

# 1500 Series Intelligent Electropneumatic Valve Positioner

- **Electrical waterproof connectors**
- **LED display**
- **Easy to start-up**



**1500 series intelligent electropneumatic valve positioner is designed for integral pneumatic control valve, particularly suitable for angle seat valves and diaphragm valves.**

**The product is easy to operate. It can easily be operated via the keypad.**

**The positioner adjusts the valve position quickly and accurately through detecting the position sensor signal.**

Technical data	
Material	PC、PA6-GF30、SI
Power supply	24V DC $\pm$ 10%
Set-point signal	4 – 20 mA
Input resistance for set-point signal	140 $\Omega$
Control medium	neutral gases, air DIN ISO 8573-1 Solid particle size and density Class 3 Dew point Class 3 Oil content Class 3
Dust concentration	
Particle density	
Pressure condensation point	
Oil concentration	
Ambient temperature	0-60° C
Pneumatic connection	Plug-in hose connector G1/4(internal $\Phi$ 6mm)
Electrical connection	M12 3-pins B-coded (cable $\varnothing$ 4-6mm) M12 4-pins D-coded (cable $\varnothing$ 4-6mm)
Supply pressure	3~7 bar, specific values depending on the actuator
Air flow rate	17 l/min(input pressure of 0.6Mpa) 95 l/min(input pressure of 0.6Mpa ,only single-acting)
Stroke control range	Line 5-50mm Angle 90°
Installation	As required, Preferably with actuator in upright position, Screw
Protection class	IP67
Power consumption	<5W

## Combinations

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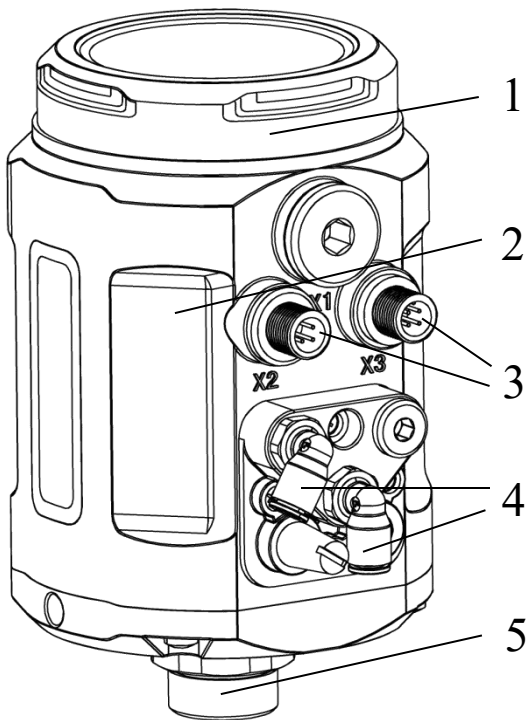
**Diaphragm control valve**



**Angle seat control valve**

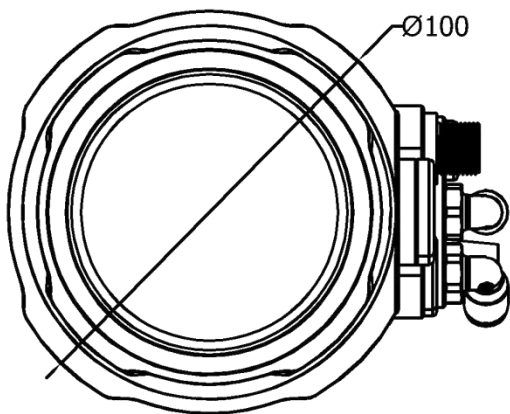
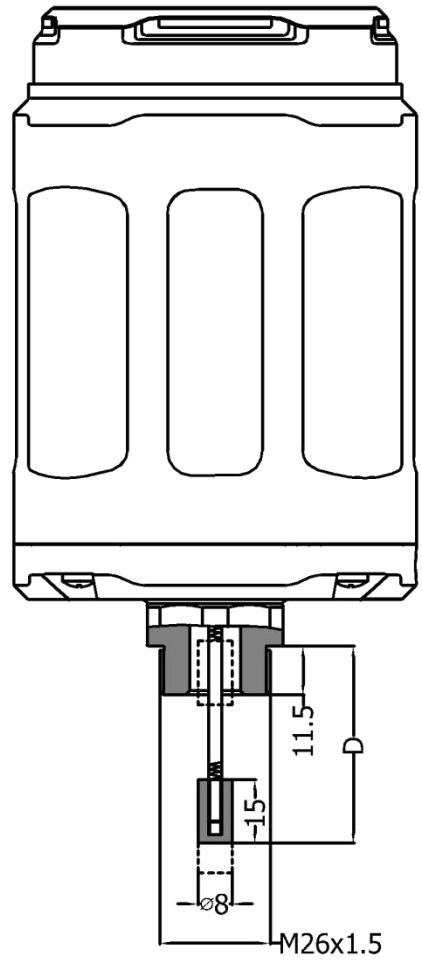
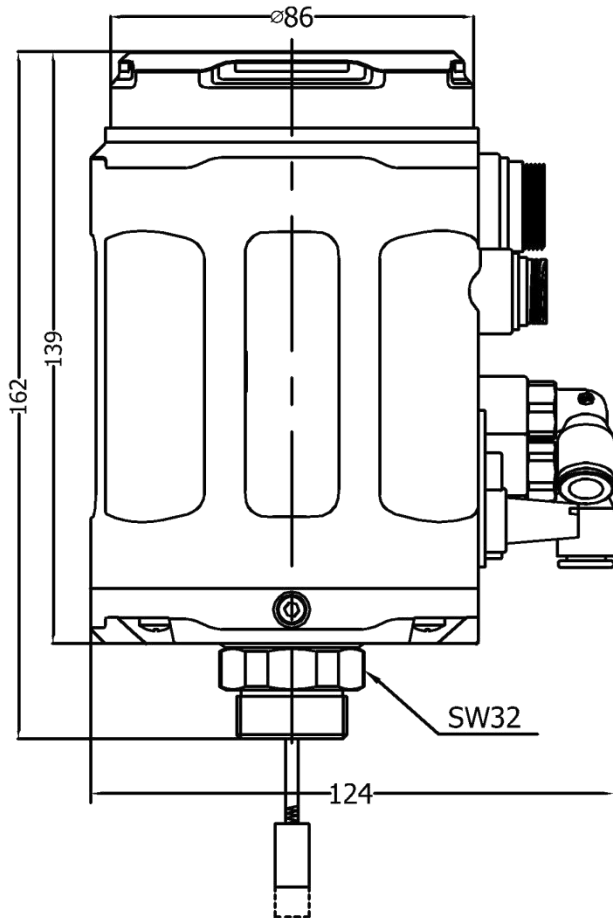
## Structure

