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**WENZHOU YOSUN  
VALVE.CO.,LTD**

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—  
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**A better  
flow control  
solution**

提供更好的流量控制方案



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Innovation Association



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CHINA  
WENZHOU  
温州工厂



대한민국  
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# About Us

关于优想

## 30+ year

中韩合资温州优想  
专注于调节控制阀  
研发与生产30余年

中韩合资温州优想,是韩国知名控制阀厂家KOPECS(始于1987)带着数十年的控制阀设计,研发,生产,管理经验,结合中国现有资源和市场优势,在中国合资成立的一家控制阀工程公司。

技术实力:公司技术总工来自美国CCI,有着丰富的控制阀实践经验,其它技术人员全部由韩国KOPECS委派或培养。

生产能力:公司拥有国内先进的材料性能研究所,超低温检测实验室,数十台加工中心及数控加工设备,全面的阀门检测测试机。

优想致力于各种工况条件的控制阀解决方案,业务范围涵盖:化工,电厂,石油,天然气;高温,高压,高压差,超低温,减温减压装置。



高温防火认证  
API Q1/6D  
API 602



生产流程表



Production  
schedule  
生产流程表





YCG

直通式调节阀



技术参数

规格: 1/2-28Inch    DN15-DN700

压力: 150 ~ 2500Lbs    PN6-PN420

温度: -196 °C ~ 850 °C

概述: 直通式调节阀以直通截止阀式阀体为主, 内件根据介质属性, 压力、温度、流量要求, 可以选择不同形式的内件以适应工况要求。

主要内件形式: 单座, 双座, 笼式, 多孔式, 多级式, 迷宫式, V型微流量调节式。

驱动: 薄膜式气动, 活塞式气动, 电动, 手动, 液动等。



技术参数

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概述: 直通式调节阀以角式截止阀式阀体为主, 内件根据介质属性, 压力、温度、流量要求, 可以选择不同形式的内件以适应工况要求。

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驱动: 薄膜式气动, 活塞式气动, 电动, 手动, 液动等。



YCA

角式调节阀





YTD

三通调节阀



技术参数

规格: 1/2-28Inch    DN15-DN700

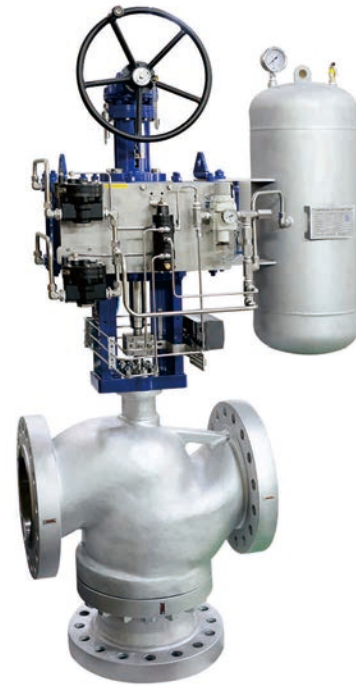
压力: 150 ~ 2500Lbs    PN6-PN420

温度: -196 °C ~ 850 °C

概述: 直通式调节阀以截止阀式阀体为主, 内件根据介质属性, 压力、温度、流量要求, 可以选择不同形式的内件以适应工况要求。

主要内件形式: 单座, 双座, 笼式, 多孔式, 多级式, 迷宫式, V型微流量调节式。

驱动: 薄膜式气动, 活塞式气动, 电动, 手动, 液动等。



可调喷嘴式减温减压阀  
-  
YDH20  
自带喷水流量调节  
精确控制降温区间



一体式止回减温减压阀  
-  
YDH30  
用于大流量管线的温度  
和压力控制系统



一体旁通式减温减压阀  
-  
YDH10  
温度控制  
压力控制双功能一体



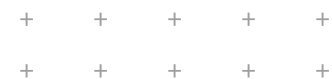
易换喷嘴式减温阀  
-  
YDH40  
易更换式喷嘴

YDH  
减温减压装置



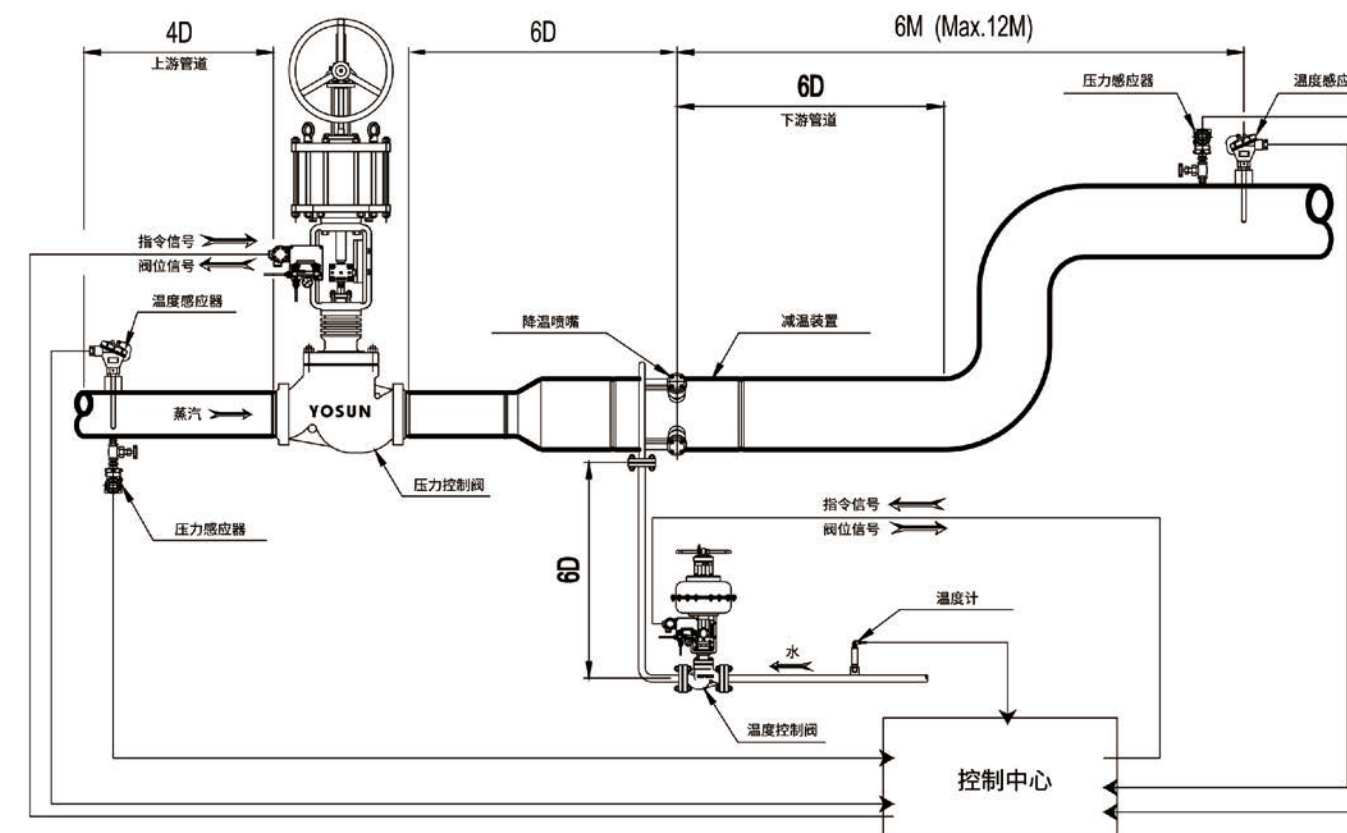


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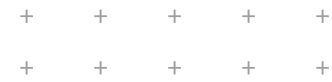
# DESUPERHEATING AND 减温与减压 REDUCING DEVICES

