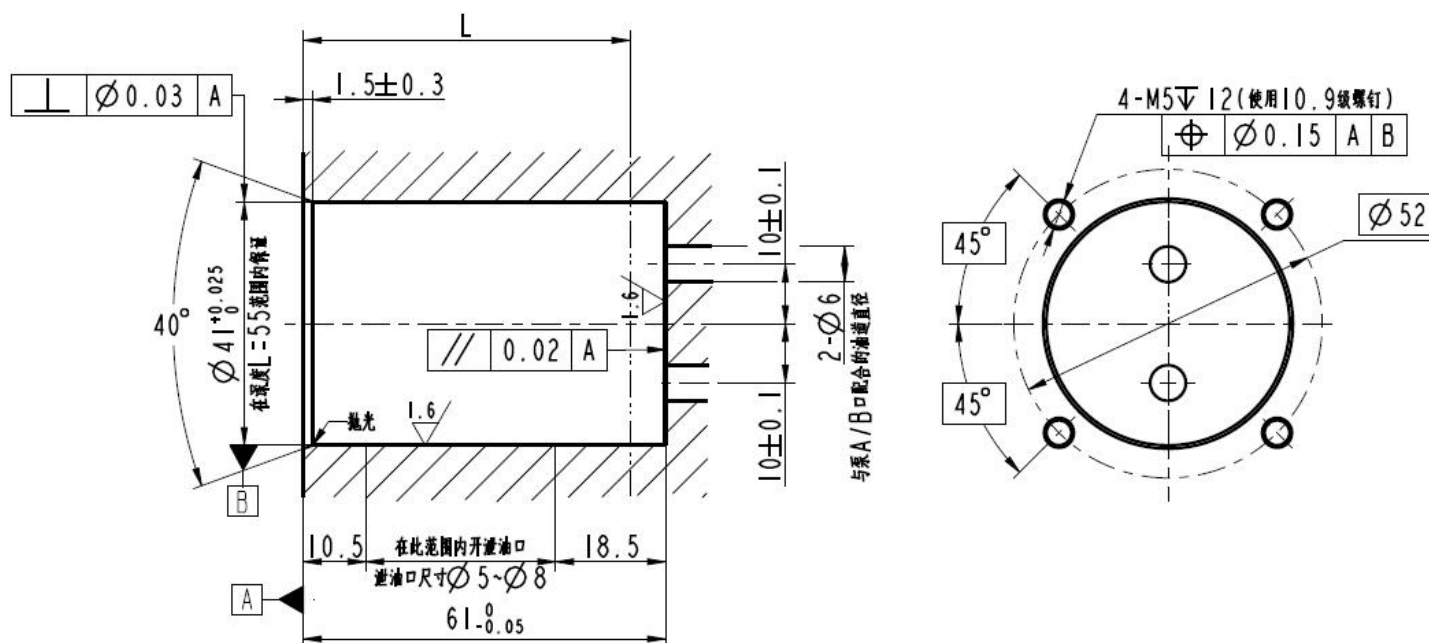


$\Delta P$ -油口压差 Pressure Drop +  $P_a > P_b$   
-  $P_a < P_b$

$n$ -转速 Rotational speeds + CW  
- CCW  
(从轴端看 Viewed from shaft end)



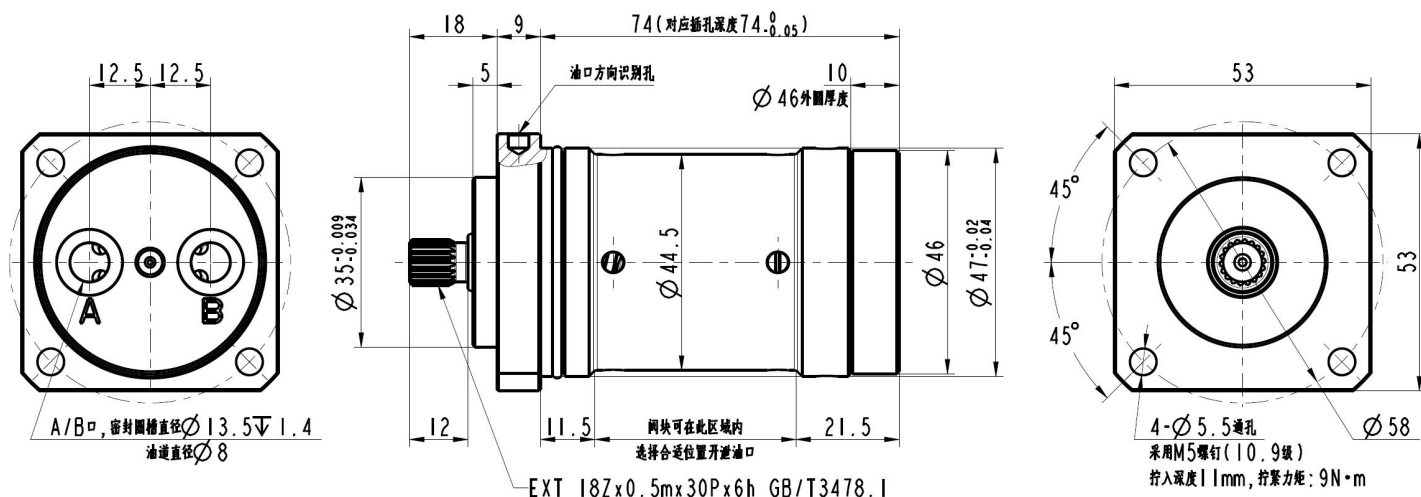
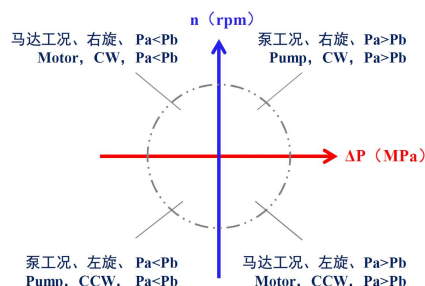
### 插装孔尺寸 Cavity Dimensions



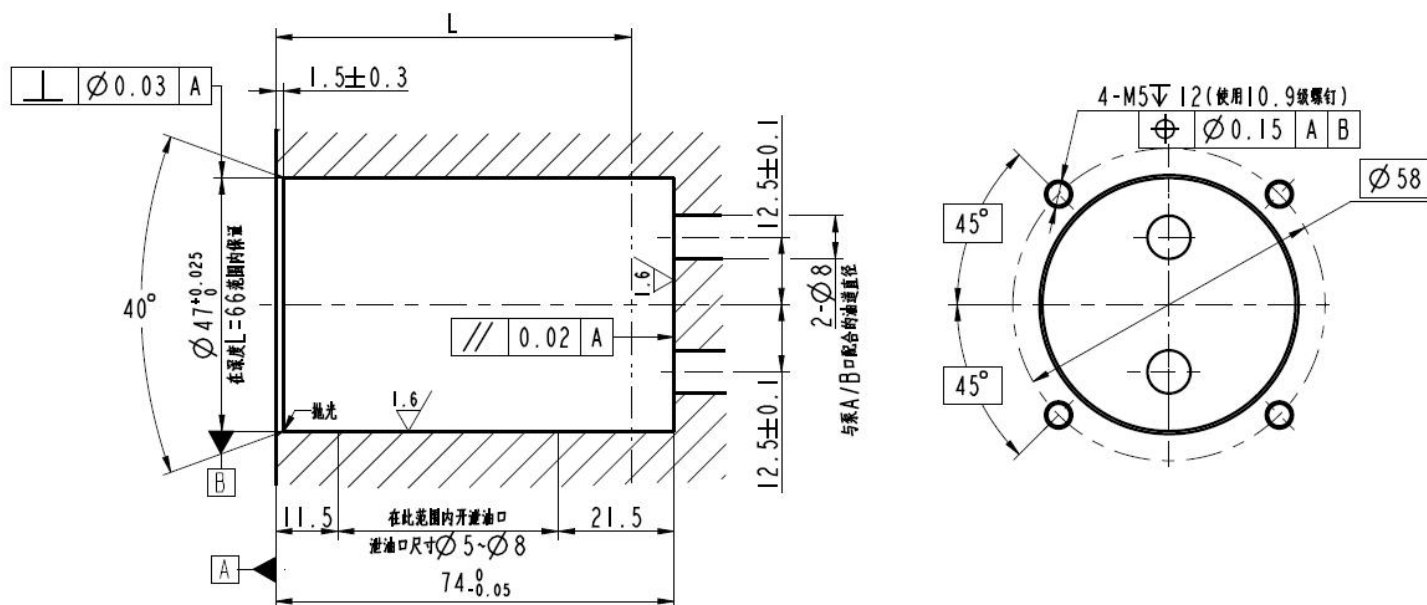
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HYC-MP1F1.3B-C



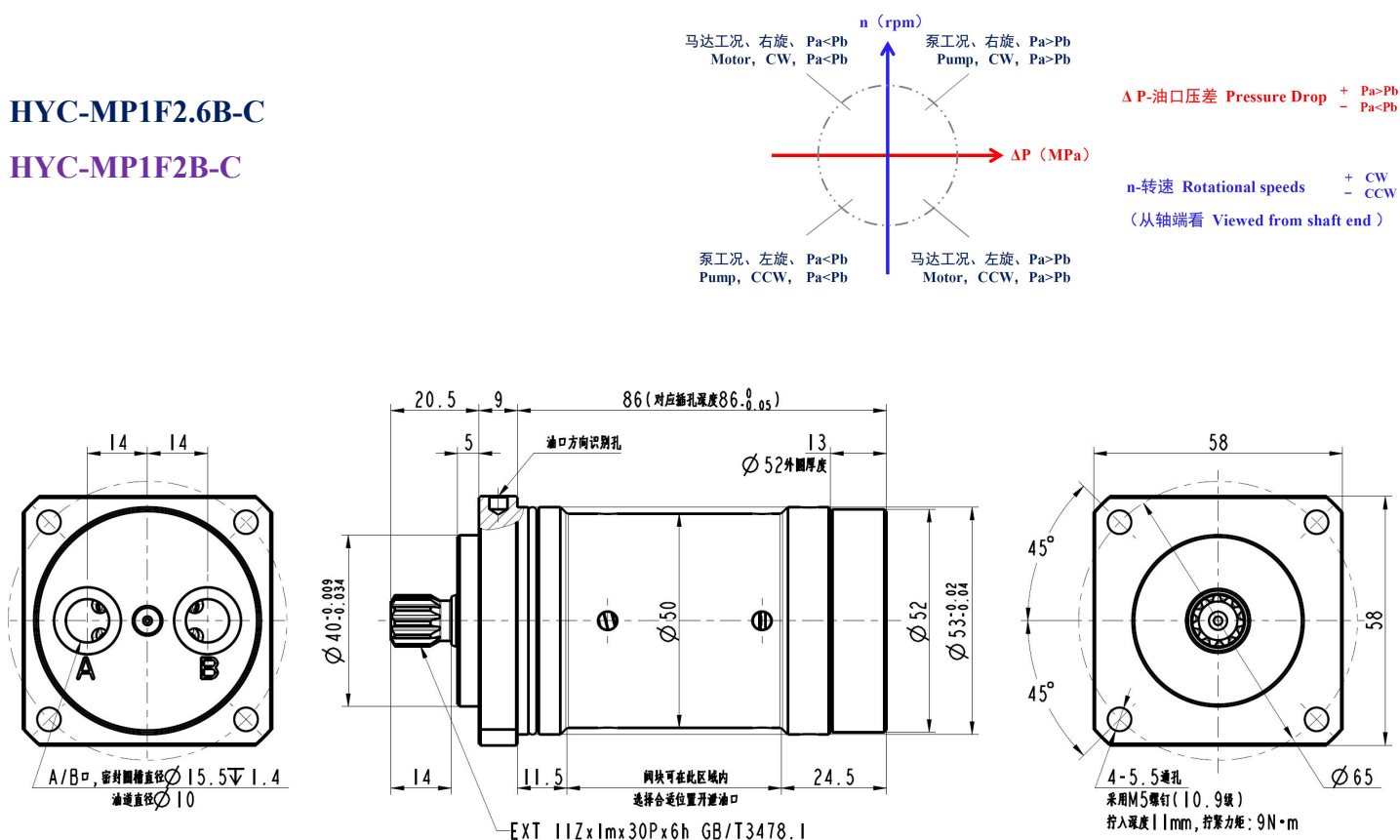
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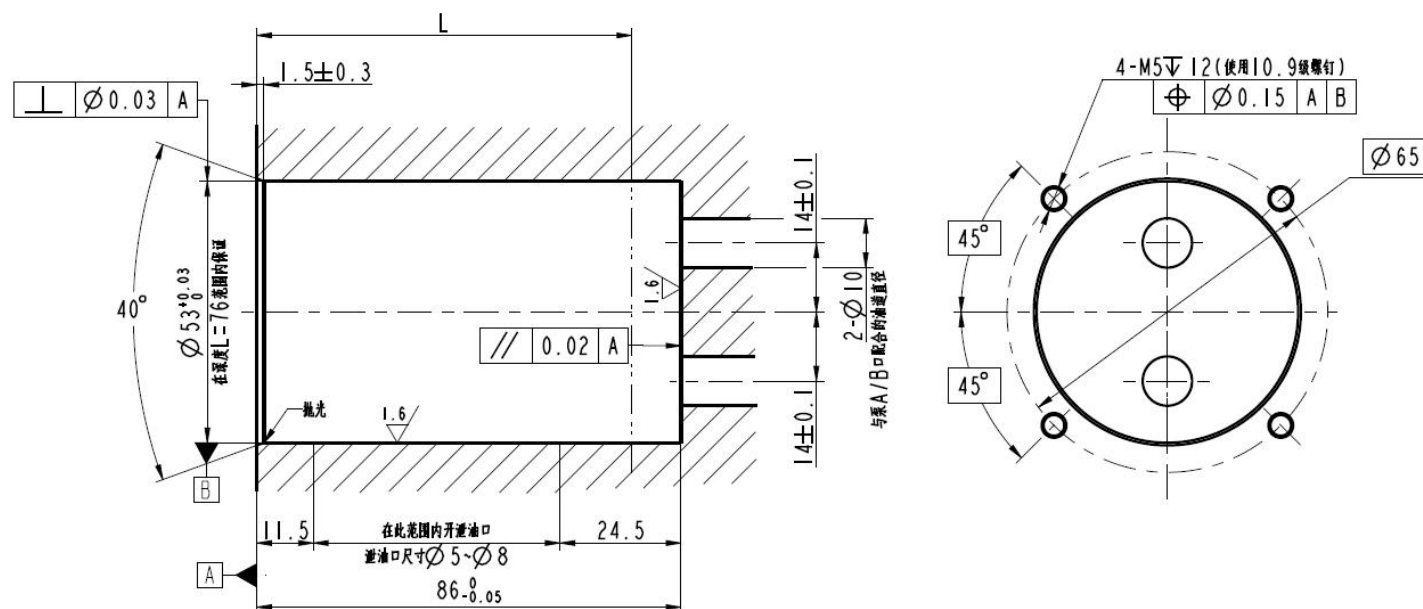
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HYC-MP1F2.6B-C