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1. **Protective cover**
2. **Main body casing**
3. **Electrical connection**
4. **Pneumatic connection**
5. **Actuator connection**

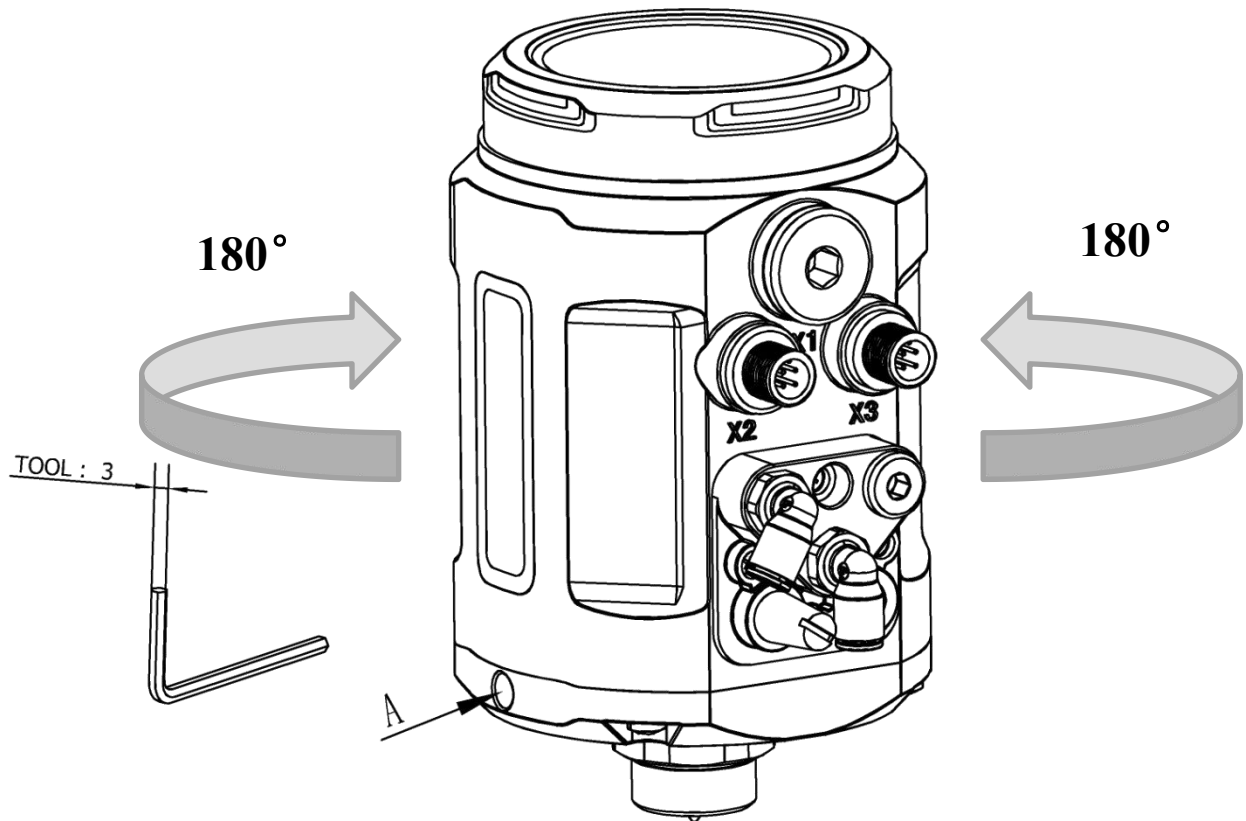
# Dimensions



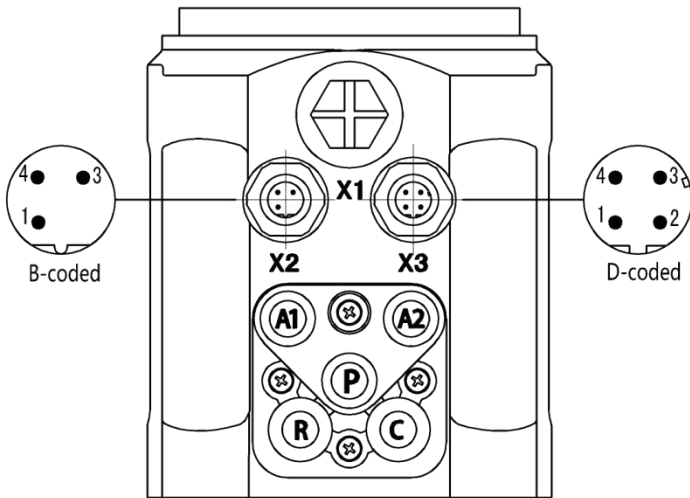
## Interface angle adjustment

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The angle can be adjusted between the positioner and the valve. If need to adjust the interface angle, relaxing the hexagon screw