减温减压系统工艺流程





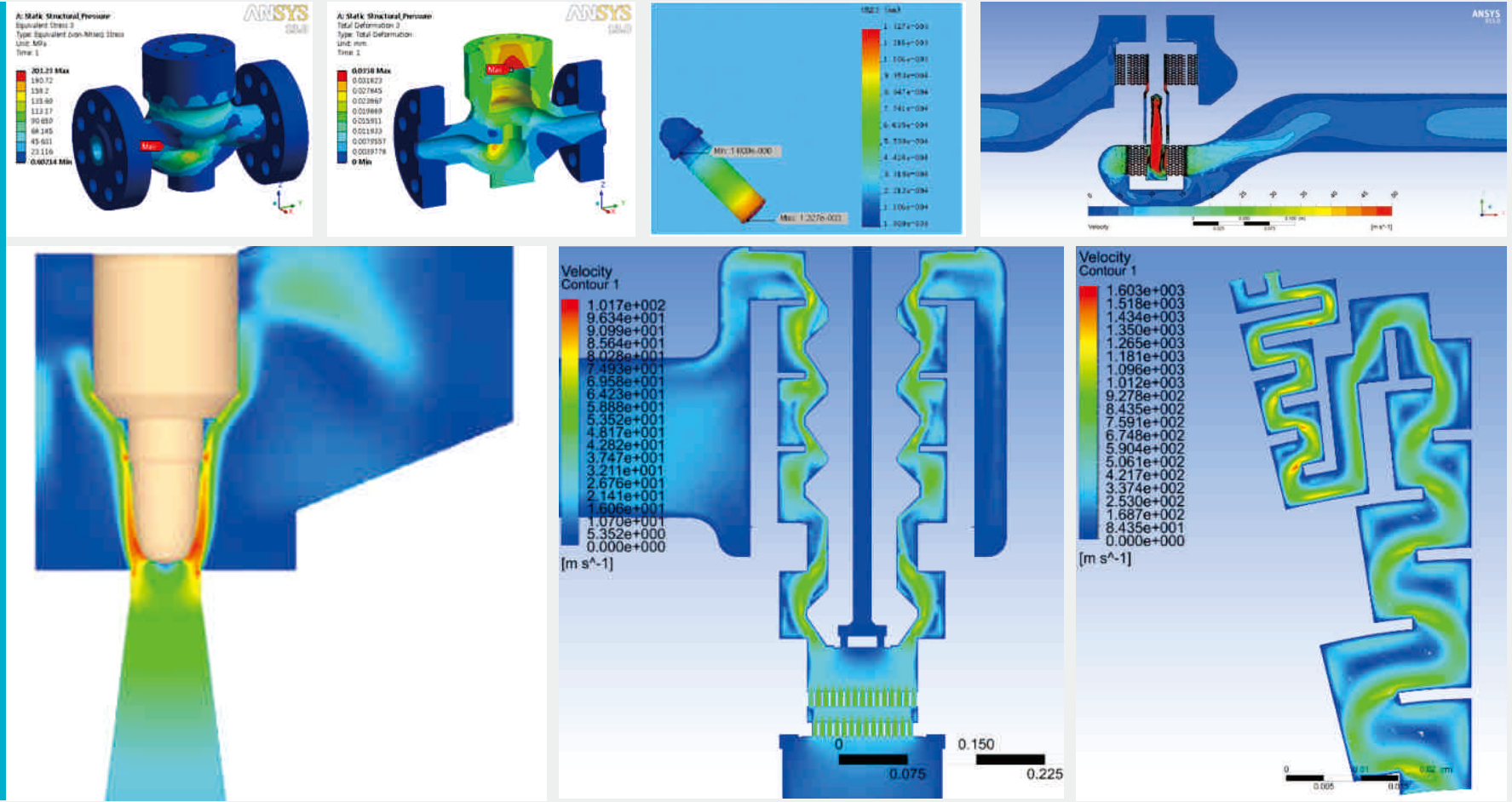
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# DESIGN AND DEVELOPMENT