HYC-MP1F2B-C



## 插装孔尺寸 Cavity Dimensions

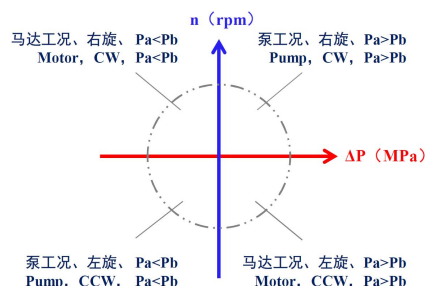




### 插装式标准产品安装尺寸 Standard Cartridge Mounting Dimensions

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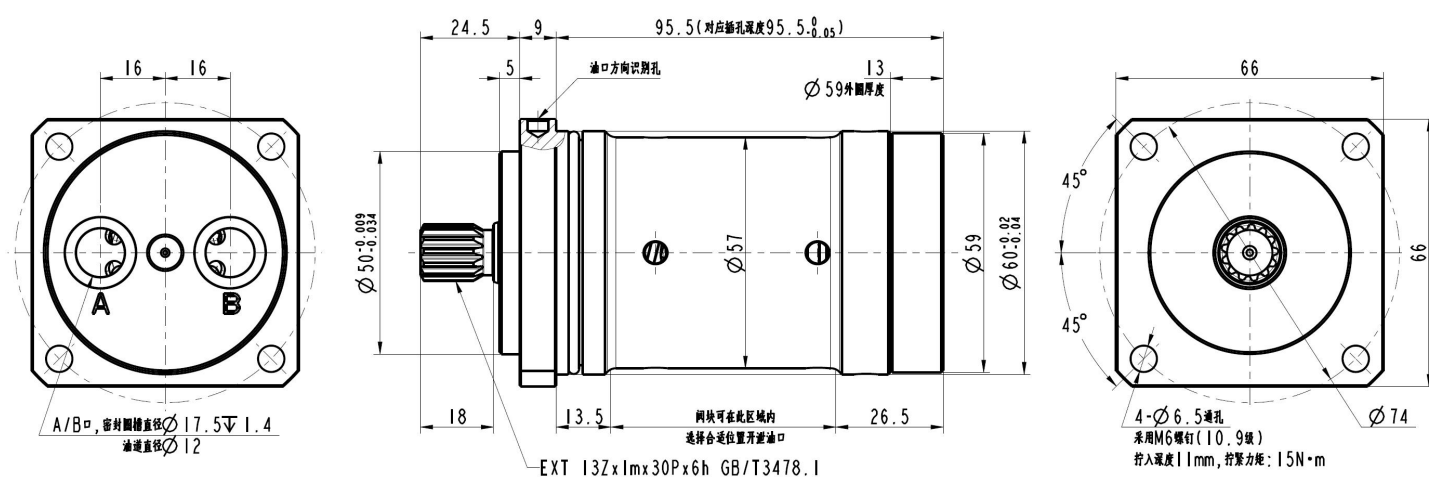
**HYC-MP1F3.2B-C**



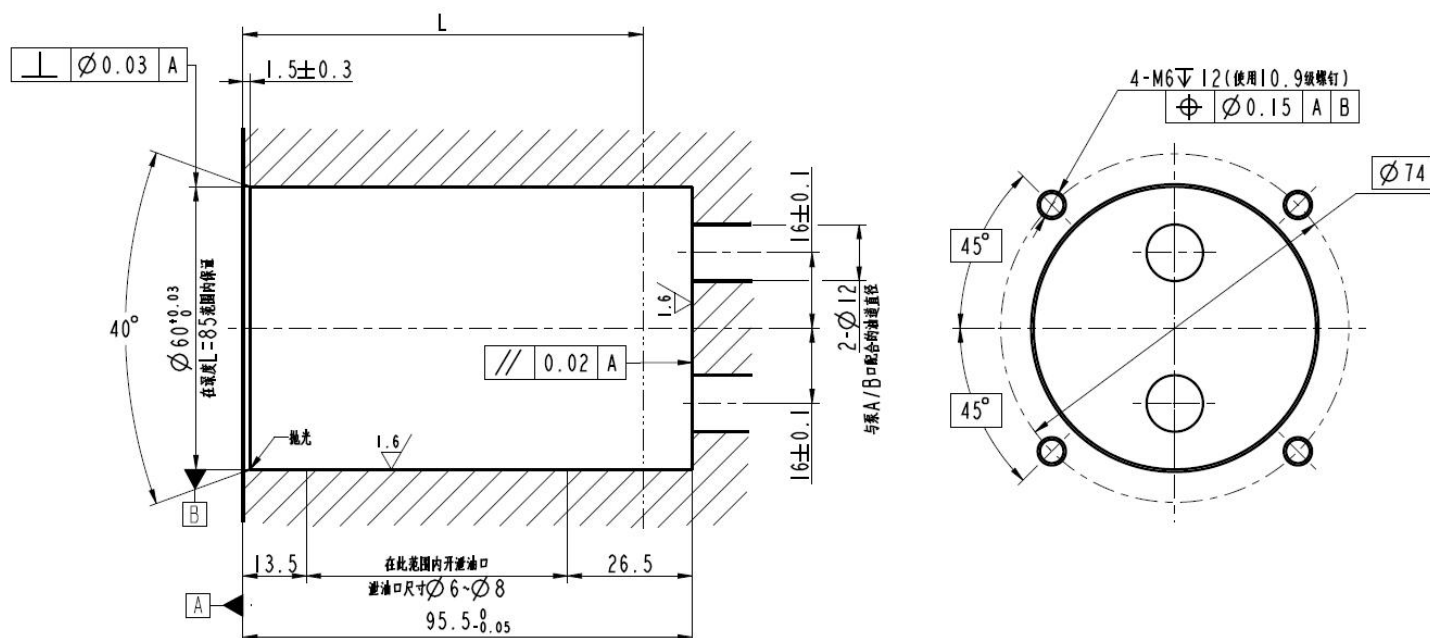
$\Delta P$ -油口压差 Pressure Drop +  $P_a > P_b$   
-  $P_a < P_b$

$n$ -转速 Rotational speeds + CW  
- CCW

(从轴端看 Viewed from shaft end)



### 插装孔尺寸 Cavity Dimensions

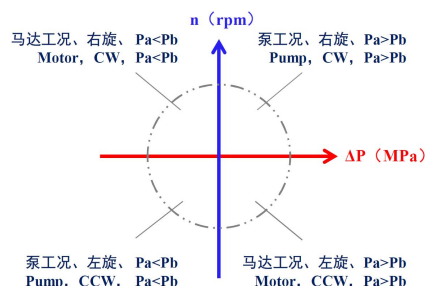




### 插装式标准产品安装尺寸 Standard Cartridge Mounting Dimensions

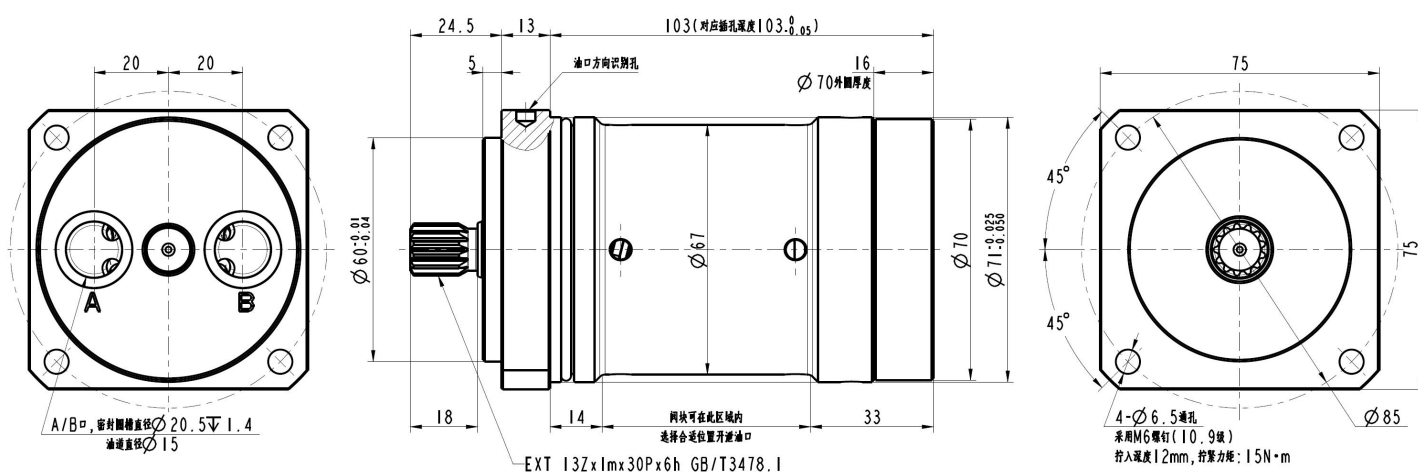
**HYC-MP1F6.5B-C**

**HYC-MP1F5B-C**

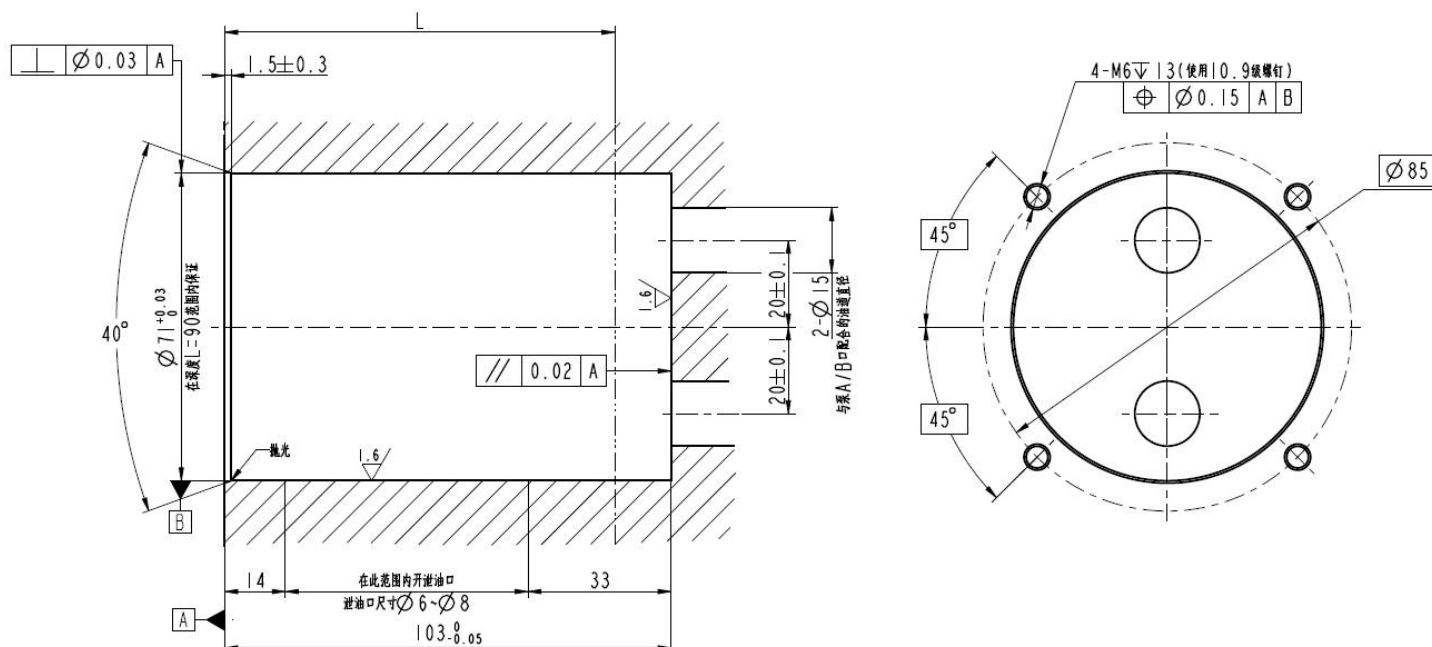


$\Delta P$ -油口压差 Pressure Drop +  $P_a > P_b$   
-  $P_a < P_b$

$n$ -转速 Rotational speeds + CW  
- CCW  
(从轴端看 Viewed from shaft end)