in place A first. Then adjusting the angle clockwise or counter-clockwise in 180° range. After adjusting the angle, locking the angle by the hexagon screw.



## Electrical connections



### X2(optional)

Pin	Description	Signal type
1	Analogue signal output +	4 – 20 mA
3	Analogue signal output GND	GND
4	NC	NULL

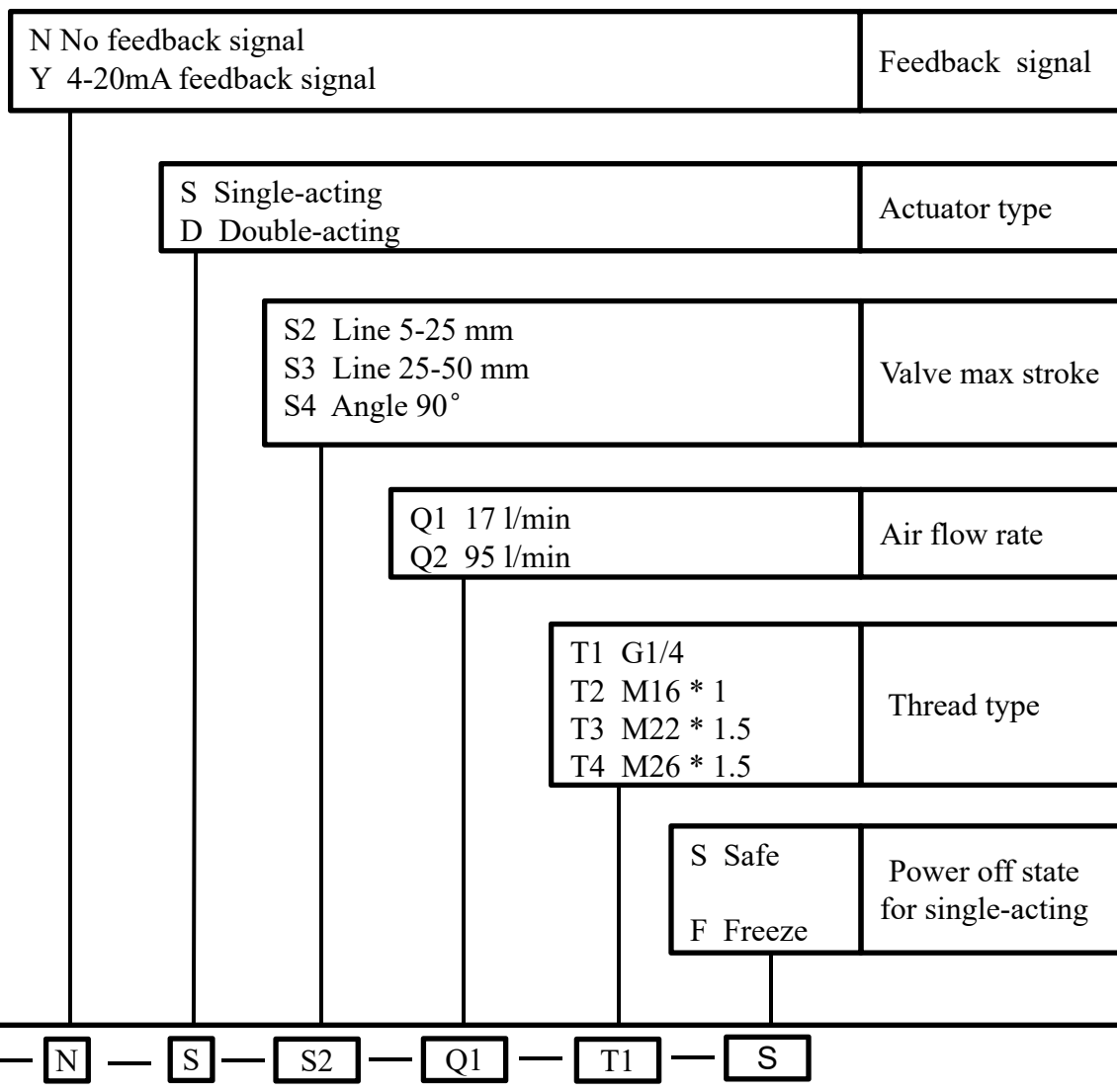
### X3

Pin	Description	Signal type
1	Power supply +	+24 V
2	Power supply GND	GND
3	Set signal input +	4 – 20 mA
4	Set signal input GND	GND