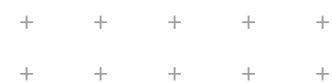
设计与研发

CFD流体分析、FEA有限元分析





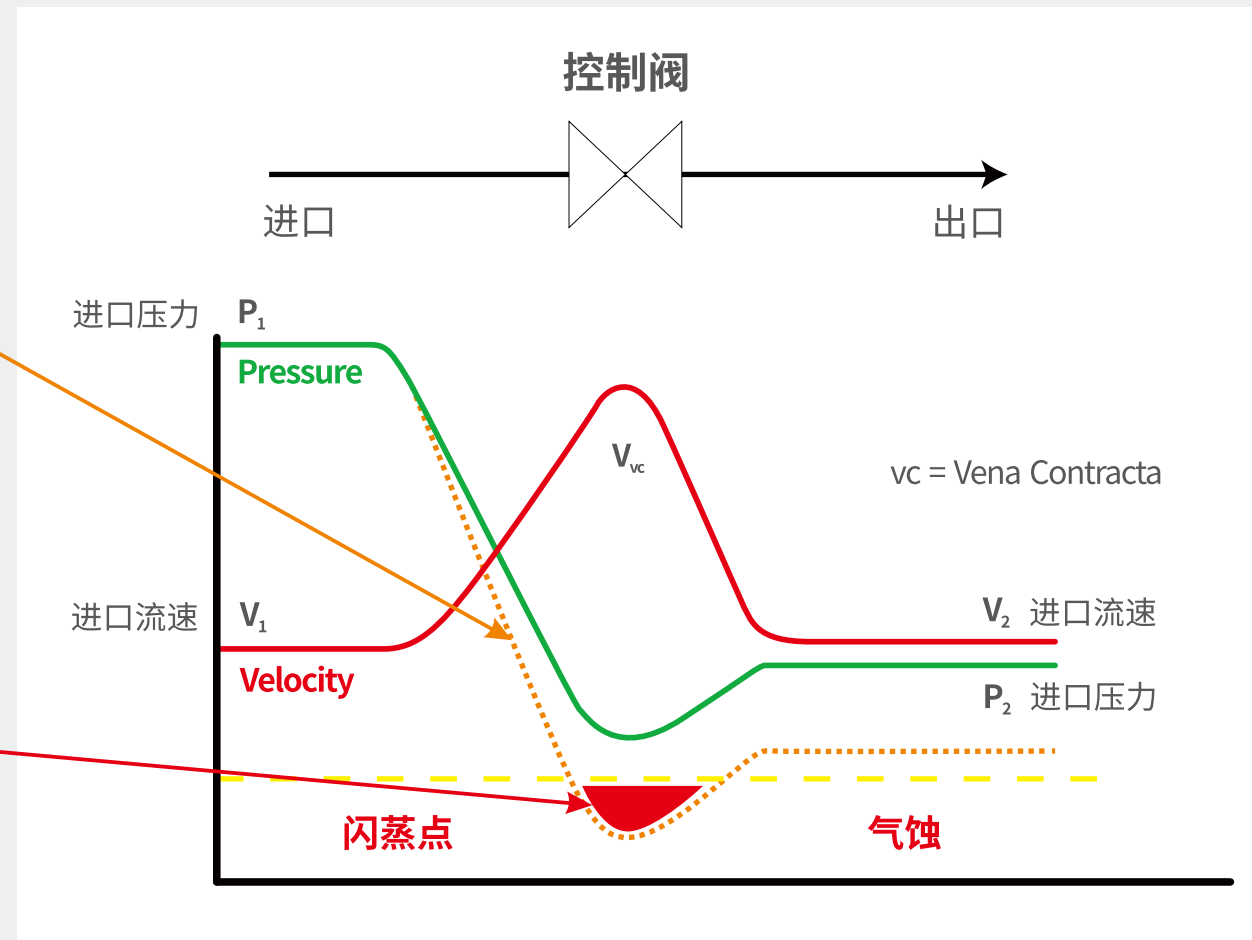
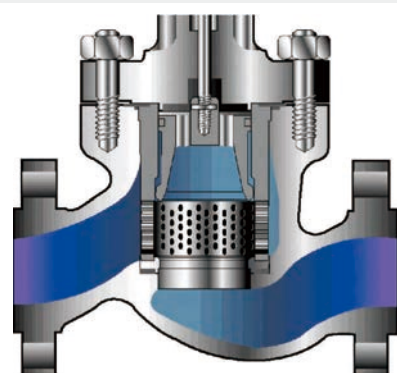
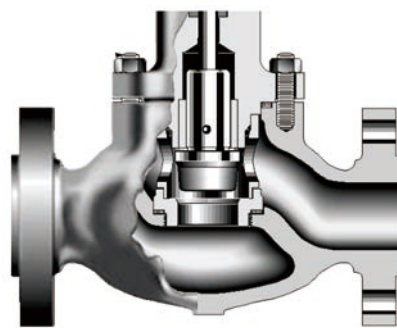
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# FLASHING AND CAVITATION