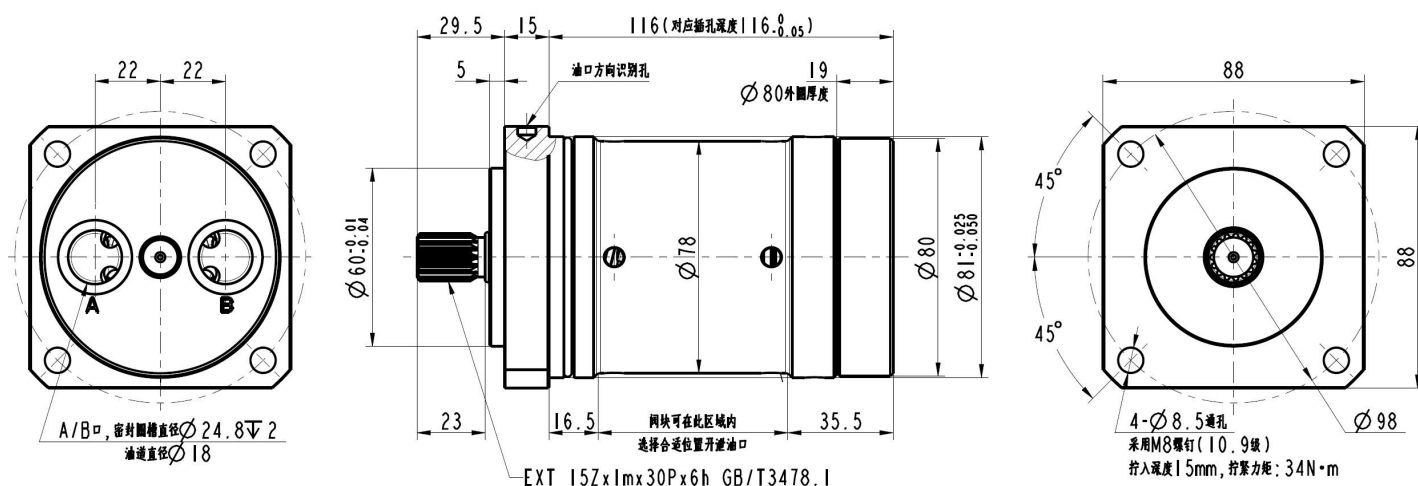
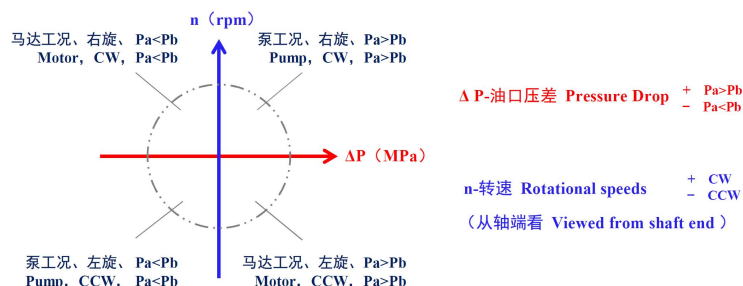
### 插装孔尺寸 Cavity Dimensions



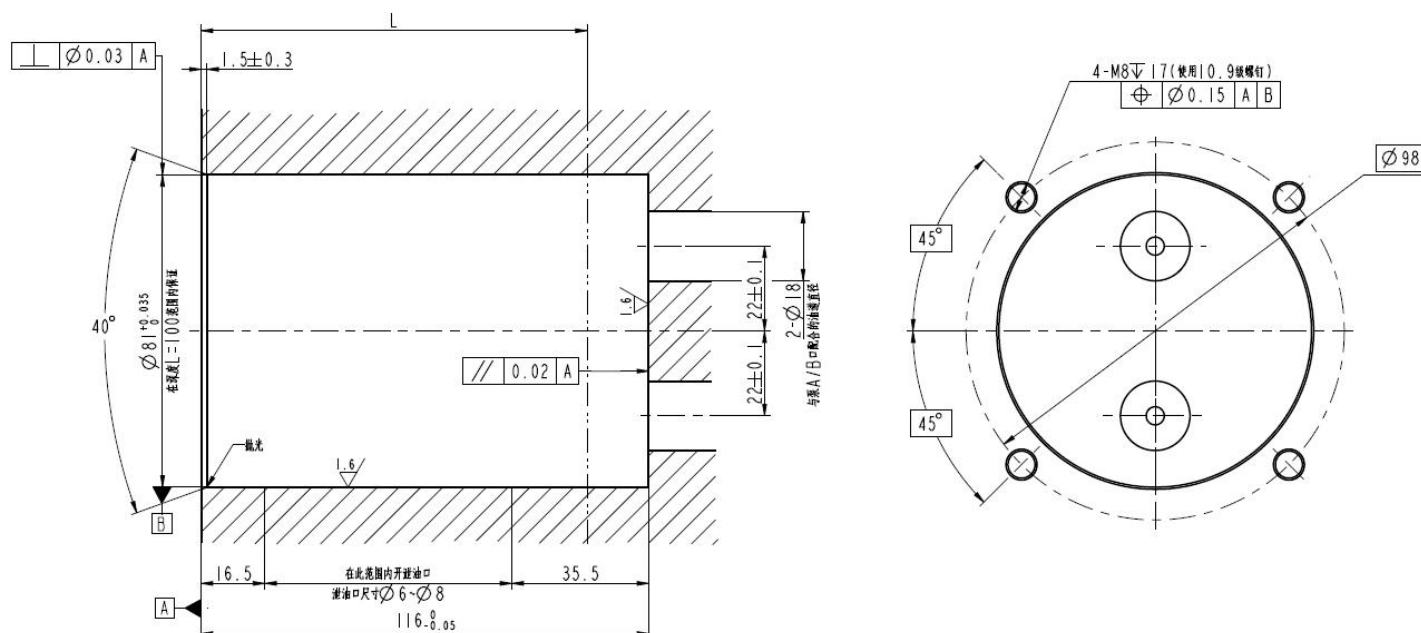
### 插装式标准产品安装尺寸 Standard Cartridge Mounting Dimensions

HYC-MP1F10B-C

HYC-MP1F8B-C



### 插装孔尺寸 Cavity Dimensions

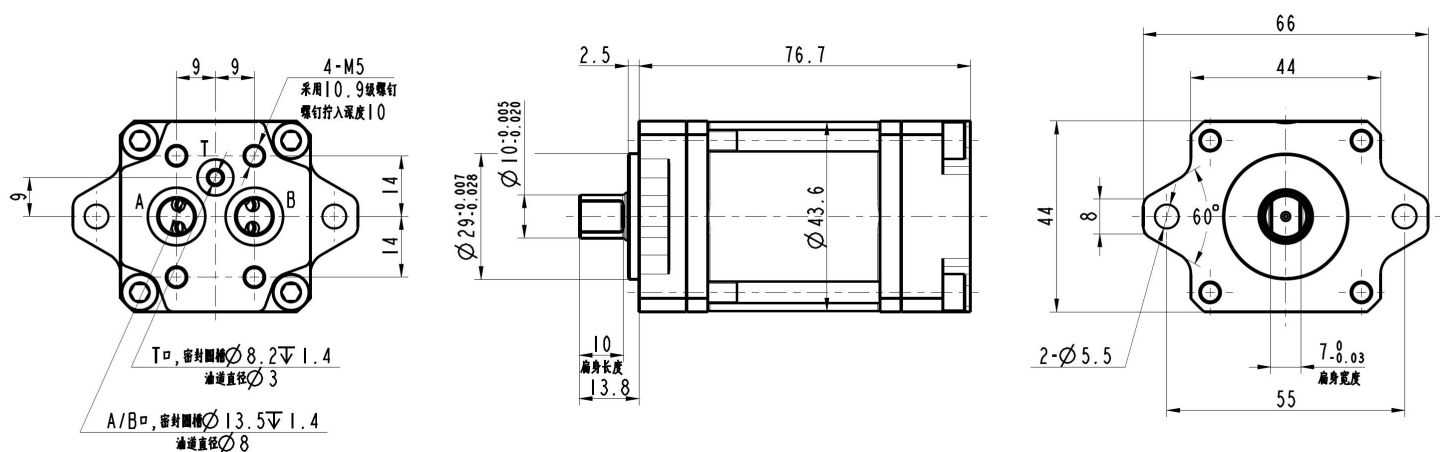


### 高速级产品安装尺寸 High-speed Pump Mounting Dimensions

**HYC-MP1F1B/A**

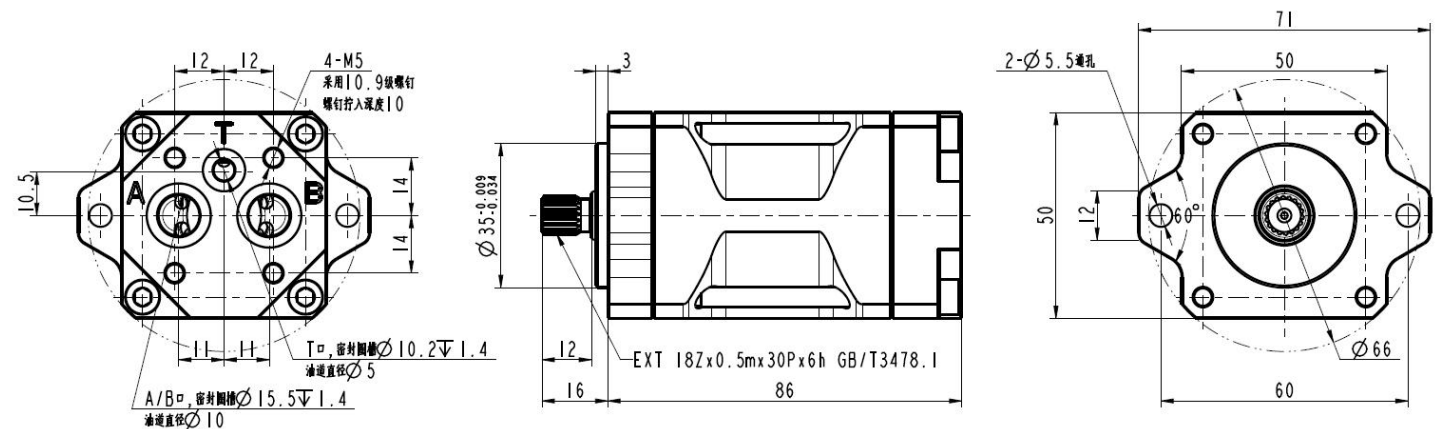
**HYC-MP1F0.65B/A**

**HYC-MP1F0.4B/A**



**HYC-MP1F1.6B/A**

**HYC-MP1F1.3B/A**



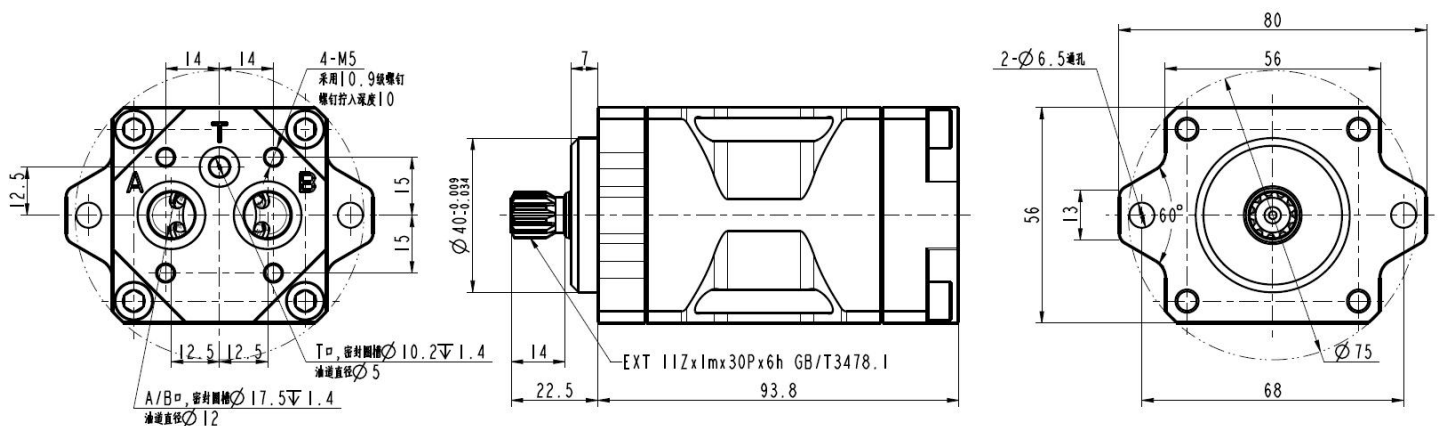
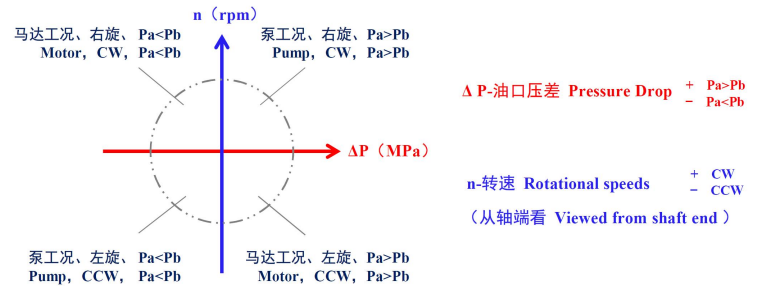
# 四象限微型高压柱塞泵 Four-quadrant Micro High-pressure Piston Pumps



## 高速级产品安装尺寸 High-speed Pump Mounting Dimensions

HYC-MP1F2.6B/A

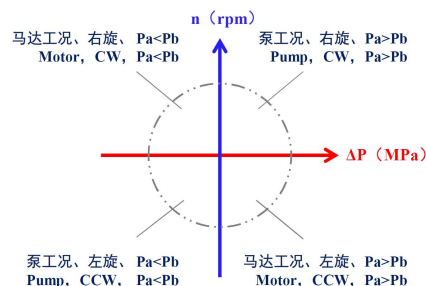
HYC-MP1F2B/A



- 其余规格的高速级产品暂不能供货，我们将在适当时机发布产品并更新技术资料，请持续关注本公司网站或微信公众号 Other specifications of high-speed pumps are currently unavailable. Product release and technical documentation updates will be announced in due course. Please stay tuned via our official website or WeChat public account