## Pneumatic connections

<b>P</b>	Air supply enter(built-in filter, filter size 5 µm)
<b>R</b>	Air exhaust
<b>C</b>	Check valve
<b>A1</b>	Pilot air outlet 1
<b>A2</b>	Pilot air outlet 2

## Selection and ordering data



Remark:

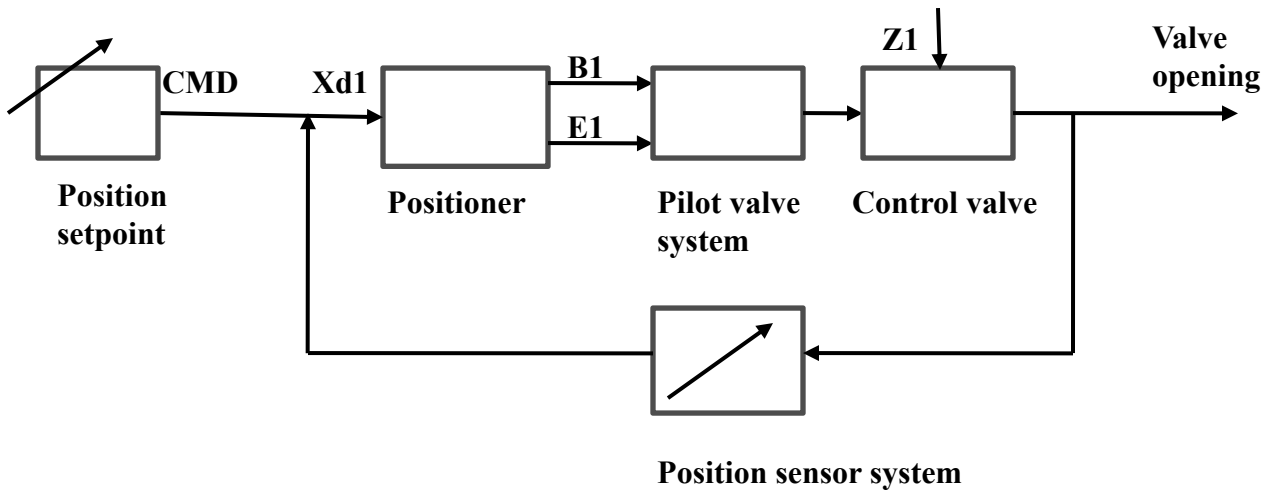
In the **air flow rate** option, code Q1 is suggested to match the actuator of 40-100 mm internal gas chamber diameter, code Q2 is suggested to match the actuator of 125-160 mm internal gas chamber diameter. Code **Q2** is only used for **single-acting actuator**, and only in **Freeze** state when power-off. The air flow rates for code Q1 and Q2 are under the condition of 0.6Mpa input pressure.

In the **valve max stroke** option, AT actuator range for code S4 is AT50~AT125. For other actuator models, please consult our company. It is no need to select the **thread type** option for code S4.

**Power off state for single-acting** option is **Safe** by default.

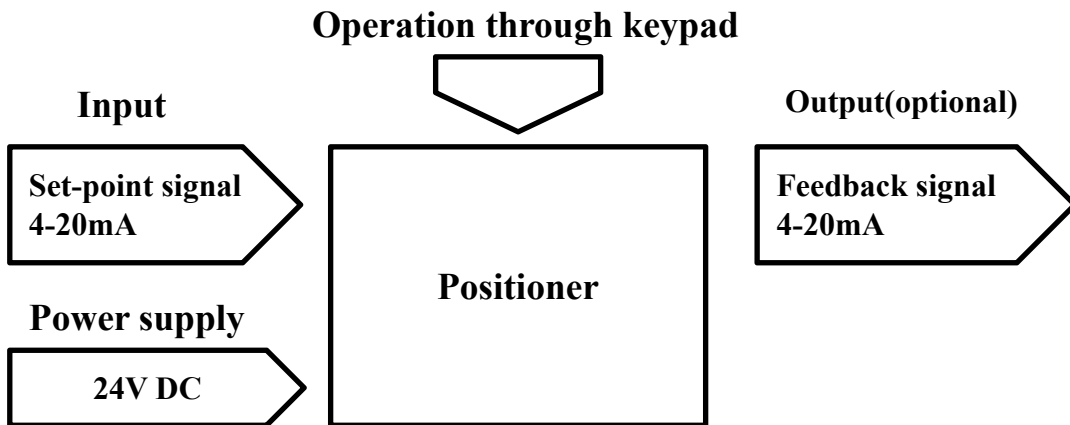
## Signal flow diagram

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## Schematic diagram

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## Function comparison for all types

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FUNCTION	1600	1601	1500
Process control	×	√	×
4-20mA signal input	√	√	√
4-20mA signal output	○	○	○
Autotune	√	√	√
Valve position manual adjustment	√	√	√
Sealing function	√	√	√
Dead band setting	√	√	√
4-20mA input signal error detection	√	√	√
Factory setting	√	√	√
Characteristic curve setting	√	√	×
Direction of set-point value	√	×	×
Valve stroke range limiting	√	√	×
Safety position setting	√	√	×
Binary signal input/output	○	○	×
Input signal calibration	√	√	×
Speed setting of manual adjustment	√	√	×
Code protection	√	√	×