多孔式多级降压:防止空化和闪蒸

多孔式多降降压:防止空化, 闪蒸





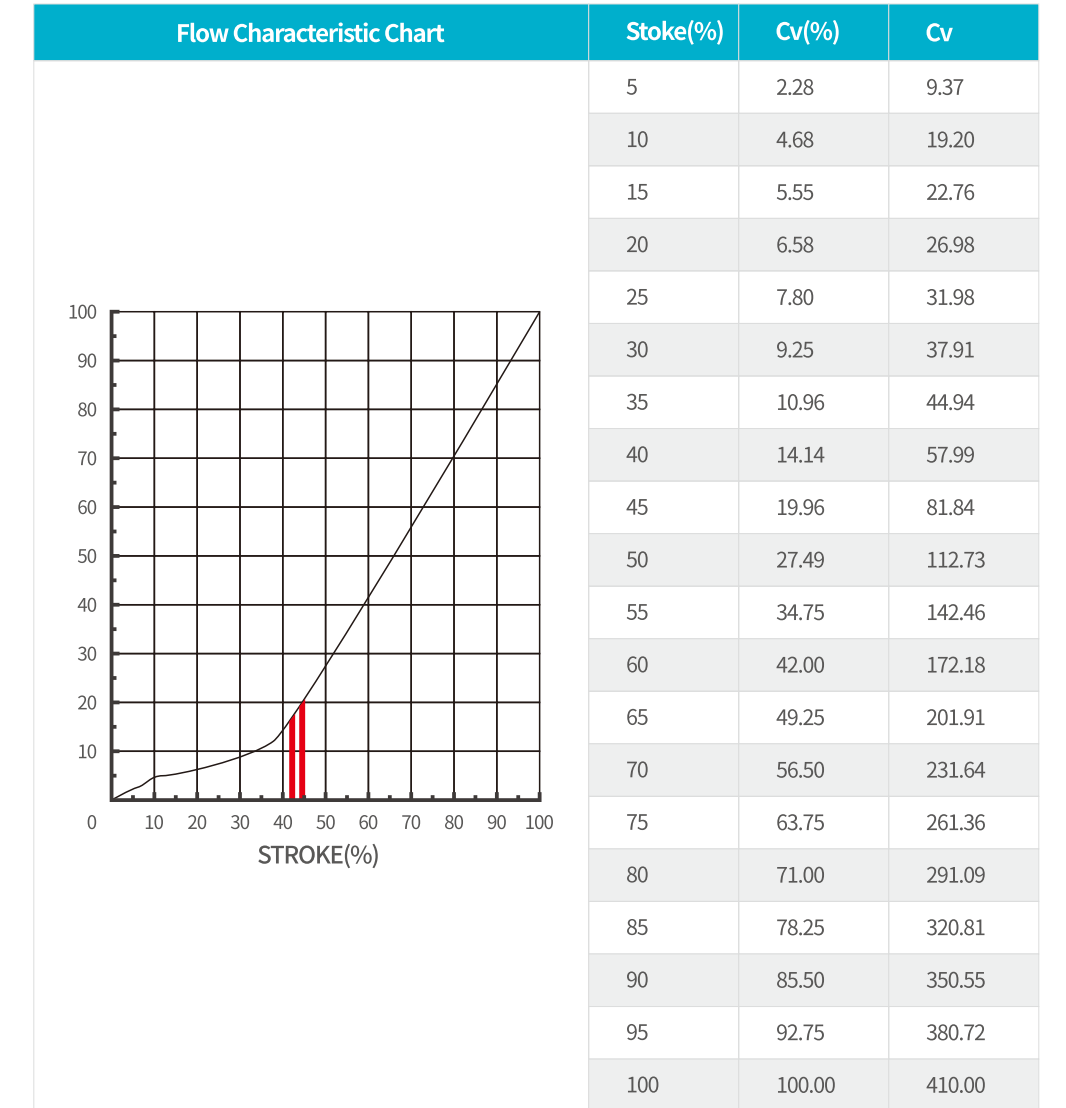


控制阀设计、  
选型及  
主要检测标准  
ISA 75.01

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| CONTROL VALVE DATA SHEET |                    |                       |       |             |              |            |              |                    |                      | VSP2010 - KO2A - 02 - D15 |  |  |  |
|--------------------------|--------------------|-----------------------|-------|-------------|--------------|------------|--------------|--------------------|----------------------|---------------------------|--|--|--|
|                          |                    | Project               |       | Tag No.     |              | HV - 5389  |              |                    |                      |                           |  |  |  |
|                          |                    | Customer              |       | Q'ty        |              | 1          | SHT. No.     |                    | 1                    |                           |  |  |  |
|                          |                    | Ult. Client           |       | Rev. No.    |              | 0          | Date         |                    | 19/4/22              |                           |  |  |  |
|                          |                    | Inq./P.O. No.         |       | Master Code |              |            |              |                    |                      |                           |  |  |  |
|                          |                    | Process               |       |             |              |            |              |                    |                      |                           |  |  |  |
| Application              |                    |                       |       |             |              |            |              |                    |                      |                           |  |  |  |
| 1                        | SERVICE CONDITIONS | Fluid                 | HELP  | LIQUID      | Critical Pr. | 22.1       | MPaA         | Critical Te.       | Deg C                |                           |  |  |  |
| 2                        |                    | Units                 | Max.  | Norm.       | Min.         |            |              |                    |                      |                           |  |  |  |
| 3                        |                    | Flow Rate             | M3/hr | 142         | 129          | 96         |              |                    |                      |                           |  |  |  |
| 4                        |                    | Inlet Pressure        | MPaG  | 0.3         | 0.24         | 0.24       |              |                    |                      |                           |  |  |  |
| 5                        |                    | Outlet Pressure       | MPaG  | 0.15        | 0.17         | 0.205      |              |                    |                      |                           |  |  |  |
| 6                        |                    | Differential Pressure | Mpa   | 0.15        | 0.07         | 0.035      |              |                    |                      |                           |  |  |  |
| 7                        |                    | Inlet Temperature     | Deg C | 35          | 35           | 35         |              |                    |                      |                           |  |  |  |
| 8                        |                    | Specific Gravity      | SG    | 0.994       | 0.994        | 0.994      |              |                    |                      |                           |  |  |  |
| 9                        |                    | Vapor Pressure        | MPaA  | 0.005       | 0.005        | 0.005      |              |                    |                      |                           |  |  |  |
| 10                       |                    | Viscosity             | cp    | 3.19        | 3.19         | 3.19       |              |                    |                      |                           |  |  |  |
| 11                       |                    | Required Capacity     | Cv    | 133.64      | 177.73       | 187.05     |              |                    |                      |                           |  |  |  |
| 12                       |                    | Opening Travel        | %-EQ  | 52.98       | 60.22        | 61.75      |              |                    |                      |                           |  |  |  |
| 13                       |                    | Predicted SPL         | dBA   | 70.16       | <70          | <70        |              |                    |                      |                           |  |  |  |
| 14                       | GENERAL            | Inlet Pipe Size       | 6     | Inch        | STD          | Sch.       | 50           | Type               | E / P (SMART - HART) |                           |  |  |  |
| 15                       |                    | Outlet Pipe Size      | 6     | Inch        | STD          | Sch.       | 56           | Mfr / Model        | SIMENS / 6DR - 5010  |                           |  |  |  |
| 16                       |                    | Design Pressure       | [Min] | [Max]       | MPaG         | 57         | Input Signal | 4 ~ 20 mA DC       |                      |                           |  |  |  |
| 17                       |                    | Design Temperature    | [Min] | [Max]       | 80           | Deg C      | 58           | Increase Signal To | VALVE OPEN           |                           |  |  |  |
| 18                       |                    | Max. Shut - Off Dp.   | 0.6   | Mpa         | 59           | POSITIONER | Enclosure    | Ex ia IIC T5 / T6  |                      |                           |  |  |  |

| Valve Sizing : Liquid Flow |                   |                   |
|----------------------------|-------------------|-------------------|
| Tag Number : FCV - 1204    |                   |                   |
| Trim Type                  | V - BALL(SEGMENT) | Rated Cv          |
| Body Size                  | 4" (100A)         | Rangeability      |
| Inlet Line Size            | 6 Inch            | Modified Ratio    |
| Outlet Line Size           | 6 Inch            | Critical Pressure |
| Outlet Line Schedule       | 40 Sch.           |                   |
| Flow Rate Unit             | Kg/hr             | Temperature Unit  |
| Pressure Unit              | MPaG              | Velocity Unit     |
| Condition Title            | Norm.             | Max.              |
| Flow Rate                  | 44440             | 50000             |
| Inlet Pressure             | 0.5               | 0.7               |
| Outlet Pressure            | 0.45              | 0.65              |
| Diff. Pressure             | 0.05              | 0.05              |
| Inlet Temperature          | 15                | 30                |
| Specific Gravity           | 1.3               | 1.3               |
| Vapor Pressure             | 0.001             | 0.004             |
| Viscosity [Cp]             | 3.94              | 3.94              |
| Calculated Cv              | 63.990            | 72.070            |
| Stroke % (EQ%)             | 41.8              | 43.2              |
| Stroke% (Linear)           | 12.7              | 14.7              |





## 控制阀设计、 选型及 主要检测标准 ISA 75.01

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| Trim Exit Velocity / Energy Analysis |          |       |       |             |            |
|--------------------------------------|----------|-------|-------|-------------|------------|
|                                      | Min.(85) | Norm. | Max.  | Norm. x 1.5 | Max. x 1.1 |
| Required Cv                          | 2.42     | 5.88  | 25.87 | 8.83        | 28.46      |

| Stages/Turns to Avoid Cavitation, Vibration and Erosion Related Problems |   |   |   |   |   |
|--|---|---|---|---|---|
| Min. Required Stages/Turns   | 8 | 6 | 4 | 6 | 4 |
| Min. Required Stages/Turns   | 8 | 6 | 4 | 6 | 4 |

| Trim Exit Velocity/Energy with Minimum Required Stages/Turns |       |       |       |       |      |
|--|-------|-------|-------|-------|------|
| Trim Exit Velocity (m/s)                                     | 26.03 | 27.56 | 13.45 | 27.53 | 13.5 |
| Trim Exit Velocity (m/s)                                     | 26.03 | 27.56 | 13.45 | 27.53 | 13.5 |