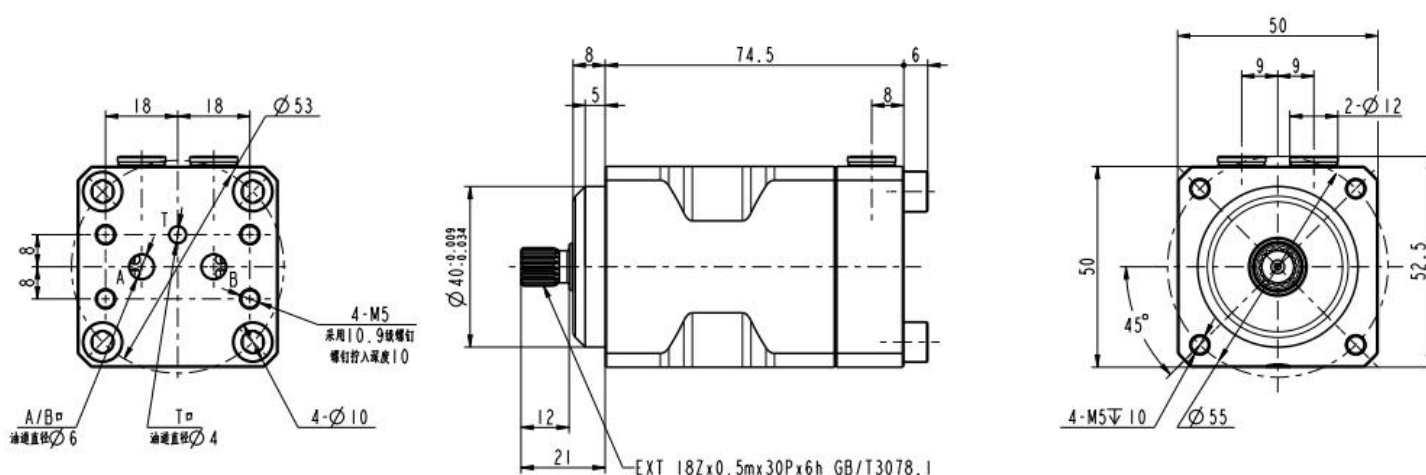
## 高压级产品安装尺寸 High-pressure Pump Mounting Dimensions

### HYC-MHP1F1B



ΔP-油口压差 Pressure Drop +  $P_a > P_b$   
-  $P_a < P_b$

n-转速 Rotational speeds + CW  
- CCW  
(从轴端看 Viewed from shaft end)

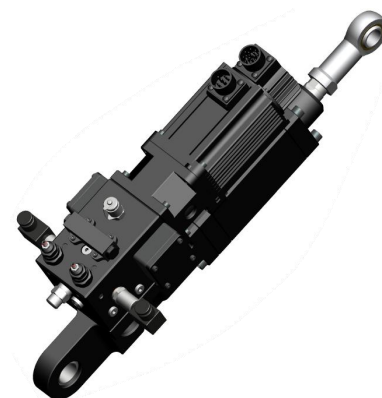


- 其余规格的高压级产品暂不能供货，我们将在适当时机发布产品并更新技术资料，请持续关注本公司网站或微信公众号 Other specifications of high-pressure pumps are currently unavailable. Product release and technical documentation updates will be announced in due course. Please stay tuned via our official website or WeChat public account



## 产品简介 Product Overview

- HYC-EHA系列电静液作动器，是一种集成了伺服电机、双向柱塞泵（进出油方向可逆）、阀组、执行机构（油缸或马达）、以及油箱、过滤器、传感器等辅助元件的成套静液传动装置。采用泵控容积调速，传动效率高。通过改变伺服电机旋向和转速来调节执行机构运行方向和运行速度 HYC-EHA Series Electro-Hydrostatic Actuator is an integrated hydrostatic transmission system that combines a servo motor, bidirectional piston pump (with reversible oil flow), valve block, actuator, along with auxiliary components including tank, filters and sensors. This system employs pump-controlled volumetric speed regulation for high-efficiency transmission, where the actuator's direction and speed are precisely controlled by adjusting the servo motor's rotation direction and speed
- EHA将液压系统的动力元件、控制元件、执行元件和辅助元件集成一体，安装布局灵活，使用便利 EHA integrates the power unit, control components, actuator, and auxiliary elements of a hydraulic system into a single compact assembly, thus providing flexible installation layouts and user-friendly operation
- EHA通常采用闭式回路，根据具体使用需求，也可以设计为开式回路或半开式回路 EHA typically employs a closed-circuit configuration, while open-circuits or hybrid circuits may also be engineered based on specific application requirements
- 本公司研制的四象限高压柱塞泵，尤其适用于EHA The high-pressure piston pump with four-quadrant capability developed by our company is ideally suited for EHA
- 本公司为EHA研制的溢流&平衡阀，在提升EHA工作性能的同时，大幅简化液压回路，集成阀块外形体积更小，重量更轻 The relief&counterbalance valve developed by our company specifically for EHA enhances EHA operational performance while substantially simplifying hydraulic circuits, with the integrated manifold block achieving more compact dimensions and lighter weight



## 产品简介 Product Overview

- 本公司为EHA研制的流量匹配阀，适用于执行机构为非对称油缸的应用需求。该阀标准产品为板式安装，也可内嵌于泵的端盖内部，有效提高EHA集成化程度 Our company's flow-matching valve for EHA addresses asymmetric cylinder applications. The standard version features subplate mounting, while an embedded design integrates within the pump end cap, significantly enhancing EHA compactness
- EHA通常采用封闭式弹性油箱，以便EHA可工作于任意姿态。根据具体使用要求，可选择采用活塞式增压油箱，或气囊式增压/常压油箱 EHA systems typically employ sealed flexible tanks to ensure operation in any orientation. Depending on specific application requirements, either piston-type pressurized tanks or bladder-type pressurized/non-pressurized tanks may be selected
- 当应用环境为深海时，本公司可为EHA配置水压补偿器，使EHA内部压力与外部水压实时匹配 For deep-sea operations, EHAs can be equipped with marine pressure compensators to maintain real-time alignment of internal pressure with ambient hydrostatic pressure
- 必要时本公司可为EHA研制专用的液压阀，以实现特殊功能需求或特殊安装需求 The company provides custom hydraulic valves for EHAs to meet specialized functional or installation requirements
- 不同用途的EHA，功能和技术参数相差较大，故EHA通常为定制产品，本文提供的案例资料仅供参考，选型前请与本公司沟通 Application-specific EHA variants require custom solutions. Case studies are indicative; consult engineers before selection

## 型号说明 Model Specifications

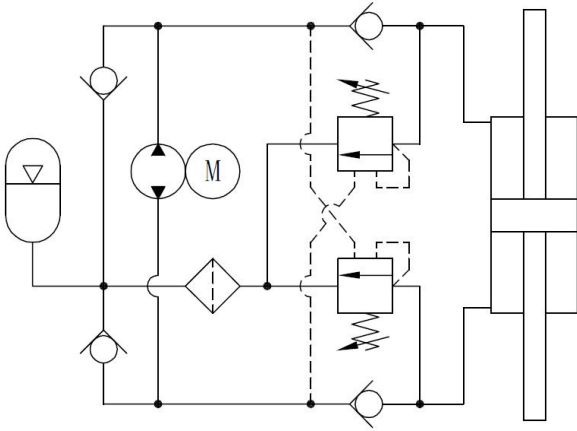
|                                                  |   |     |     |   |   |      |   |      |    |
|--------------------------------------------------|---|-----|-----|---|---|------|---|------|----|
| HYC                                              | — | EHA | 1kW | — | L | 55kN | / | 50mm | —* |
| HYC-海之力液压 HYC hydraulics                         |   |     |     |   |   |      |   |      |    |
| EHA-电静液作动器 Electro-Hydrostatic Actuator          |   |     |     |   |   |      |   |      |    |
| EHA.HPU-EHA的液压动力源 Hydraulic power unit for EHA ① |   |     |     |   |   |      |   |      |    |
| 电机额定功率 Rated power of motor                      |   |     |     |   |   |      |   |      |    |
| 执行器工作方式 Actuation motion mode                    |   |     |     |   |   |      |   |      |    |
| L-直线驱动 Linear drive                              |   |     |     |   |   |      |   |      |    |
| R-旋转驱动 Rotary drive                              |   |     |     |   |   |      |   |      |    |
| 执行器额定输出力/力矩 Rated output force/torque            |   |     |     |   |   |      |   |      |    |
| 执行器额定行程/摆角 Rated stroke/swing angle              |   |     |     |   |   |      |   |      |    |
| 定制代号 Custom designation ②                        |   |     |     |   |   |      |   |      |    |

① EHA的液压动力源可以单独供货，此时产品型号不再包含执行机构参数，写成“HYC-EHA.HPU1kW-\*”的形式 The Hydraulic Power Unit (HPU) for EHA can be supplied separately. In such configurations, the product model number excludes actuator parameters and is denoted as “HYC-EHA.HPU1kW-”

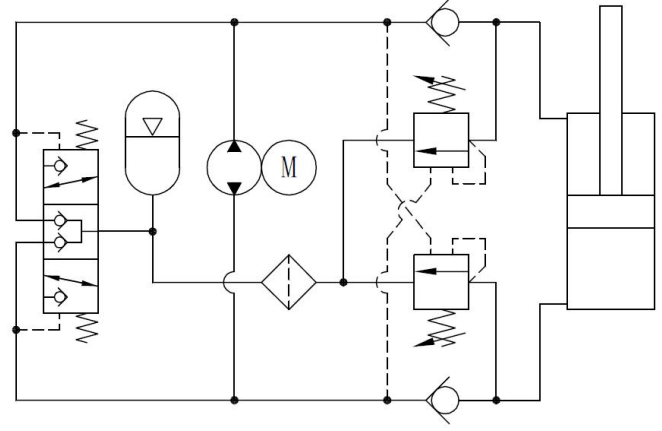
② 由于应用需求的多样性，基本型号相同的EHA在具体功能和配置上可能存在较大的差异，通常需要在基本型号后增加定制代号以便于区分。如果用户没有指定，则定制代号为本公司设计代号 Due to diverse application requirements, EHAs with identical base models may exhibit significant variations in specific functions and configurations. A customization suffix is typically appended to the base model for differentiation. If unspecified by the user, the suffix defaults to the vendor-assigned designation code

● 在必要时，本公司可能对产品型号编制规则进行修订，订货前请与本公司确认 The Vendor may revise the model designation system when needed. Confirm with the Vendor before ordering

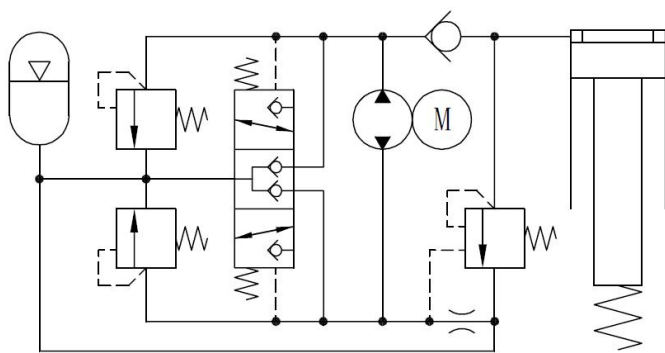
## EHA典型液压回路 EHA Hydraulic Schematic



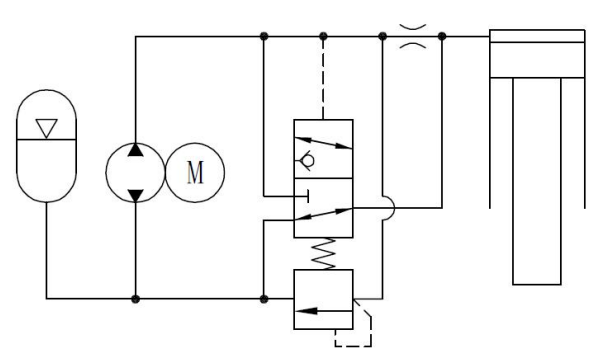
执行机构为双作用对称油缸 The actuator is a double-acting symmetrical cylinder



执行机构为双作用非对称缸 The actuator is a double-acting asymmetric cylinder



执行机构为带弹簧复位的单作用缸 The actuator is a single-acting cylinder with a spring-return device

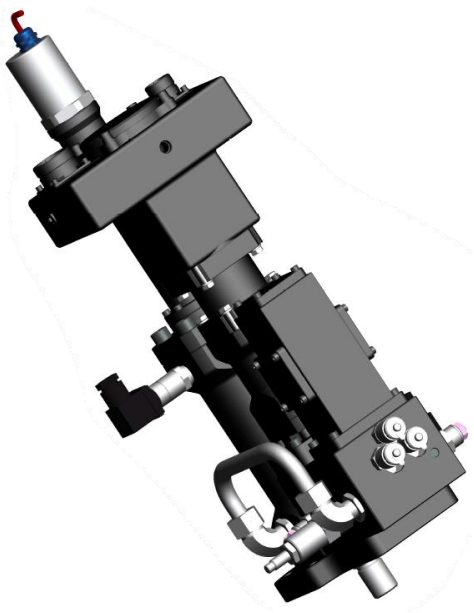


执行机构为自由浮动的单作用缸 The actuator is a floating single-acting cylinder

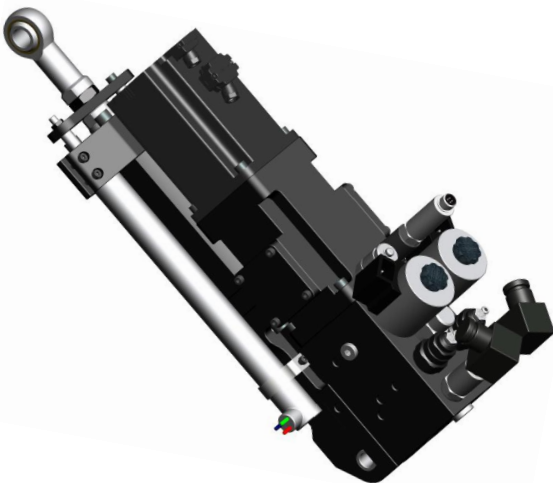
- 对于响应要求较高的应用场合，执行机构优选双作用对称油缸 Double-acting symmetrical hydraulic cylinders are preferred for high-dynamic-response applications
- 此处所列EHA典型液压回路，仅用于表达EHA工作原理，实际产品的液压回路根据具体使用需求而设计 The EHA hydraulic schematic shown herein solely demonstrates the operating principle; actual product circuits are application-specific designs