√	YES
×	NO
○	optional



# 1500系列智能电气阀门定位器



1500系列智能电气阀门定位器是专为一体式气动调节阀所设计的，特别适用于角座阀和隔膜阀产品。

该产品操作简便，可轻松通过按键面板进行操作。

定位器可通过检测位移传感器信号，对阀位进行快速精确调节。

- 电气防水接头
- LED状态显示
- 快速简易启动

## 技术参数

材料	聚碳酸酯 (PC) 硅橡胶(SI) 聚酰胺(PA6-GF30)
电源	直流 24V ± 10%
信号输入	4 – 20 mA
设定信号输入阻抗	140Ω
压缩空气要求 颗粒度要求 颗粒密度要求 凝点要求 油脂浓度要求	中性气体, 符合 DIN ISO 8573-1 要求 固体颗粒大小和密度 3 级 露点 3 级 含油量 3 级
环境温度	0-60° C
气动接头	1/4英寸插入式软管接头(内径Φ 6mm)
电气快速接头	M12 三针 B标准(电缆直径ø 4-6mm) M12 四针 D标准(电缆直径ø 4-6mm)
气源压力	3-7 bar, 具体值视执行机构而定
输出气体流量	17 l/min(输入压力为0.6Mpa) 95 l/min(输入压力为0.6Mpa, 仅单作用)
阀门行程控制范围	直行程5-50 mm 角行程90°
安装方式	倾向于安装在执行器顶端, 通过螺纹和执行器连接
防护等级	IP67
功耗	<5W

## 组合方式

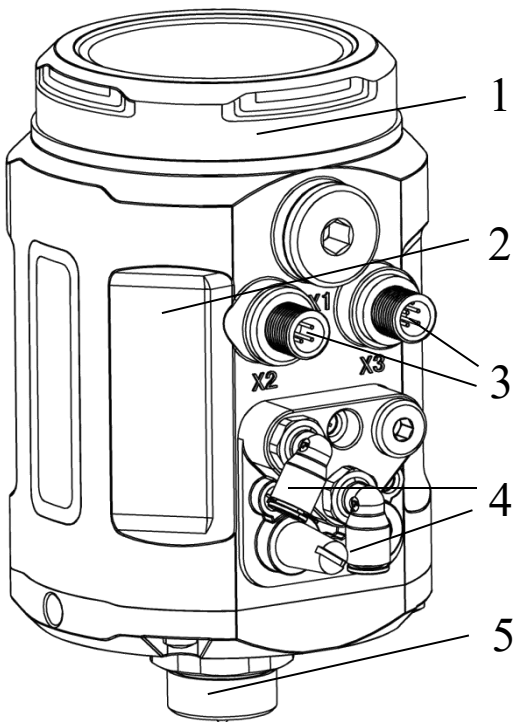


隔膜式调节阀



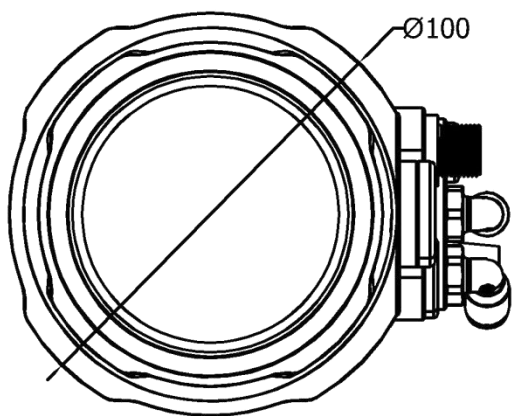
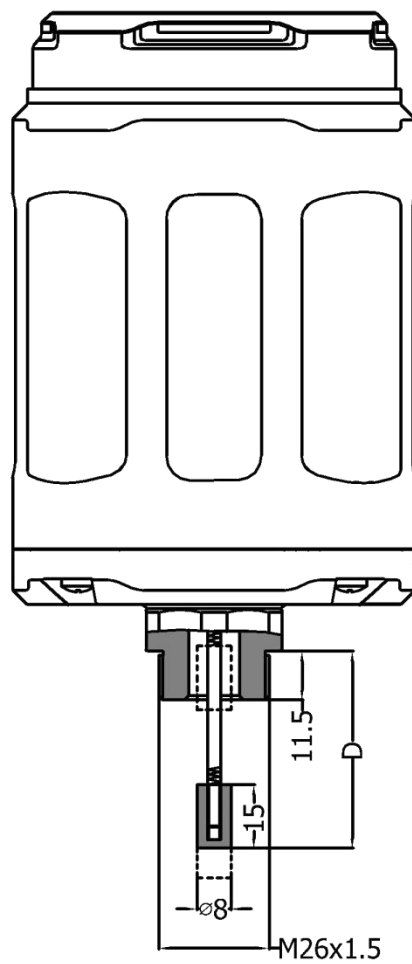
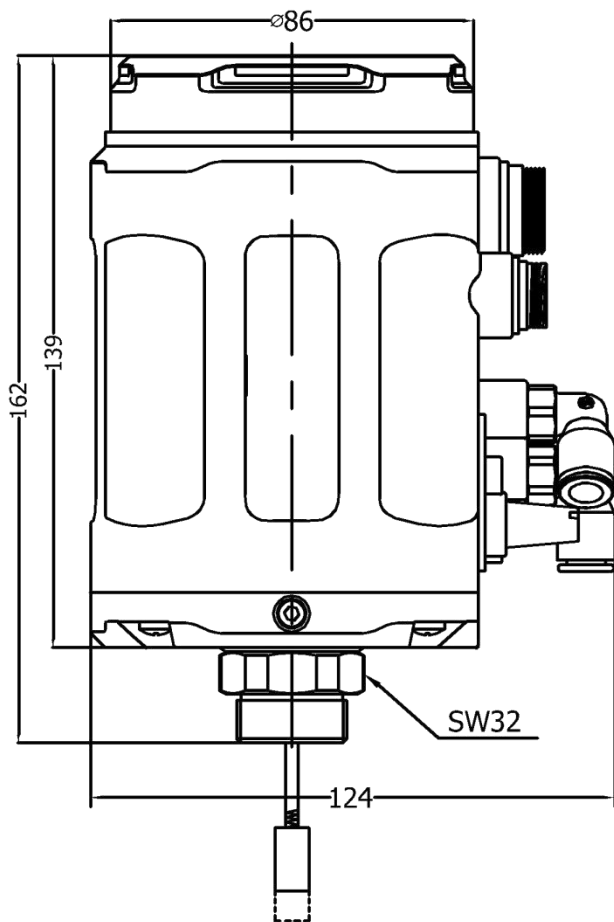
角座式调节阀