| Trim Exit Velocity (m/s) versus Trim Type |        |        |       |        |       |
|---|--------|--------|-------|--------|-------|
| Cont Trim                                 | 125.48 | 108.08 | 41.31 | 107.96 | 41.31 |
| 1 Stage Drilled Hole Trim                 | 102.45 | 88.25  | 33.73 | 88.15  | 33.73 |
| 2 Stages Drilled Hole Trim                | 40.86  | 35.20  | 13.45 | 35.16  | 13.45 |
| 3 Stages Drilled Hole Trim                | 31.99  | 27.56  | 10.53 | 27.53  | 10.53 |
| 4 Turns Disk Stack Trim                   | 40.86  | 35.20  | 13.45 | 35.16  | 13.45 |
| 6 Turns Disk Stack Trim                   | 31.99  | 27.56  | 10.53 | 27.53  | 10.53 |
| 8 Turns Disk Stack Trim                   | 26.03  | 22.42  | 8.57  | 22.40  | 8.57  |
| 10 Turns Disk Stack Trim                  | 21.65  | 18.65  | 7.13  | 18.62  | 7.13  |
| 12 Turns Disk Stack Trim                  | 18.25  | 15.72  | 6.01  | 15.70  | 6.01  |
| 14 Turns Disk Stack Trim                  | 15.52  | 13.37  | 5.11  | 13.36  | 5.11  |
| 16 Turns Disk Stack Trim                  | 13.29  | 11.45  | 4.38  | 11.43  | 4.38  |

| 泄漏量比较(阀座密封性能测试) |    |               |            |                     |                                   |                      |                      |                      |                      | 单位:ml/min           |                      |
|-----------------|----|---------------|------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
|                 |    | 切断阀           |            |                     | 调节阀FCI 70.2-2006和IEC 60534.4-2006 |                      |                      |                      |                      |                     |                      |
|                 |    | 测试压力为1.1倍额度压力 |            |                     |                                   | 测试压力为350KPa=50.8psi  |                      |                      |                      |                     |                      |
|                 |    | 所有ANSI磅级      |            | 例:ΔP=5.1MPa(注4)     |                                   | 例: 阀内件“c”(CL300)(注5) |                      | 所有ANSI磅级(注7)         |                      |                     |                      |
| 阀门尺寸            | mm | inch          | 行业最高标准(注1) | API 598 金属阀座(注2)(水) | API 598 金属阀座(注3)(气)               | FCI/IEC Class V (水)  | FCI/IEC Class VI (气) | FCI/IEC Class IV (水) | FCI/IEC Class IV (气) | FCI/IEC Class V (水) | FCI/IEC Class VI (气) |
| 80              | 3  | 0             | 0.8        | 3.6                 | 1.2                               | 15                   | 172                  | 5680                 | 0.08                 | 0.9                 |                      |
| 200             | 8  | 0             | 1.3        | 6.0                 | 3.3                               | 114                  | 2290                 | 75530                | 0.20                 | 7.1                 |                      |
| 300             | 12 | 0             | 1.3        | 6.0                 | 4.9                               | 269                  | 6550                 | 216260               | 0.30                 | 16.8                |                      |
| 600             | 24 | 0             | 1.8        | 8.4                 | 9.8                               | 1078(6)              | 29620                | 977680               | 0.61                 | 67.3(注6)            |                      |
| 900             | 36 | 0             | 1.8        | 8.4                 | 14.7                              | 2427(6)              | 778050               | 2568070              | 0.91                 | 151.4(注6)           |                      |

- 注: 1. 所有阀门按照API 598、API 6D和ISO 5208所有要求程序进行空气和水双向密封测试  
 2. 根据API 598规定, 1ml=16“滴”水  
 3. 根据FCI 70.2和IEC 60534.4规定, 1ml=6.67个“气泡”  
 4. FCI 70.2和IEC534.4规定的泄漏量取决于测试压差  
 5. IV级泄漏量取决于“阀门额定能力”, 因此其大小为阀门内件等级的函数  
 6. 泄漏量根据阀座直径与IEC 534.4表IV注2建议的泄漏系数之间的关系推断得出  
 7. VI级泄漏量取决于公称直径, 因而与压力无关

## API与FCI 阀座泄漏量 对比

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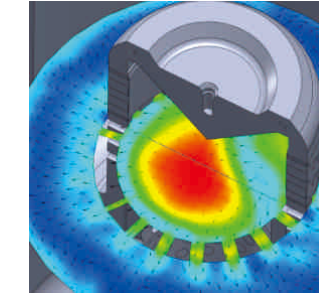
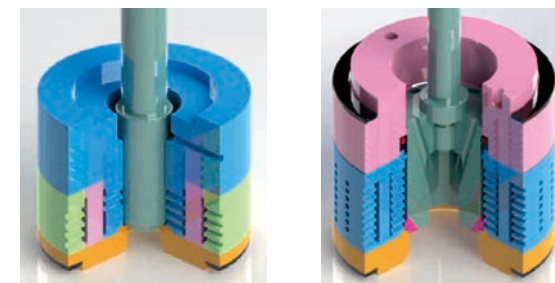
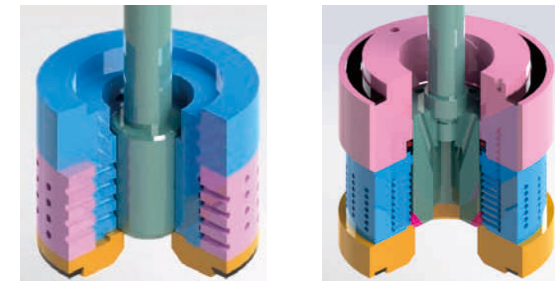
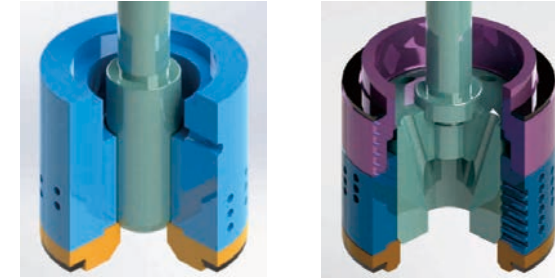
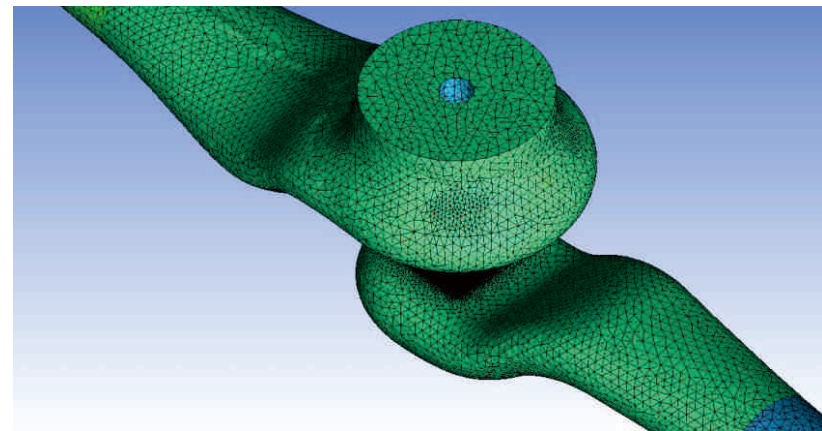
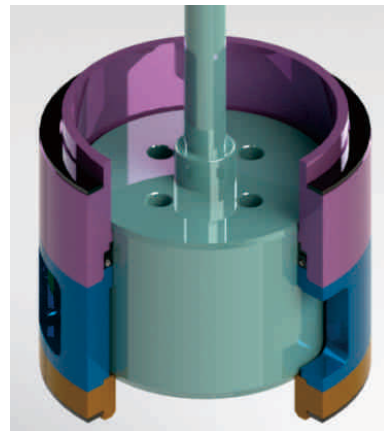
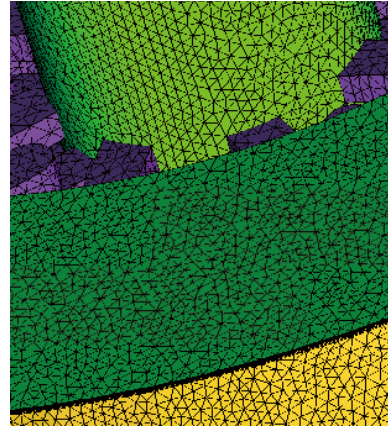
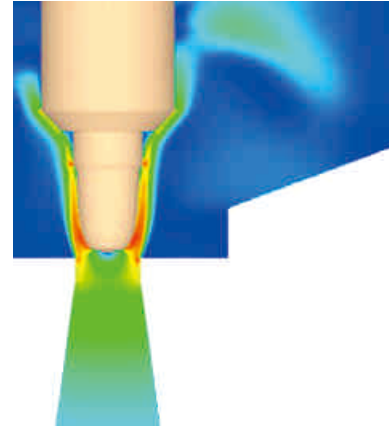
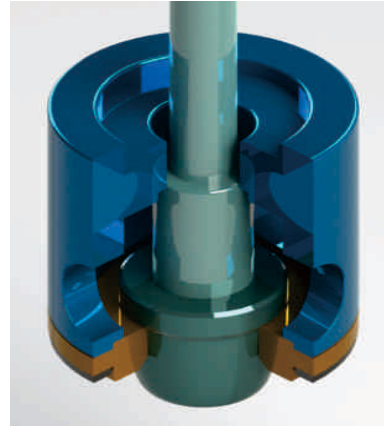
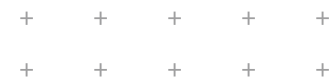
## 优想控制阀 选型表