## EHA典型案例 Typical Cases of EHA

备注：本公司在EHA研发方面积累有丰富经验，实施过许多案例，此处仅选择一些具有代表性的案例进行展示。用户订购产品时仅需提出详细使用需求，而不必受限于本文所列案例 Notes: The company has rich experience in EHA's development and has implemented many cases. Here, only some representative cases are selected for display. Clients only need to provide detailed requirements when ordering products, not limited to the cases listed in this article



- 基本型号 Basic model: HYC-EHA5kW-L14kN/120mm
- 执行机构 Actuator: 双作用对称缸 Symmetrical cylinder
- 其他说明 Notes: 双侧带平衡阀; 带位移传感器和压力传感器 Counterbalance valves on both sides; Equipped with displacement sensor and pressure sensor

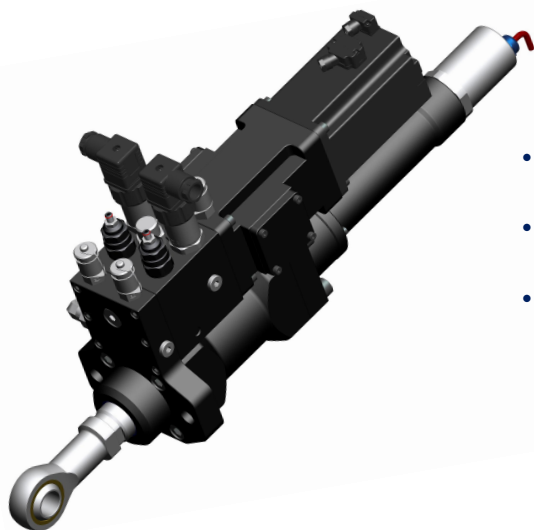


- 基本型号 Basic model: HYC-EHA1kW-L10kN/100mm
- 执行机构 Actuator: 双作用对称缸 Symmetrical cylinder
- 其他说明 Notes: 双侧带平衡阀; 带位移传感器和压力传感器; 电磁阀可切换力控制模式和位移控制模式 Counterbalance valves on both sides; Equipped with displacement sensor and pressure sensor ; The solenoid valve can switch between force control mode and displacement control mode



## EHA典型案例 Typical Cases of EHA

备注：本公司在EHA研发方面积累有丰富经验，实施过许多案例，此处仅选择一些具有代表性的案例进行展示。用户订购产品时仅需提出详细使用需求，而不必受限于本文所列案例 Notes: The company has rich experience in EHA's development and has implemented many cases. Here, only some representative cases are selected for display. Clients only need to provide detailed requirements when ordering products, not limited to the cases listed in this article



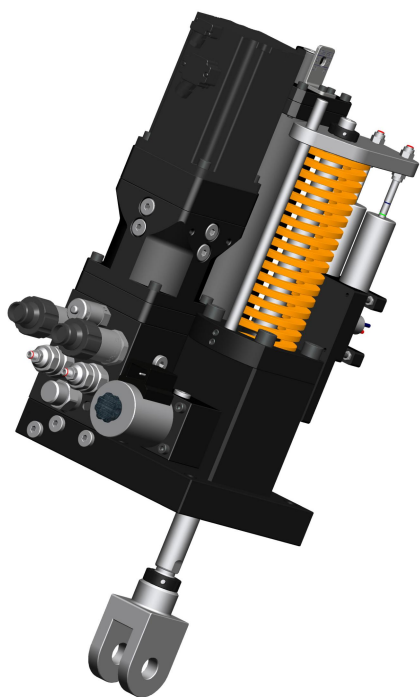
- 基本型号 Basic model: HYC-EHA1kW-L50kN/100mm
- 执行机构 Actuator: 双作用对称缸 Symmetrical cylinder
- 其他说明 Notes: 双侧带平衡阀; 带位移传感器和压力传感器  
Counterbalance valves on both sides; Equipped with displacement sensor and pressure sensor



- 基本型号 Basic model: HYC-EHA1.6kW-L6kN/170mm
- 执行机构 Actuator: 双作用对称缸 Symmetrical cylinder
- 其他说明 Notes: 动力源与执行器分体设计; 双侧带平衡阀; 带电磁阀快速复位 (弹簧复位) The actuator installed separately from the power source; Counterbalance valves on both sides; Quick reset with a solenoid valve (spring-return)

## EHA典型案例 Typical Cases of EHA

备注：本公司在EHA研发方面积累有丰富经验，实施过许多案例，此处仅选择一些具有代表性的案例进行展示。用户订购产品时仅需提出详细使用需求，而不必受限于本文所列案例 Notes: The company has rich experience in EHA's development and has implemented many cases. Here, only some representative cases are selected for display. Clients only need to provide detailed requirements when ordering products, not limited to the cases listed in this article



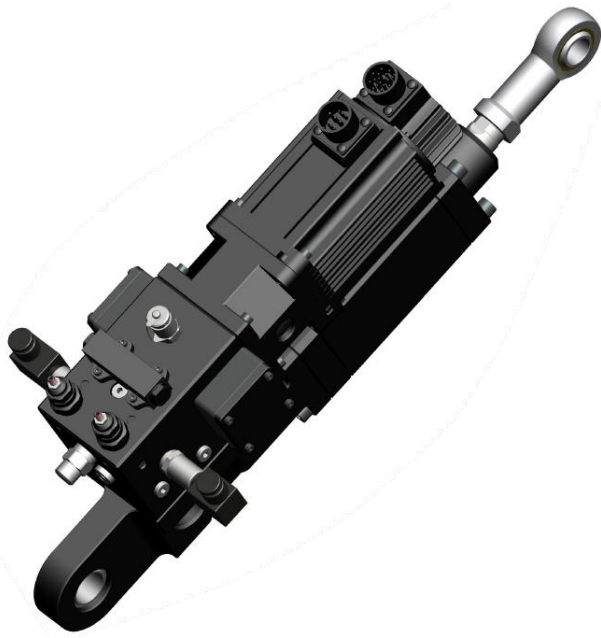
- 基本型号 Basic model: HYC-EHA1kW-L50kN/50mm
- 执行机构 Actuator: 双作用对称缸 Symmetrical cylinder
- 其他说明 Notes: 单侧带平衡阀；带位移传感器和压力传感器；带电磁阀快速复位（弹簧复位） Counterbalance valves on single side; Equipped with displacement sensor and pressure sensor; Quick reset with a solenoid valve (spring-return)



- 基本型号 Basic model: HYC-EHA0.6kW-L20kN/100mm
- 执行机构 Actuator: 双作用对称缸 Symmetrical cylinder
- 其他说明 Notes: 双侧带平衡阀；带位移传感器和压力传感器；带电磁阀应急换向 Counterbalance valves on both sides; Equipped with displacement sensor and pressure sensor; Solenoid valve for emergency reversing

## EHA典型案例 Typical Cases of EHA

备注：本公司在EHA研发方面积累有丰富经验，实施过许多案例，此处仅选择一些具有代表性的案例进行展示。用户订购产品时仅需提出详细使用需求，而不必受限于本文所列案例 Notes: The company has rich experience in EHA's development and has implemented many cases. Here, only some representative cases are selected for display. Clients only need to provide detailed requirements when ordering products, not limited to the cases listed in this article



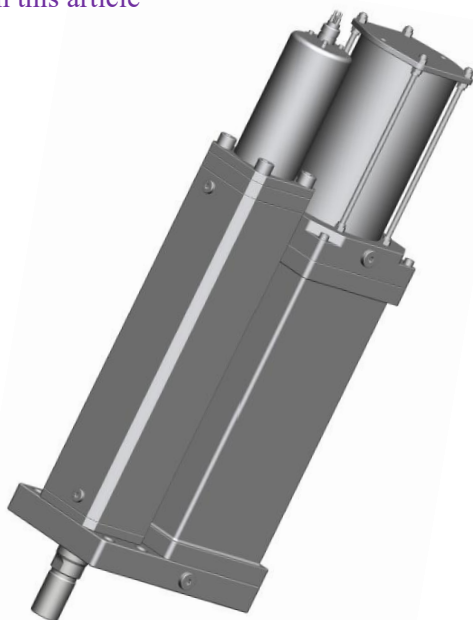
- 基本型号 Basic model: HYC-EHA1.5kW-L55kN/100mm
- 执行机构 Actuator: 双作用**非**对称缸 Asymmetrical cylinder
- 其他说明 Notes: 双侧带平衡阀; 带位移传感器和压力传感器 Counterbalance valves on both sides; Equipped with displacement sensor and pressure sensor



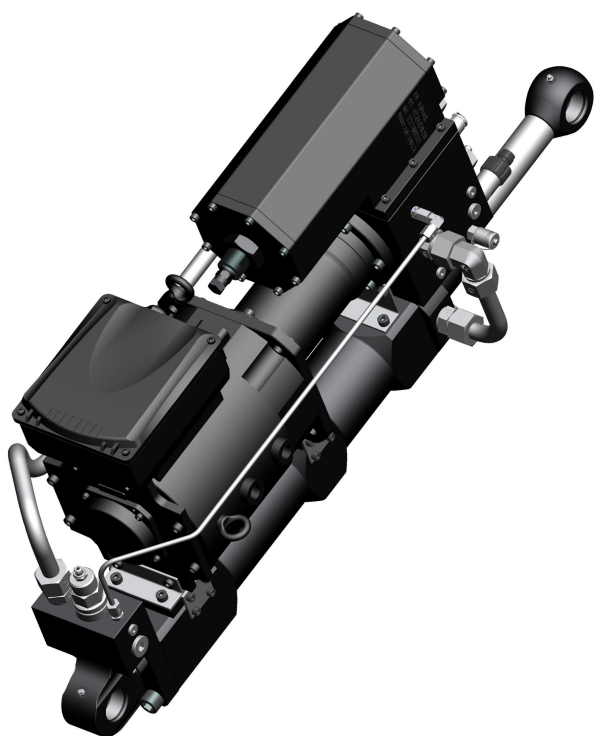
- 基本型号 Basic model: HYC-EHA600W-R2000N.m/±30°
- 执行机构 Actuator: **摆动输出** (旋转输出角度±30°)  
Oscillating output (rotational output angle ±30°)
- 其他说明 Notes: 双侧带平衡阀; 带角度编码器  
Counterbalance valves on both sides; With angle encoder

## EHA典型案例 Typical Cases of EHA

备注：本公司在EHA研发方面积累有丰富经验，实施过许多案例，此处仅选择一些具有代表性的案例进行展示。用户订购产品时仅需提出详细使用需求，而不必受限于本文所列案例 Notes: The company has rich experience in EHA's development and has implemented many cases. Here, only some representative cases are selected for display. Clients only need to provide detailed requirements when ordering products, not limited to the cases listed in this article



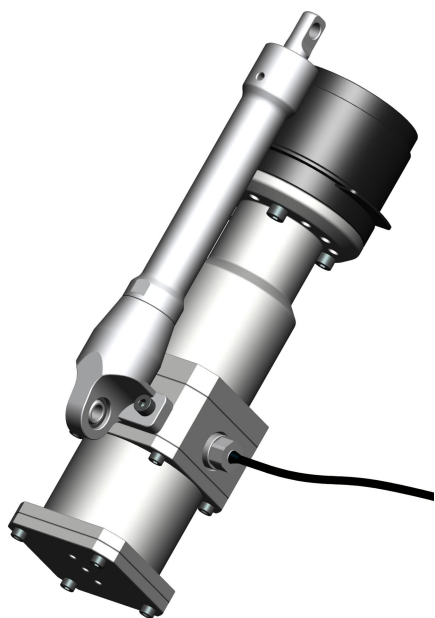
- 基本型号 Basic model: HYC-EHA1kW-L47kN/300mm-DS
- 执行机构 Actuator: 双作用**非**对称缸 Asymmetrical cylinder
- 其他说明 Notes: 适用于深海环境，抗海水腐蚀；带位移传感器；带水压补偿器 Suitable for deep-sea environment, resistant to seawater corrosion; Equipped with displacement sensor and hydraulic compensator



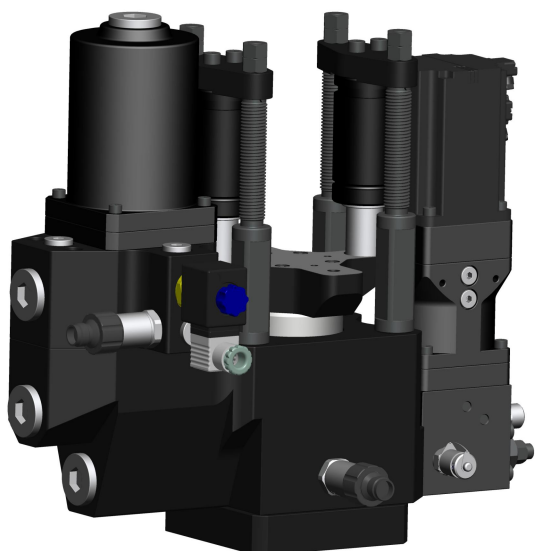
- 基本型号 Basic model: HYC-EHA23kW-L100kN/460mm
- 执行机构 Actuator: 双作用**非**对称缸 Asymmetrical cylinder
- 其他说明 Notes: 双侧带平衡阀；带压力传感器 Counterbalance valves on both sides; Equipped with pressure sensor

## EHA典型案例 Typical Cases of EHA

备注：本公司在EHA研发方面积累有丰富经验，实施过许多案例，此处仅选择一些具有代表性的案例进行展示。用户订购产品时仅需提出详细使用需求，而不必受限于本文所列案例 Notes: The company has rich experience in EHA's development and has implemented many cases. Here, only some representative cases are selected for display. Clients only need to provide detailed requirements when ordering products, not limited to the cases listed in this article



- 基本型号 Basic model: HYC-EHA0.3kW-L3kN/100mm
- 执行机构 Actuator: **单**作用柱塞缸 Plunger-type cylinder
- 其他说明 Notes: 重量仅1.44kg; 带压力传感器; 带助力模式自动切换阀, 电机停转后油缸处于悬浮状态, 电机启动后自动切换为工作模式 Weighs only 1.44kg ; Equipped with pressure sensor and automatic switching valve with power assisted mode, the cylinder is in suspension after the motor stops, then automatically switches to the working mode once the motor starts