## 产品结构



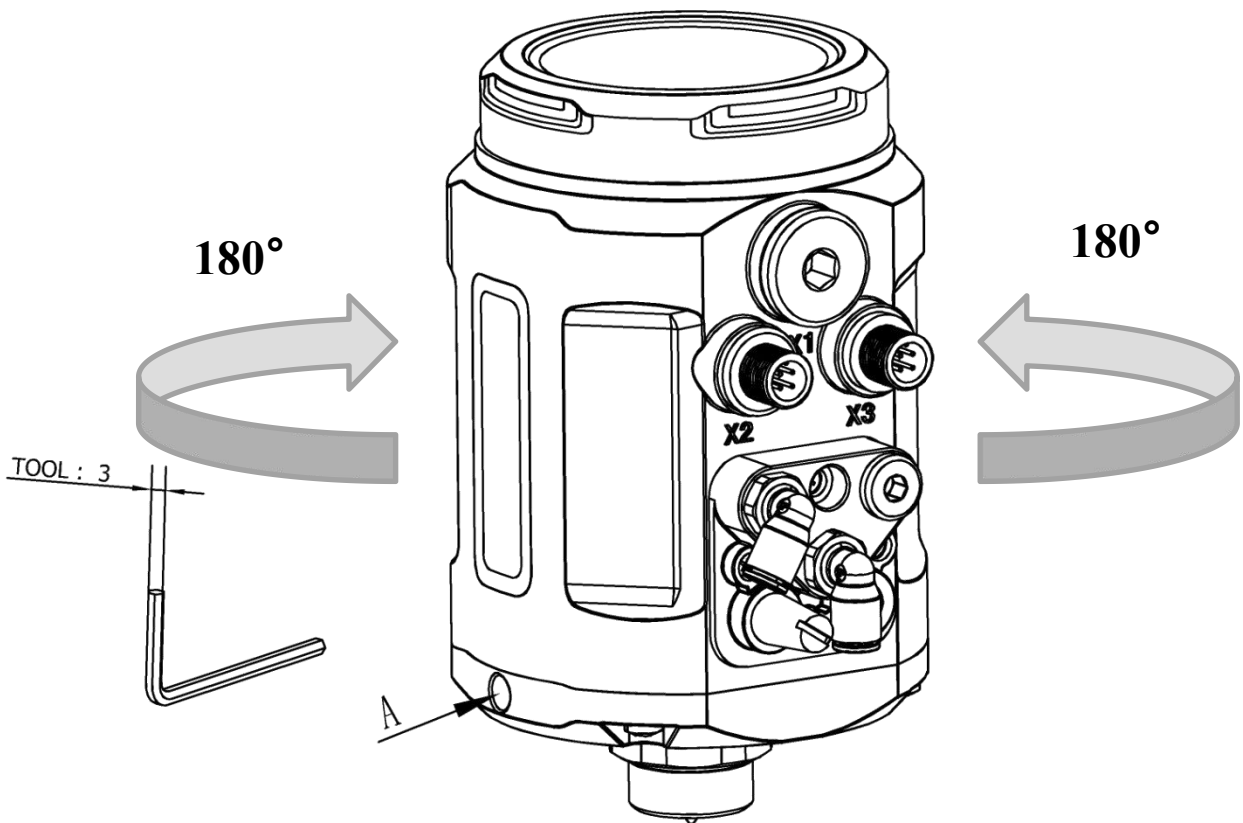
1. 防护盖
2. 主壳体
3. 电气接口
4. 气动接口
5. 执行器连接件

# 机械尺寸

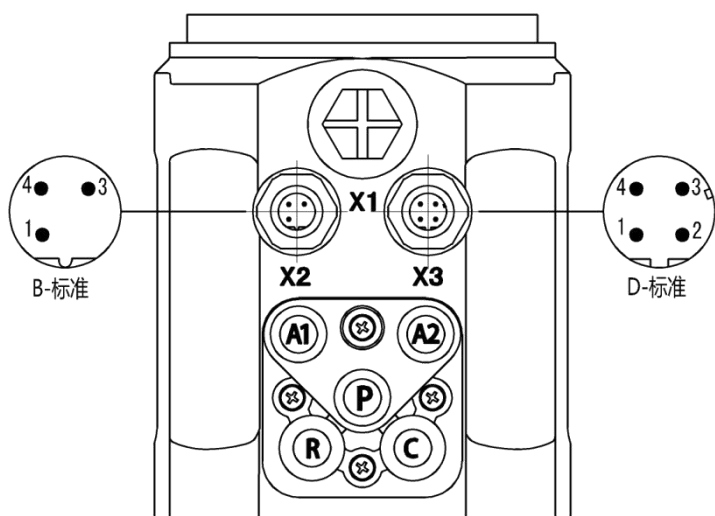


## 操作界面角度调整

将定位器与阀门连接之后，定位器可与阀门之间做角度调整。若需要调整定位器操作界面角度，松开A处的内六角紧定螺钉后，顺时针或逆时针180°范围内调整到需要的角度，再拧紧紧定螺钉。