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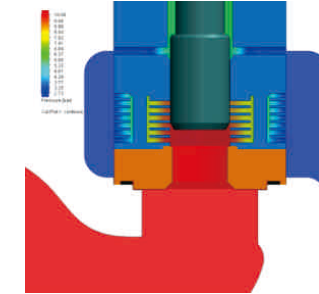
| Y                |  | 1<br>SG      | 2<br>D             | 3<br>2          | 4<br>4            | 5<br>E          | 6<br>R                      | 7<br>2"                  | 8<br>150LB            |                     |                    |         |       |             |             |
|------------------|--|--------------|--------------------|-----------------|-------------------|-----------------|-----------------------------|--------------------------|-----------------------|---------------------|--------------------|---------|-------|-------------|-------------|
| VALVE STYLE/阀门形式 |  | ACTUATOR/执行器 |                    | TRIM STYLE/压力平衡 |                   | TRIM TYPE /内件形式 |                             | FLOW CHARACTERISTIC/流量特征 |                       | END CONNECTION/连接形式 |                    | SIZE/口径 |       | RATING/压力等级 |             |
| CG               | 直通/CAGE GUIDE GLOBE  | D            | 薄膜式气动/DIAPHRAMG    | 1               | BALANCEED/压力平衡式   | 1               | 套筒/P-PORT                   | E                        | EQUAL/等百分比            | P                   | PT THREAD/螺纹       | DN25    | 1     | KS(JIS) 10K | ANSI 150Lb  |
| CA               | 角式/CAGE GUIDE ANGLE  | C            | 活塞式气动/AIR CYLINDER | 2               | UNBALANCED/压力非平衡式 | 2               | 单级多孔/ONE-STAGE MULTI-HOLE   | L                        | LINER/线性              | R                   | RF FLANGED/凸面法兰    | DN50    | 2     | KS(JIS) 16K | ANSI 250Lb  |
| TC               | 三通/THREE WAY   | M            | 电动/MOTOR           |                 |                   | 3               | 双级多孔/TWO-STAGE MULTI-HOLE   | Q                        | ON-OFF/开关             | U                   | UNION/活接头          | DN65    | 2-1/2 | KS(JIS) 20K | ANSI 300Lb  |
|                  |  | W            | 手动/HAND WHEEL      |                 |                   | 4               | 三级多孔/MULTI-STAGE MULTI-HOLE | M                        | EQUAL MODIFIED/等百分比修正 | F                   | FF FLANGED/平面法兰    | DN80    | 3     | KS(JIS) 30K | ANSI 400Lb  |
|                  |  | H            | 液动/HYDRAULIC       |                 |                   | 5               | 迷宫式/DISC-STACK              | D                        | LINER MODIFIED/线性修正   | B                   | BUTT WELDING/对焊    | DN100   | 4     | KS(JIS) 40K | ANSI 600Lb  |
|                  |  | B            | 光杆/BEAR            |                 |                   | 6               | 多级降压/MULTI-STEP             |                          |                       | S                   | SOCKET WELDING/承插焊 | DN125   | 5     | KS(JIS) 63K | ANSI 900Lb  |
|                  |  |              |                    |                 |                   | 7               | 微流量/V-NOTCH                 |                          |                       | T                   | RING JOINT/环垫法兰    | DN150   | 6     | DIN PN16    | ANSI 1500Lb |
| DH               | 减温减压装置/DESUPERHEATER   |              |                    |                 |                   |                 |                             |                          |                       |                     |                    | DN200   | 8     | DIN PN25    | ANSI 2500Lb |
|                  |  |              |                    |                 |                   |                 |                             |                          |                       |                     |                    | DN250   | 10    | DIN PN40    | ANSI 4500Lb |
| NOTE:            | 阀体及内件材质,根据实际工况要求做出选择。  |              |                    |                 |                   |                 |                             |                          |                       |                     |                    | DN300   | 12    | DIN PN63    |             |
|                  | BODY AND TRIM MATERIALS ARE SELECTED ACCORDING TO THE APLLICATION. |              |                    |                 |                   |                 |                             |                          |                       |                     |                    | DN350   | 14    | DIN PN100   |             |
|                  |  |              |                    |                 |                   |                 |                             |                          |                       |                     |                    | DN400   | 16    | DIN PN250   |             |