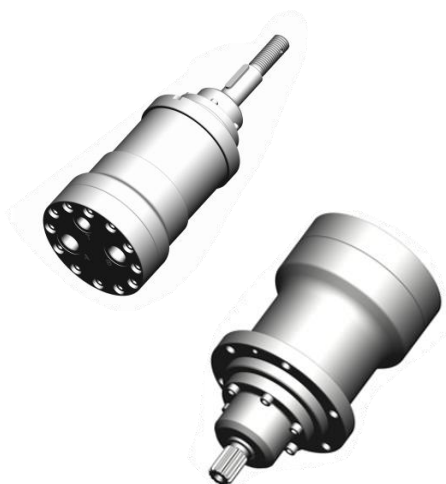
- 基本型号 Basic model: HYC-EHA1kW-L130kN/50mm
- 执行机构 Actuator: **单**作用柱塞缸 Plunger type cylinder
- 其他说明 Notes: 可实现高速卸载, 卸载时10ms可完成约80%行程 (活塞末端设置有缓冲); 带压力传感器和温度传感器 Capable of high-speed retraction achieving  $\approx 80\%$  stroke within 10ms (with rod-end cushioning); equipped with pressure and temperature sensors



## 产品简介 Product Overview

- 在某些特殊应用领域或前瞻性项目的液压传动系统设计中，设计者可能遇到没有适用液压元件可选的难题。当市场上的通用型液压元件不能满足使用需求时，本公司或能提供成套解决方案，并按需定制研发所需的液压泵、马达、阀、油缸等配套液压元件 In hydraulic system design for specialized applications or forward-looking projects, designers may encounter scenarios where suitable hydraulic components are unavailable. When off-the-shelf components cannot meet requirements, our company may be able to provide integrated solutions with custom-developed hydraulic pumps/motors /valves/cylinders
- 用户订购产品时仅需提出详细使用需求，而不必受限于本文所列案例 Customers need only specify their detailed usage requirements when ordering; they are not limited to the examples cataloged herein
- 定制液压泵、马达、油缸时，如果没有现货，起订量一般不小于10台 For customized hydraulic pumps, motors, or cylinders, the MOQ is typically no less than 10 units if off-the-shelf models are unavailable
- 液压阀通常仅随集成设备一起提供，不接受单独订货，批量订单除外 Hydraulic valves are generally only sold with integrated systems, unless ordered in large quantities

马达 hydraulic motor



油缸 Cylinder



阀 Valve



## 水下液压马达型号说明 Model Specifications of Submersible Hydraulic Motors

|                                                                                                                                                                                                                                 | HYC | - | M11 | .1 | F | 14 | B | - | 1 | -S | D | -* |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---|-----|----|---|----|---|---|---|----|---|----|
| HYC-海之力液压 HYC hydraulics                                                                                                                                                                                                        |     |   |     |    |   |    |   |   |   |    |   |    |
| M11-水下驱动液压马达 Submersible hydraulic motors                                                                                                                                                                                       |     |   |     |    |   |    |   |   |   |    |   |    |
| 版本号（初始版本省略） Version number (initial version omitted)                                                                                                                                                                            |     |   |     |    |   |    |   |   |   |    |   |    |
| F-定排量 Fixed displacement                                                                                                                                                                                                        |     |   |     |    |   |    |   |   |   |    |   |    |
| 排量规格 Displacement (cc/r)                                                                                                                                                                                                        |     |   |     |    |   |    |   |   |   |    |   |    |
| 旋向（面向轴端看） Rotation direction (Viewed from shaft end )<br>R-顺时针 CW<br>L-逆时针 CCW<br>B-双向旋转 Bidirection                                                                                                                            |     |   |     |    |   |    |   |   |   |    |   |    |
| 主轴的轴向力承载能力 Shaft axial load capacity<br>0-不允许承受轴向力 Axial loads strictly prohibited<br>1-只能承受推力 Exclusively accepts thrust loads<br>2-只能承受拉力 Exclusively accepts tension loads<br>3-可承受推力和拉力 Bidirectional axial load capability |     |   |     |    |   |    |   |   |   |    |   |    |
| 工作环境 Environment<br>S-海水 Seawater<br>F-淡水 Freshwater                                                                                                                                                                            |     |   |     |    |   |    |   |   |   |    |   |    |
| 水深 Water depth ①<br>省略-浅水 Shallow water omitted<br>D-深水 Deep-water                                                                                                                                                              |     |   |     |    |   |    |   |   |   |    |   |    |
| 定制代号 Custom designation                                                                                                                                                                                                         |     |   |     |    |   |    |   |   |   |    |   |    |

① 水深超过50米定义为深水，深水环境使用时，系统应配置环境水压补偿器 For deep water environments (defined as depths exceeding 50 meters), systems require hydraulic compensators

- 在必要时，本公司可能对产品型号编制规则进行修订，订货前请与本公司确认 The Vendor may revise the model designation system when needed. Confirm with the Vendor before ordering

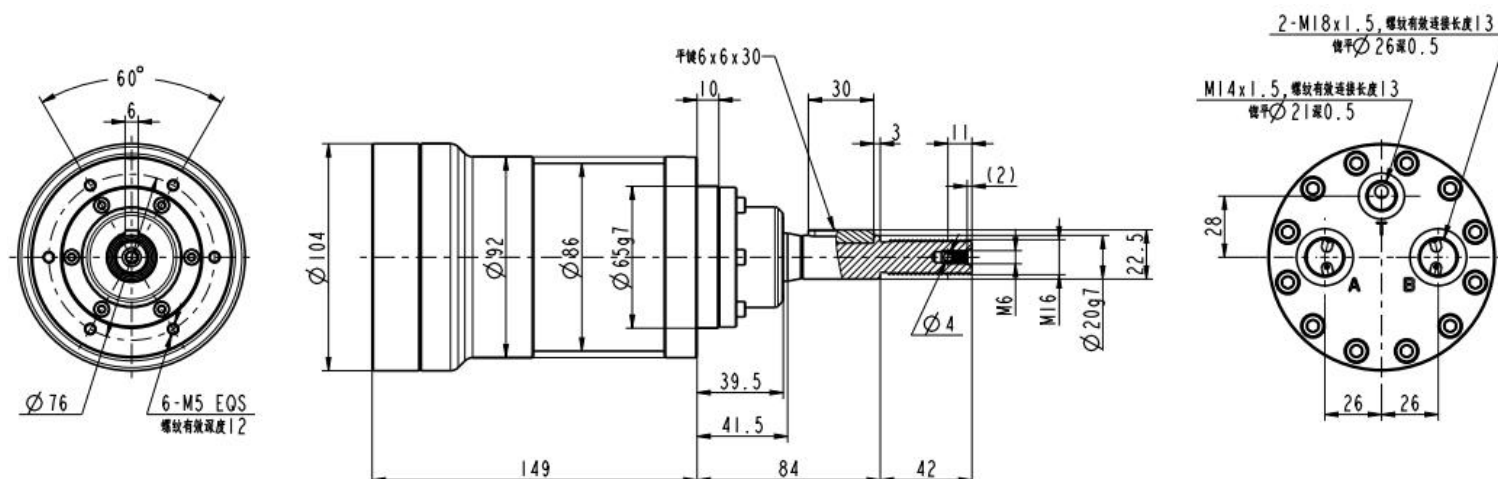
## 水下液压马达 Submersible Hydraulic Motors

### HYC-M11F14B-3-SD 水下液压马达 Submersible hydraulic motor

- 适用于3000米深海驱动，抗海水腐蚀 Suitable for driving in the deep sea, resistant to corrosion
- 要求油箱配置水压补偿器 The tank is required to be equipped with hydraulic compensator
- 公称排量 Nominal displacement: 14cc/r
- A/B口最高压力 Port A/B max pressure: 海水压力 Seawater pressure + 21MPa
- T口最高压力 Port T max pressure : 海水压力 Seawater pressure + 0.5MPa
- 额定转速 Rated speed : 1500rpm
- 轴端额定承载能力（推/拉力） Shaft axial load capacity (thrust/tension loads): 2kN
- 旋向 Rotation direction : 双向 Bidirectional
- 重量 Weight: 7.6kg

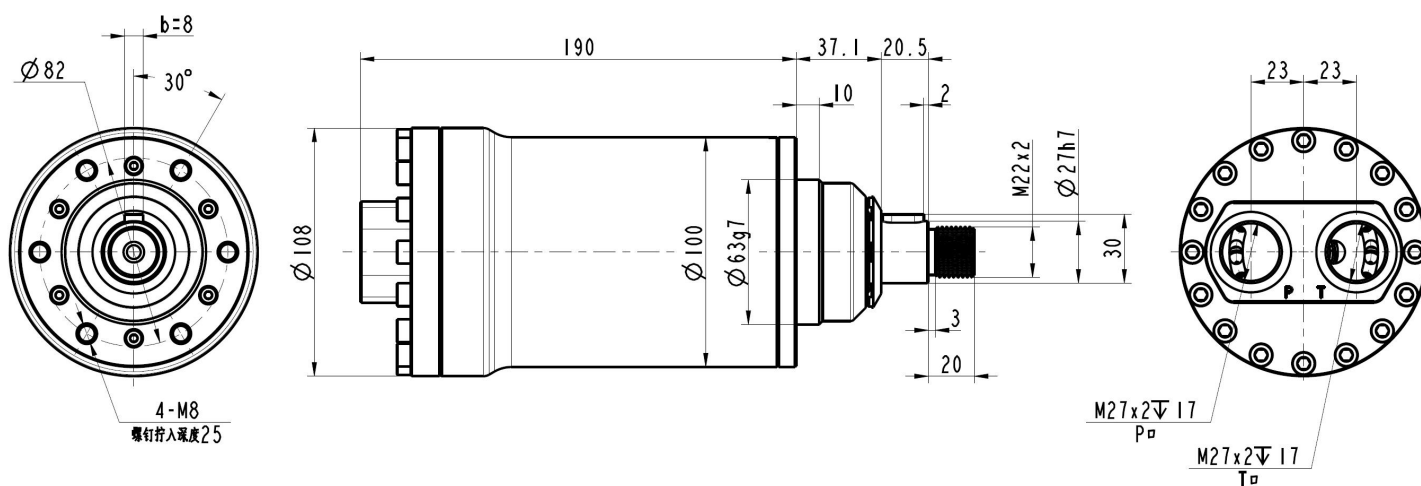


- 外形安装尺寸 Mounting dimension



## HYC-M11F24L-2-F 水下液压马达 Submersible hydraulic motor

- 



- 33

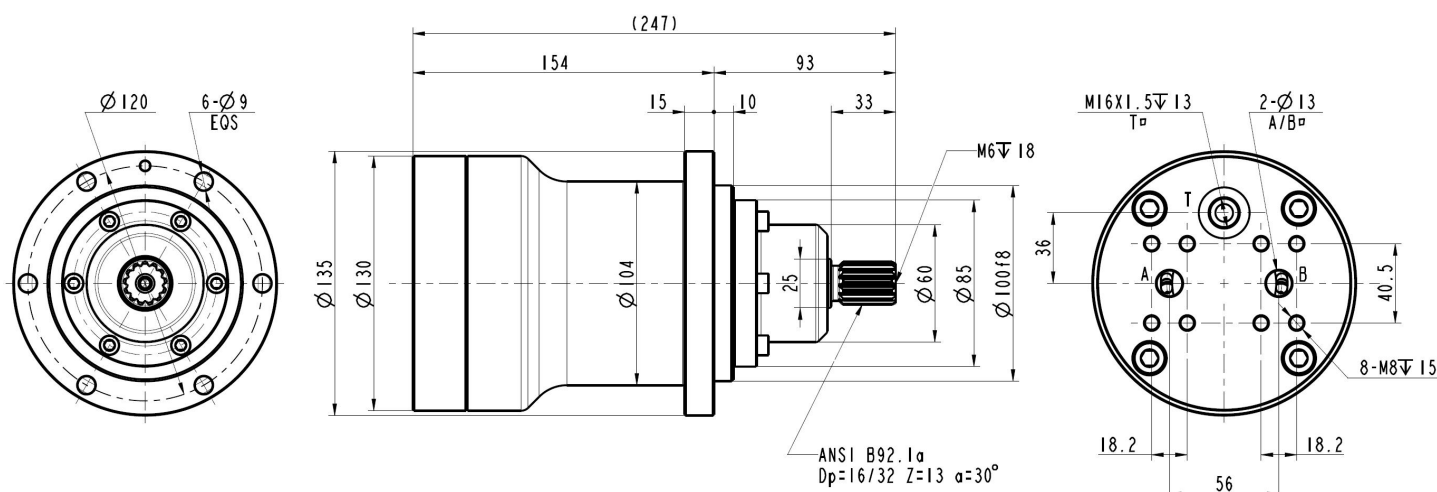
## 水下液压马达 Submersible Hydraulic Motors

### HYC-M11F25B-0-SD 水下液压马达 Submersible hydraulic motor

- 适用于3000米深海驱动，抗海水腐蚀 Suitable for driving in the deep sea, resistant to corrosion
- 要求油箱配置水压补偿器 The tank is required to be equipped with hydraulic compensator
- 公称排量 Nominal displacement: 25cc/r
- A/B口最高压力 Port A/B max pressure: 海水压力 Seawater pressure + 28MPa
- T口最高压力 Port T max pressure : 海水压力 Seawater pressure + 0.3MPa
- 额定转速 Rated speed : 2500rpm
- 旋向 Rotation direction: 双向 Bidirectional
- 重量 Weight: 13.5kg