## 电气接口



### X2 (可选)

端子号	描述	信号类型
1	模拟信号输出 +	4 – 20 mA
3	模拟信号输出 GND	GND
4	空	无

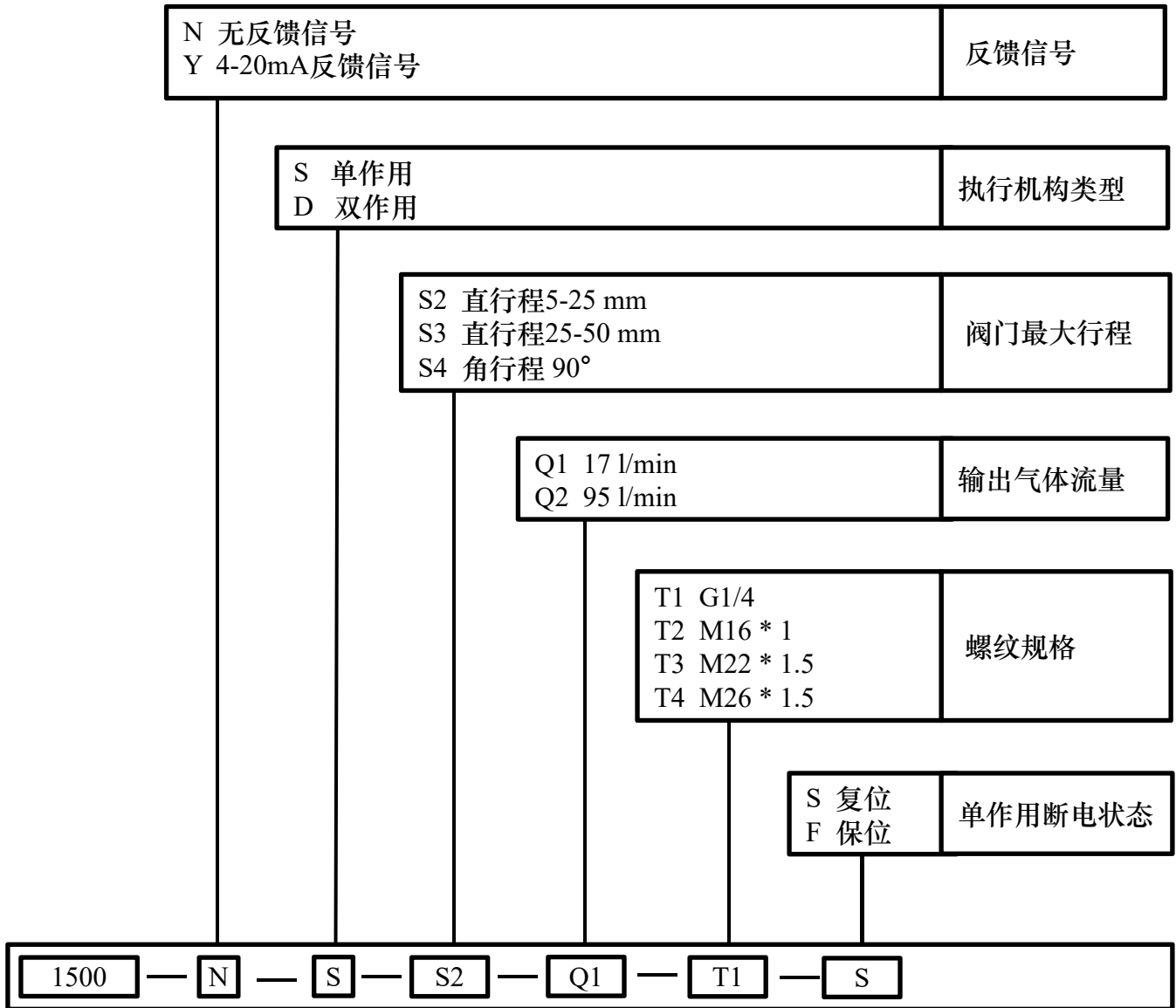
### X3

端子号	描述	信号类型
1	电源 +	+24 V
2	电源GND	GND
3	设定信号输入 +	4 – 20 mA
4	设定信号输入GND	GND

## 气动接口

P	气源进入 (内置滤网, 过滤尺寸5 $\mu$ m)
R	排气
C	单向阀
A1	先导气口1
A2	先导气口2

# 选型及订货数据



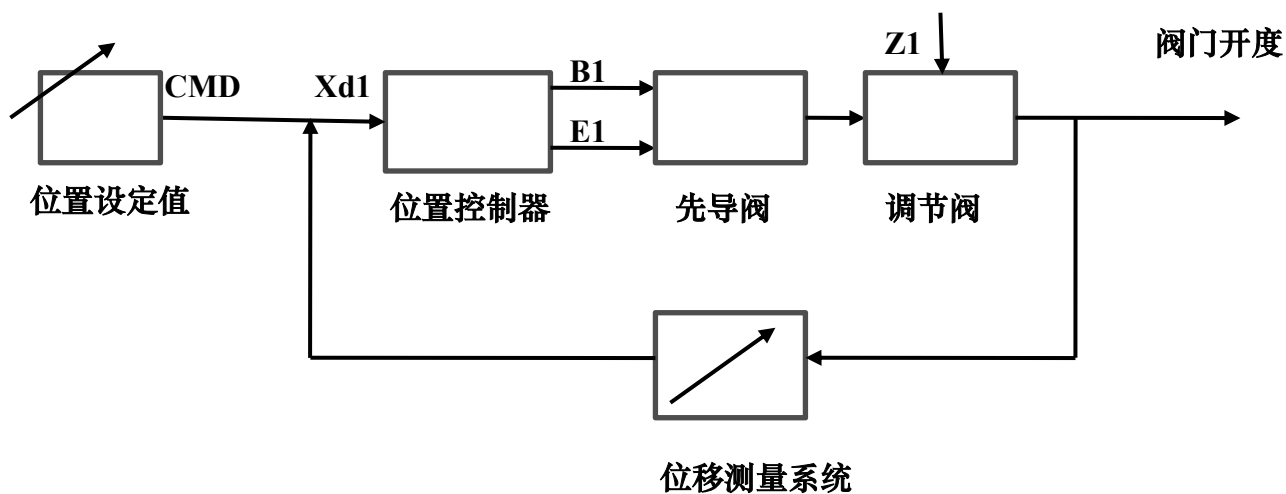
备注:

输出气体流量选项中, 代码Q1建议匹配气室内径40-100 mm 的执行器, 代码Q2建议匹配气室内径 125-160 mm的执行器。代码Q2仅适用于单作用执行器, 且断电时只支持保位状态。代码Q1,Q2标注的气体流量均为输入压力在0.6Mpa下的气体流量。