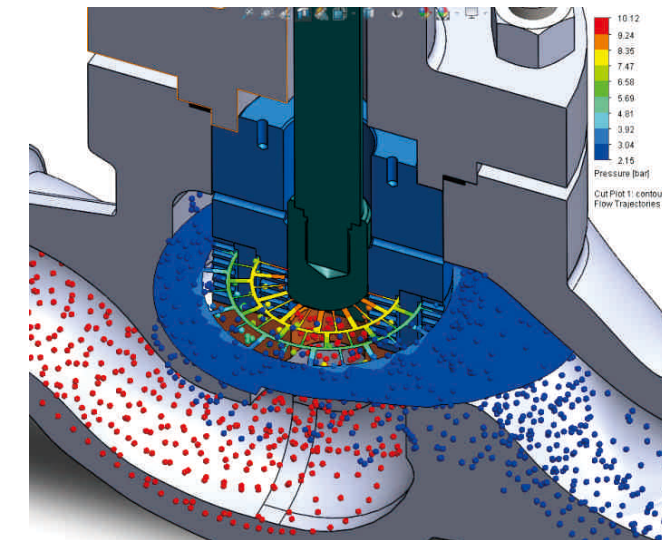
P-port  
—  
笼式单座



多孔式单级减噪降压流体仿真

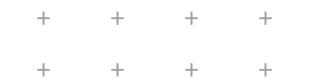


多孔式多级减噪降压压力云图

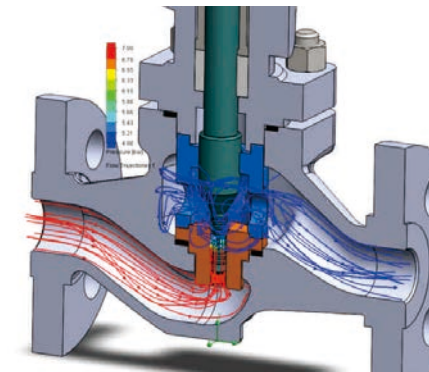
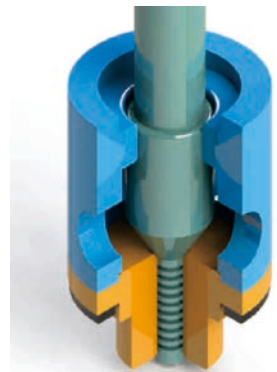


多孔式多级减噪降压流体仿真

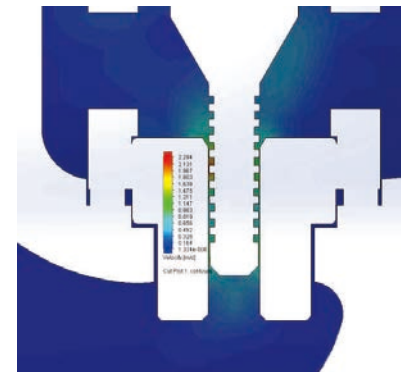
Multi-hole  
—  
多孔式减噪降压



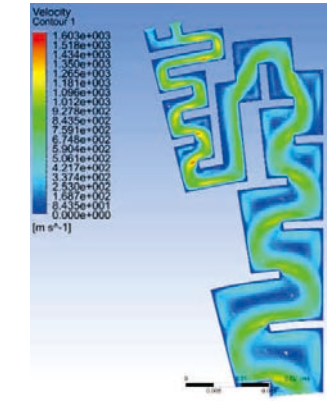
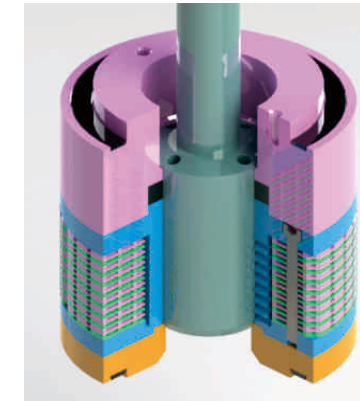
多层降压



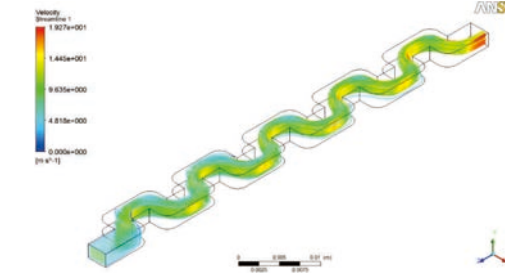
适用于小流量调节工况,通过多层变向降压,额定CV范围为小于等于3.2。



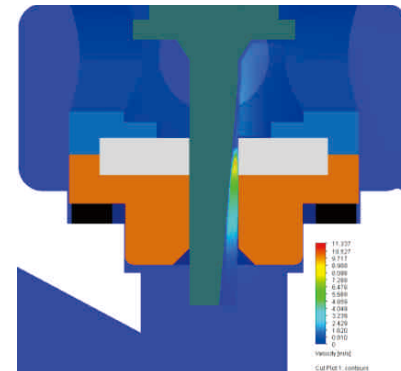
压力变化



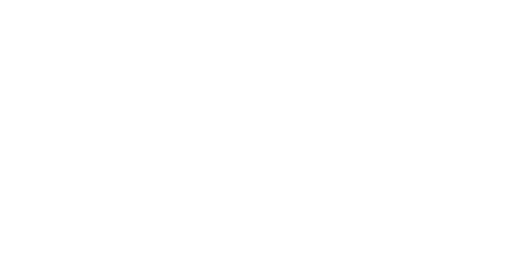
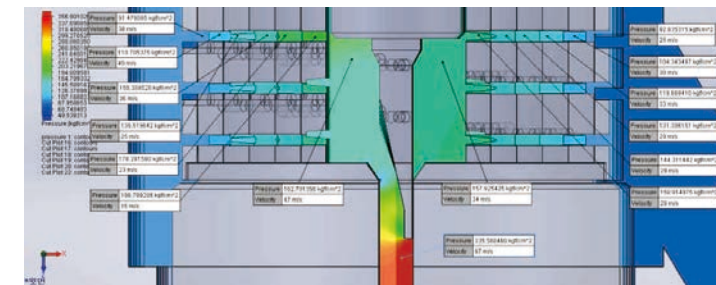
速度变化



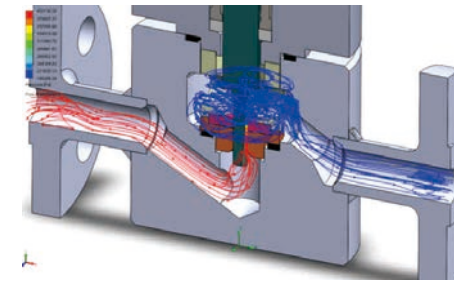
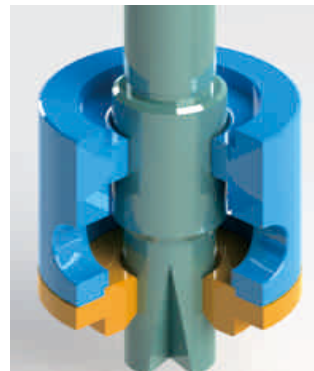
压力变化