- 外形安装尺寸 Mounting dimension





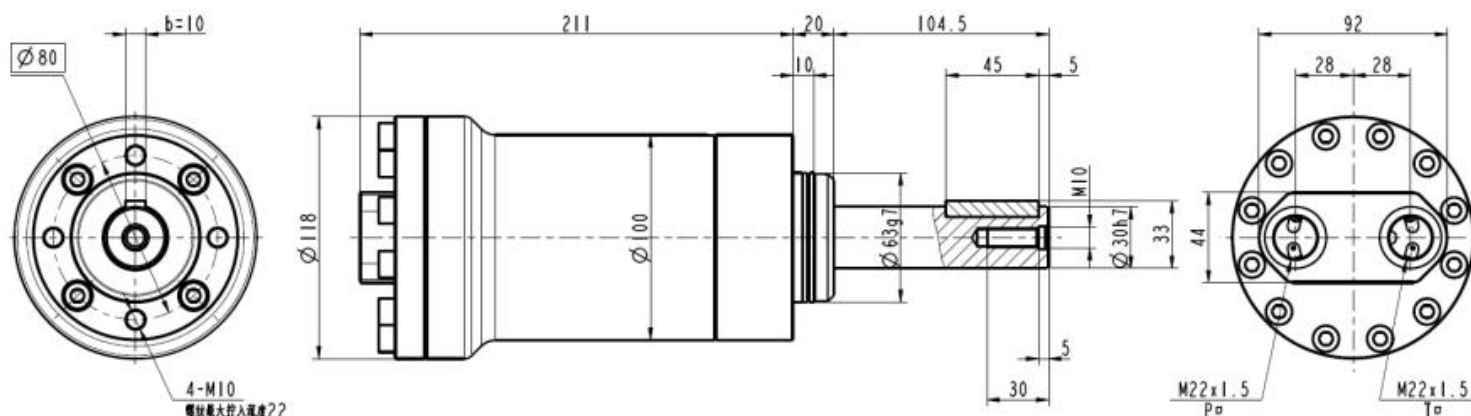
## 水下液压马达 Submersible Hydraulic Motors

### HYC-M11.1F28L-2-F 水下液压马达 Submersible hydraulic motor

- 适用于排水叶轮的驱动（淡水环境），轴端可承载排水叶轮反推力 Suitable for driving the impeller (freshwater environment), and the shaft can bear the impeller's counter thrust
- 公称排量 Nominal displacement: 28cc/r
- P口最高压力 Port P max pressure : 25MPa
- T口最高压力 Port T max pressure : 3MPa
- 额定转速 Rated speed : 2500rpm
- 轴端额定承载能力（拉力） Shaft axial load capacity (tension loads) : 5.5kN
- 旋向 Rotation direction: 逆时针 CCW
- 重量 Weight: 8.1kg



- 外形安装尺寸 Mounting dimensions



- 该马达是客户定制的专属产品，不对其他客户供货，除非技术要求有显著差异。 This motor is a exclusively customized product, and will not be supplied to other customers unless there is a significant difference in technical requirements.

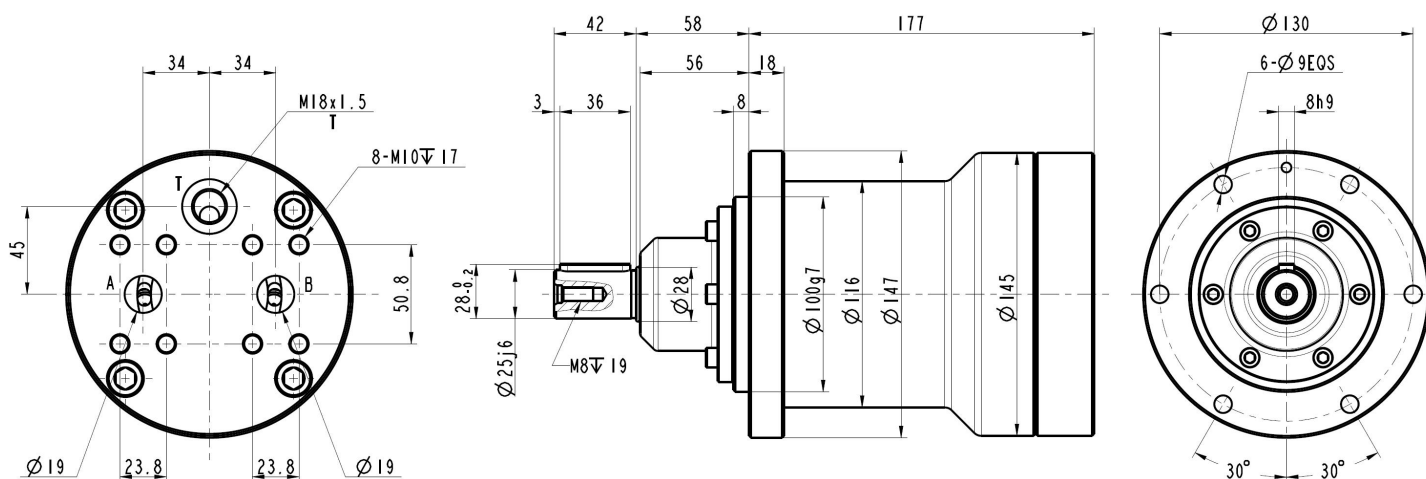
## 水下液压马达 Submersible Hydraulic Motors

### HYC-M11F43B-0-SD 水下液压马达 Submersible hydraulic motor

- 适用于3000米深海驱动，抗海水腐蚀 Suitable for driving in the deep sea, resistant to corrosion
- 要求油箱配置水压补偿器 The tank is required to be equipped with hydraulic compensator
- 公称排量 Nominal displacement: 43cc/r
- A/B口最高压力 Port A/B max pressure: 海水压力 Seawater pressure + 28MPa
- T口最高压力 Port T max pressure : 海水压力 Seawater pressure + 0.3MPa
- 额定转速 Rated speed : 2200rpm
- 旋向 Rotation direction: 双向 Bidirectional
- 重量 Weight: 17.6kg



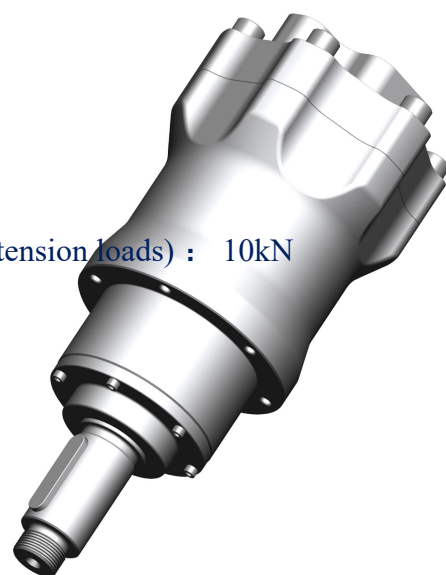
- 外形安装尺寸 Mounting dimension



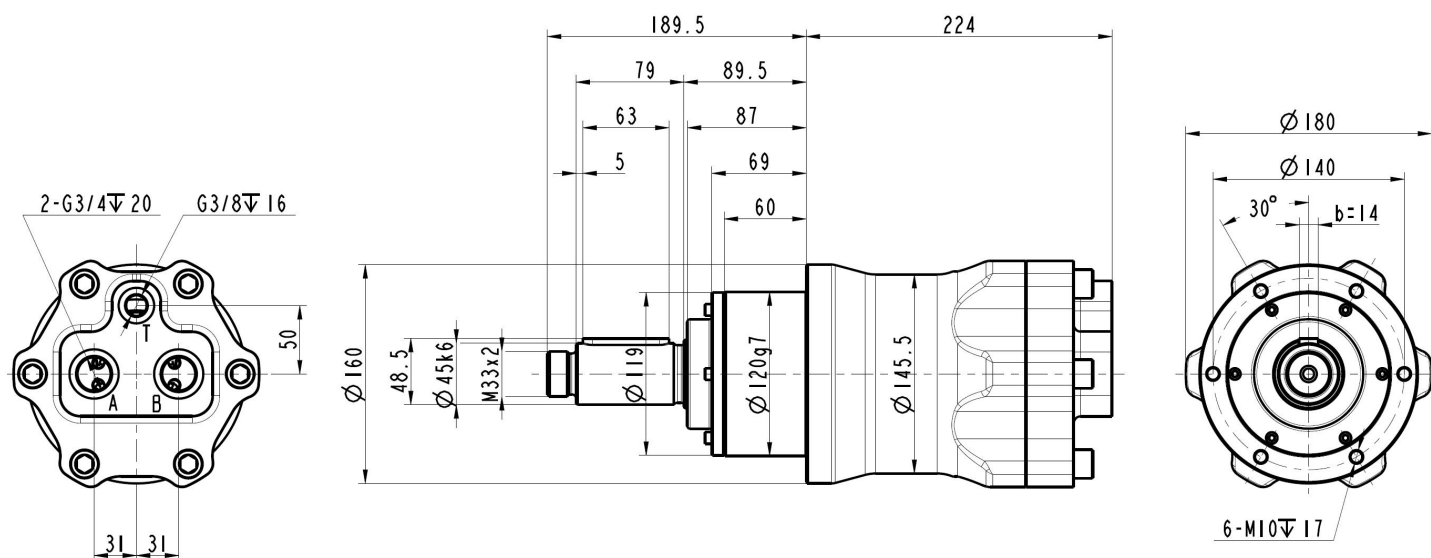
## 水下液压马达 Submersible Hydraulic Motors

### HYC-M11F76B-3-S 水下液压马达 Submersible hydraulic motor

- 适用于排水叶轮的驱动，抗海水腐蚀，轴端可承载排水叶轮反推力 Suitable for driving the impeller, resistant to seawater corrosion, and the shaft can bear the impeller's counter thrust
- 公称排量 Nominal displacement: 76cc/r
- A/B口最高压力 Port A/B max pressure : 32MPa
- T口最高压力 Port T max pressure : 0.5MPa
- 额定转速 Rated speed : 2000rpm
- 轴端额定承载能力（推力/拉力） Shaft axial load capacity (thrust/tension loads) : 10kN
- 旋向 Rotation direction: 双向 Bidirectional
- 重量 Weight: 33kg



### 外形安装尺寸 Mounting dimension

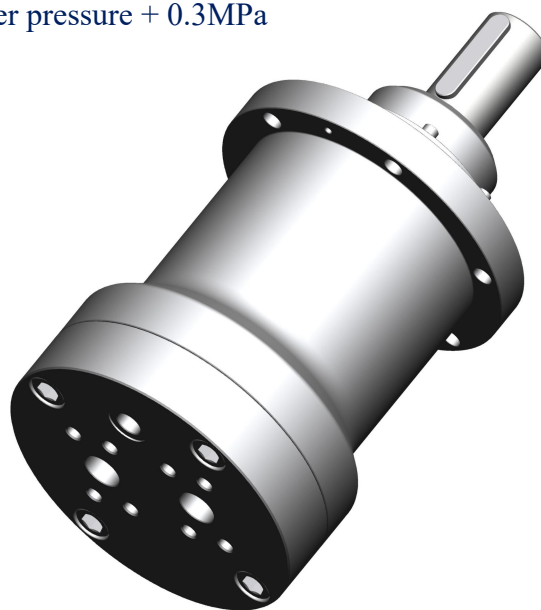


- 该马达是客户定制的专属产品，不对其他客户供货，除非技术要求有显著差异。 This motor is a exclusively customized product, and will not be supplied to other customers unless there is a significant difference in technical requirements.

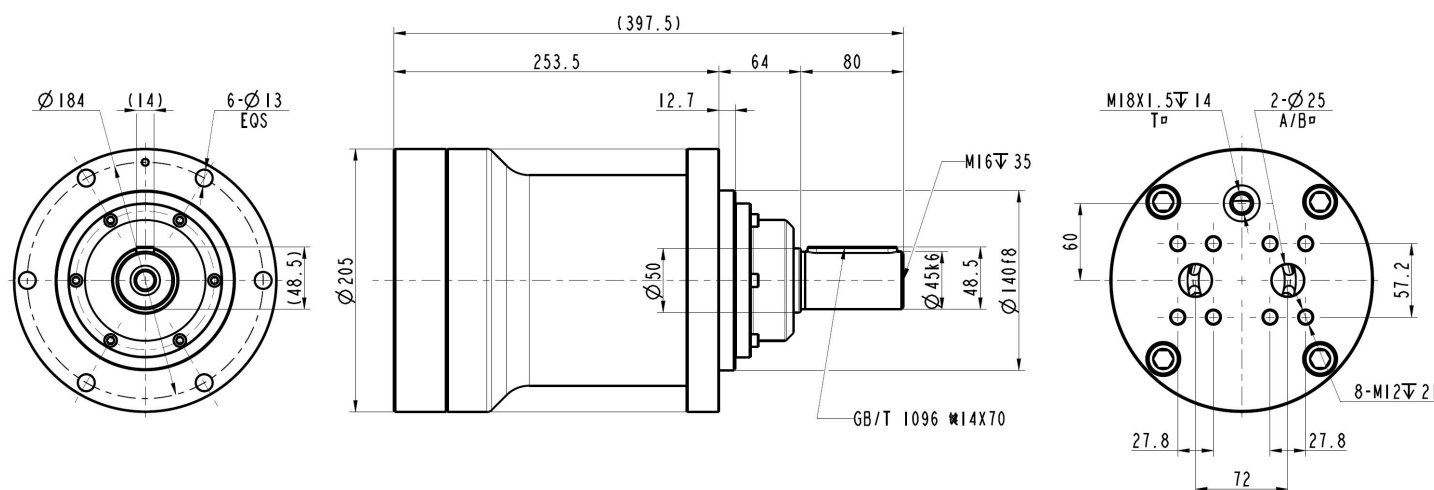
## 水下液压马达 Submersible Hydraulic Motors

### HYC-M11F120B-0-SD 水下液压马达 Submersible hydraulic motor

- 适用于3000米深海驱动，抗海水腐蚀 Suitable for driving in the deep sea, resistant to corrosion
- 要求油箱配置水压补偿器 The tank is required to be equipped with hydraulic compensator
- 公称排量 Nominal displacement: 120cc/r
- A/B口最高压力 Port A/B max pressure: 海水压力 Seawater pressure + 35MPa
- T口最高压力 Port T max pressure : 海水压力 Seawater pressure + 0.3MPa
- 额定转速 Rated speed : 2000rpm
- 旋向 Rotation direction: 双向 Bidirectional
- 重量 Weight: 50.5kg