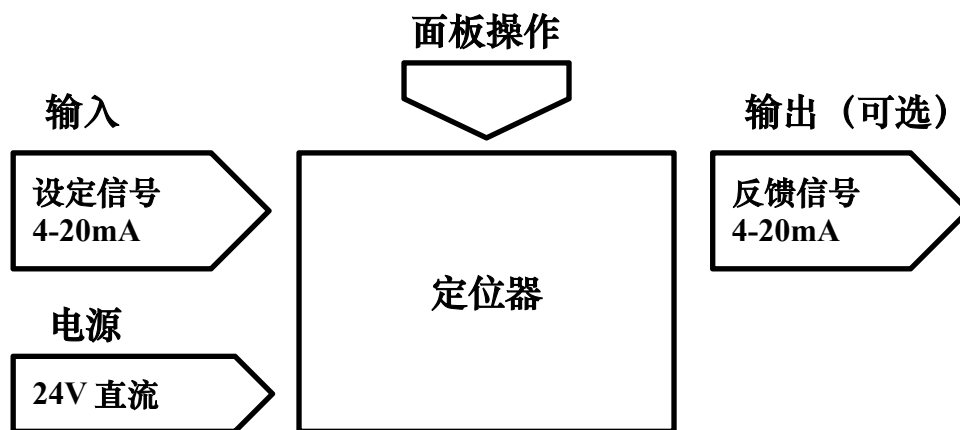
阀门最大行程选项中代码S4适用的AT执行器范围是AT50~AT125。其他型号请客户咨询我司。如果选择代码S4, 则螺纹规格选项不需要选择。

单作用断电状态默认为复位。

## 信号流程示意图



## 原理框图



## 各型号功能对比

功能	1600	1601	1500
过程控制	×	√	×
4-20mA信号输入	√	√	√
4-20mA信号输出	○	○	○
自整定	√	√	√
手动调节阀位	√	√	√
紧闭功能	√	√	√
死区设置	√	√	√
4-20mA输入信号错误检测	√	√	√
恢复出厂设置	√	√	√
特性曲线设置	√	√	×
信号方向设置	√	×	×
行程限制	√	√	×
安全位置设置	√	√	×
开关量信号输入/输出	○	○	×
输入信号校正	√	√	×
手动调节速度设置	√	√	×
密码保护	√	√	×

√	有该功能
×	无该功能
○	可选