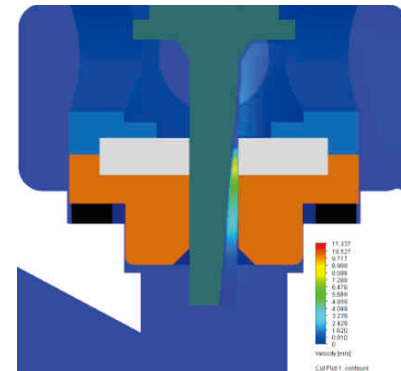
速度变化



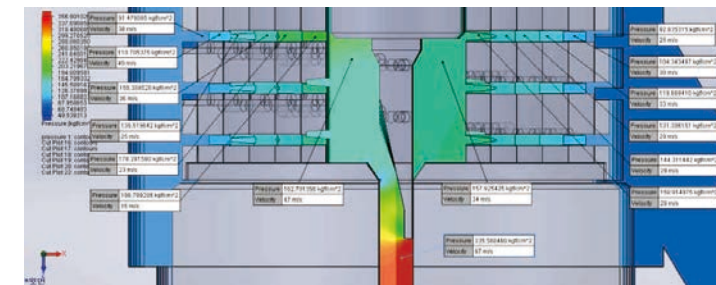
微流量调节



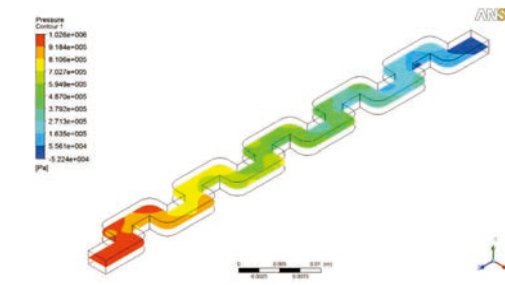
适用于微流量及微小流量调节工况,额定CV范围为0.001-0.1。



速度变化



压力变化



Multi-step

多级降压

+ + + + +  
+ + + + +

Disc-stack

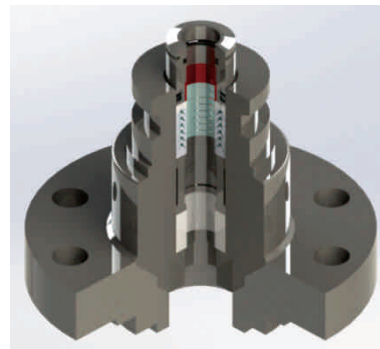
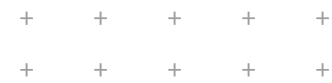
迷宫式减噪降压

+ + + + +  
+ + + + +



Bonnet selection

—  
阀盖选型



标准阀盖  
温度：-18℃ ~ 232℃



高温型阀盖  
温度：232℃ 以上，  
-100℃ ~ -18℃  
该阀盖可高效散热，  
防止工况高温流体的热  
传入填料和执行器。



超低温型阀盖  
温度：-100 ~ -196℃

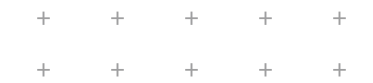


波纹管式  
采用波纹管结构，  
标准填料函，  
双重密封，  
对剧毒，  
或者深冷介质  
起到绝对的密封。  
温度：-60℃-530℃。



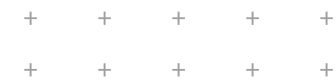
Product details

—  
产品细节





A better  
flow control  
solution



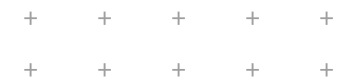
# QUALITY MANAGEMENT

质量管理





A better  
flow control  
solution



# DETECTION SYSTEM

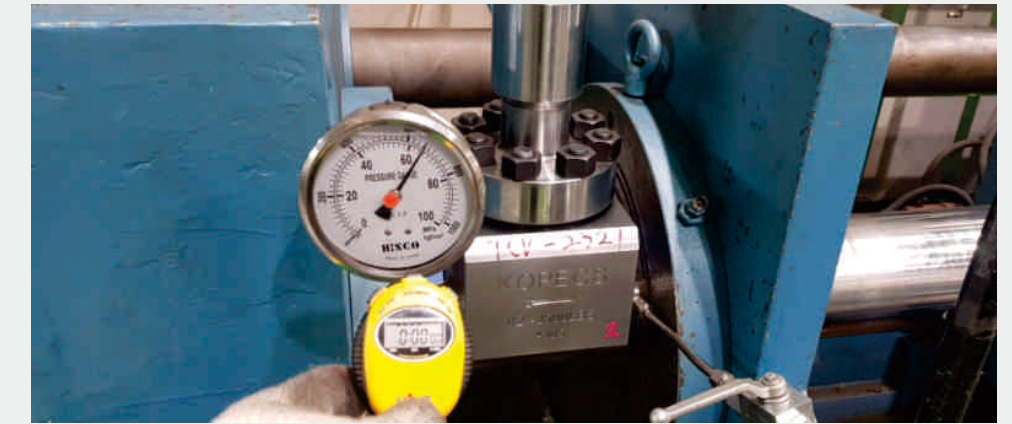
检测体系



PMI材质检测



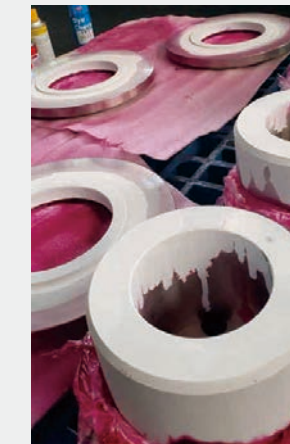
粗糙度检测



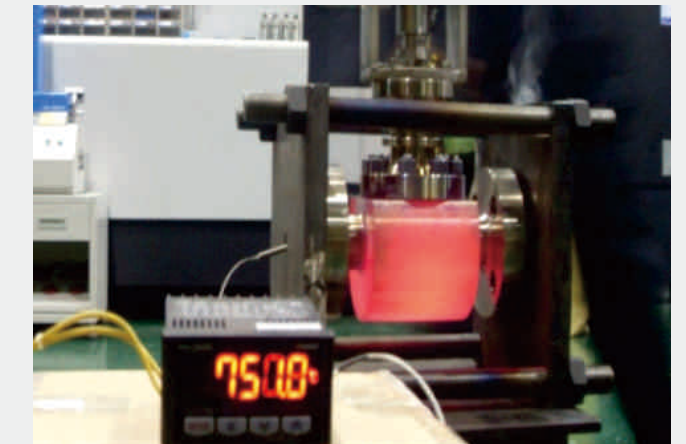
泄漏量等级检测



超低温压力试验



RT检测



高温压力试验