### 外形安装尺寸 Mounting dimension



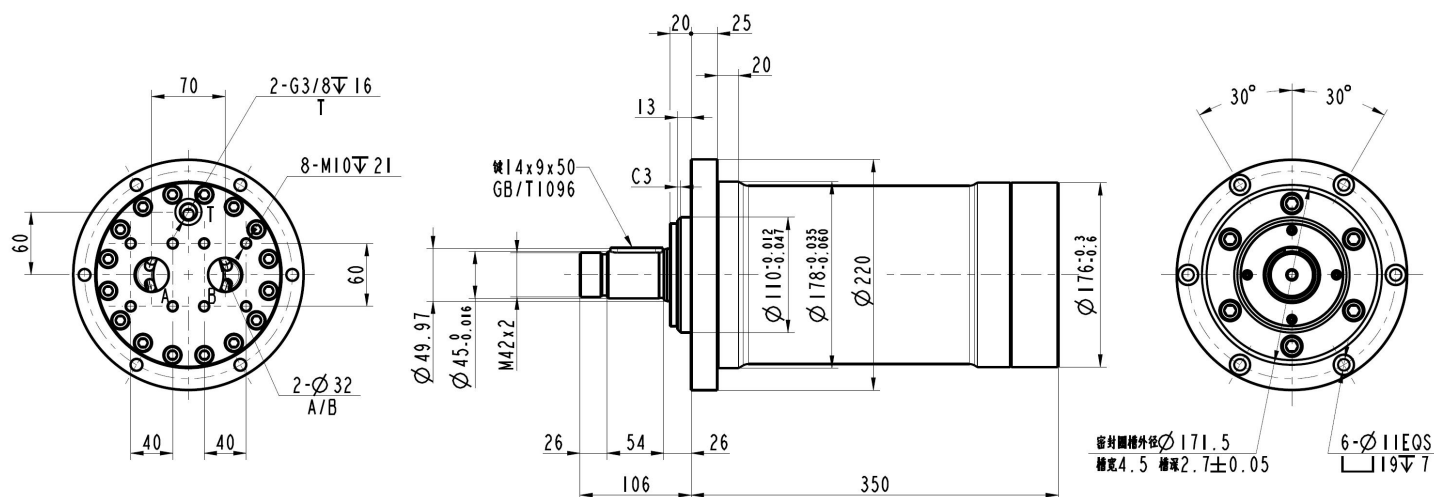
## 水下液压马达 Submersible Hydraulic Motors

### HYC-M11F125B-3-F 水下液压马达 Submersible hydraulic motor

- 适用于排水叶轮的驱动（淡水环境），轴端可承载排水叶轮反推力 Suitable for driving the impeller (freshwater environment), and the shaft can bear the impeller's counter thrust
- 公称排量 Nominal displacement: 125cc/r
- A/B口最高压力 Port A/B max pressure: 35MPa
- T口最高压力 Port T max pressure: 0.4MPa
- 额定转速 Rated speed: 2000rpm
- 轴端额定承载能力（推力/拉力）:24.5kN  
Shaft axial load capacity (thrust/tension loads) : 24.5kN
- 旋向 Rotation direction: 双向 Bidirectional
- 重量 Weight: 36.5kg



### 外形安装尺寸 Mounting dimension



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## EHA专用液压阀型号说明 Model Specifications for Dedicated Hydraulic Valves in EHA

| HYC                         | - | V              | RCB                                                                             | 1                              | -*                           |
|-----------------------------|---|----------------|---------------------------------------------------------------------------------|--------------------------------|------------------------------|
| HYC-海之力液压    HYC hydraulics |   | V-液压阀    Valve | RCB-溢流&平衡阀    Relief & counterbanlance valve<br>FM-流量匹配阀    Flow-matching vavle | 1-规格序号    Specification serial | -*定制代号    Custom designation |
|                             |   |                |                                                                                 |                                |                              |
|                             |   |                |                                                                                 |                                |                              |

- 液压阀通常仅随集成设备一起提供，不接受单独订货，批量订单除外 Hydraulic valves are generally only sold with integrated systems, unless ordered in large quantities

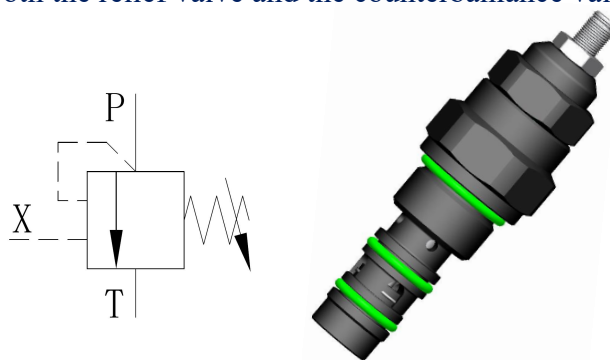


- 在必要时，本公司可能对产品型号编制规则进行修订，订货前请与本公司确认 The Vendor may revise the model designation system when needed. Confirm with the Vendor before ordering

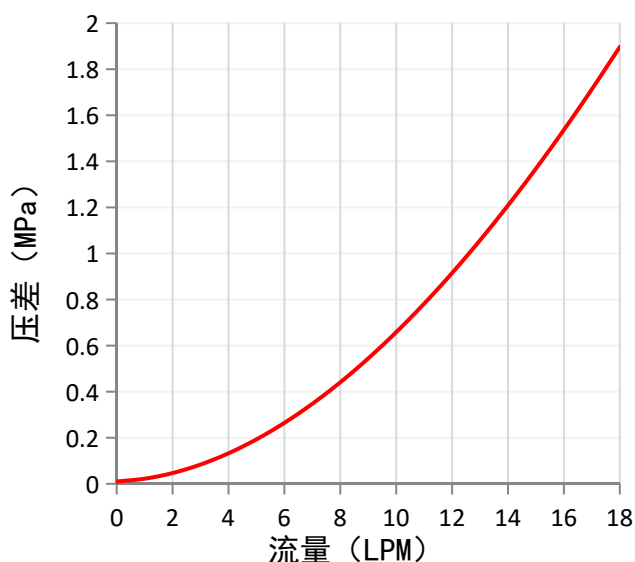
## 溢流平衡阀 Relief & counterbalance Valve

### HYC-VRCB1

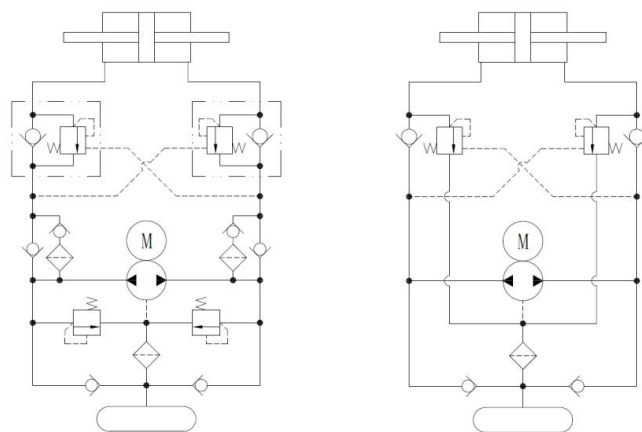
- 专为EHA研制，在优化EHA性能的同时，简化了液压回路，有利于EHA的小型化和轻量化  
Specially developed for EHA, it optimizes the performance of EHA while simplifying the hydraulic circuit, which is conducive to the miniaturization and lightweight of EHA
- 适用于EHA的位置保持，以及保证负负载工况下的平稳运行 Suitable for EHA position holding and smooth operation under the negative load
- 平衡阀开启压力与泵的背压压力无关 The opening pressure of the valve is independent of the back pressure of the pump
- 兼具溢流阀和平衡阀的功能 The functions of both the relief valve and the counterbalance valve
- 额定流量 Rated flow: 15LPM
- 额定压力 Rated pressure: 30MPa
- 先导比 Pilot Control Ratio: 3.8/6.8
- 重量 Weight: 153g



压力流量曲线（先导开启）



采用传统平衡阀和采用溢流&平衡阀的EHA液压回路比较  
Comparison of EHA hydraulic circuits using conventional counterbalance valves and relief & counterbalance valves

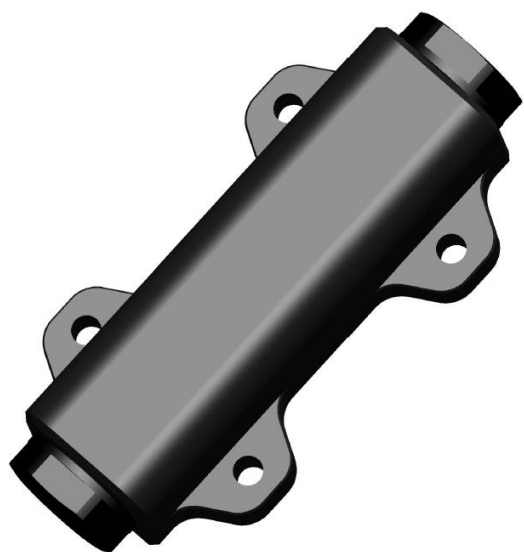
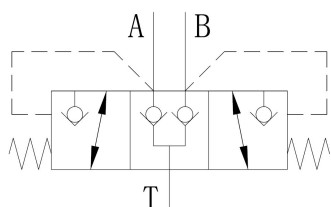


- 液压阀通常仅随集成设备一起提供，不接受单独订货，批量订单除外 Hydraulic valves are generally only sold with integrated systems, unless ordered in large quantities

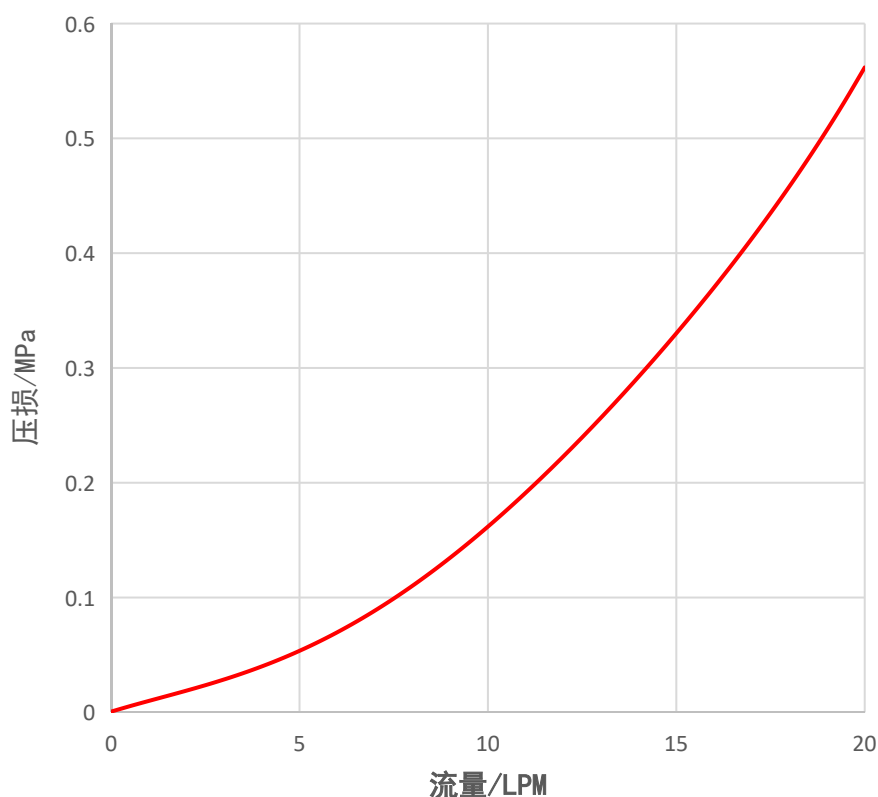
## 流量匹配阀 Flow Matching Valve

### HYC-VFM1

- 适用于执行机构为非对称油缸的EHA，标准阀板式安装；根据需要使用，阀芯也可内嵌于泵的端盖 Suitable for EHA whose actuator is asymmetrical cylinder, the standard valve is plate-mounted; According to the needs, the spool can also be embedded with the pump's cover
- 额定流量 Rated flow: 10LPM
- 额定压力 Rated pressure: 60MPa
- 重量 Weight: 380g



压损-流量曲线



- 液压阀通常仅随集成设备一起提供，不接受单独订货，批量订单除外 Hydraulic valves are generally only sold with integrated systems, unless ordered in large quantities

## 产品简介 Product Overview

- 本公司承接成套机电液设备的定制，包括但不限于试验台，工业液压站，工程机械液压站等，此处仅列出几个典型案例。The company accepts orders for electromechanical hydraulic integrated equipment, including but not limited to testbed, industrial hydraulic station, engineering machinery hydraulic station, etc, but only a few typical cases are listed here.

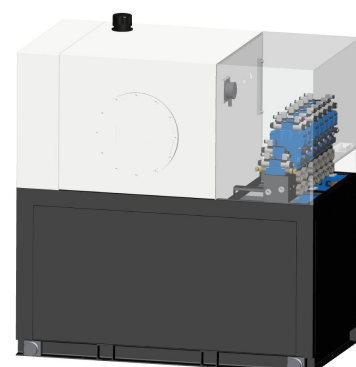
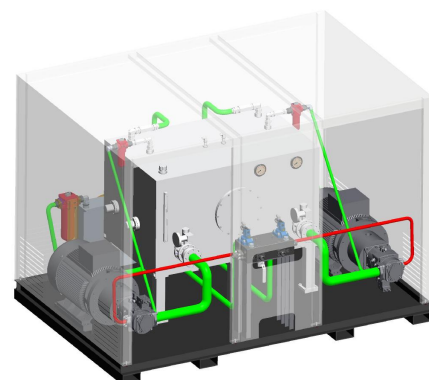
EHA研究平台 Research platform of EHA



泵&马达型式试验台 Hydraulic pump & motor testbed



工业液压站 Industrial hydraulic station





贵阳海之力液压有限公司  
Guiyang HYL **Hydraulic** Co.,Ltd.

企业使命      弘扬创新精神、提供先进产品

企业愿景      在特定领域内备受推崇

核心价值观      正直诚信；敢为人先

经营理念      为顾客创造价值，是公司存在的根本

企业作风      勤奋敬业、好学尚新

行动准则      做正确的事，把正确的事做好



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网站地址



微信公众号