Product 1: Pressure Balanced Cage type Control Valve
Type: Straight-through, cast globe valve

Size: 1-1/2'', 2'', 2-1/2'', 3'', 4'', 5'', 6'', and 8'' (DN40 – DN200)

Pressure Rating: ANSI 125 ~ ANSI 600 (PN16~PN100, JIS10K~JIS40K)

Body Material: Carbon steel, Stainless steel, Alloy steel

Operation: Pneumatic diaphragm actuator, Pneumatic piston actuator, Electric actuator

OVERVIEW

The model TT-ACP pressure-balanced cage type control valves are designed for heavy-duty service. The valve plug employs a pressure balance function to control high differential pressure fluid with small actuator force.

The TT-ACP realizes seat leakage performance as single seat valve by seal ring structure. In addition, the TT-ACP is equipped the cage plug with a scraper ring to prevent a malfunction caused by foreign object enter between the cage plug and the cage. The actuator is adopted a compact and powerful diaphragm motor.

The TT-ACP is widely applicable for reliable control of high or low temperature, high differential pressure process lines where dynamic stability, anti-cavitation/flashing are required.

SPECIFICATIONS

Body Type: Straight-through, cast globe valve

Nominal size: 1-1/2'', 2'', 2-1/2'', 3'', 4'', 5'', 6'' and 8''

Pressure rating: • JIS 10K, 16K, 20K, 30K, 40K

• ANSI Class 125, 150, 300, 600

• JPI Class 125, 150, 300, 600

End connection: • Flanged end;

• Welded end; SW (1-1/2'', 2''), BW (2-1/2'' to 8''

For body/trim material combinations and operating temperature ranges, refer to Table 1.

Bonnet:

• Plain bonnet (-17 to 230°C)
• Extension bonnet Type 1 (-45 to -17°C and 230 to 360°C)

• Extension bonnet Type 2

Integral cast type (-100 to -45°C),

Welded type (-196 to -100°C)

Note) Take care not to exceed the operating temperature ranges specified for respective materials.

Gland type: Bolted gland

Packing / Grease

• Grease not provided

When V-shaped PTFE packing or PTFE yarn packing is used.

• Grease provided

When graphite packing is used.

Trim

Valve plug: Single seated pressure balanced type

Cage: High-flow characteristics

-Metal seat (For flow characteristics, refer to Figure 2.)

-Equal percentage (%V)

-Linear (LV)

Material

For body/trim material combinations and operating temperature ranges, refer to Table 1.

Note) For fluid conditions that require Stellite, refer to Figure 3.

Actuator Type: Single acting diaphragm actuator (Type HA)

Action: Direct or reverse action

Diaphragm

Type HA: Cloth embedded ethylene propylene rubber
Spring range:
20 to 98 kPa {0.2 to 1.0 kgf/cm²}
80 to 240 kPa {0.8 to 2.4 kgf/cm²}

**Supply pressure:**
Diaphragm actuator
Type HA: 140 to 390 kPa {1.4 to 4.0 kgf/cm²}

Note) Allowable differential pressure varies depending on spring range and air supply pressure.

**Air connection:** Rc1/4 or 1/4NPT internal thread

**Ambient temperature:** -30 to 70 °C

**Valve action:**
Air-to-close (Direct action actuator is combined.)
Air-to-open (Reverse action actuator is combined.)

**Optional accessories**
Positioner, pressure regulator with filter, hand wheel, limit switch, solenoid valve, motion transmitter, booster relay, lock-up valve, and others.

Note 1) for optional items, refer to the specification sheets and installation drawings of the respective accessories.

2) Accessories with the asterisk mark (*) are selected from among the following types depending on the actuators to be combined.
Product 2: Low Noise Cage type Control valve

Type: Straight-through, cast globe valve


Pressure Rating: ANSI 125 ~ ANSI 600 (PN16~PN100, JIS10K~JIS40K)

Body Material: Carbon steel, Stainless steel, Alloy steel

Operation: Pneumatic diaphragm actuator, Pneumatic piston actuator, Electric actuator
Product 3: Large Sized Pressure Balanced Cage Type Control valve

Type: Straight-through, cast globe valve

Size: 14", 16", 18", 20" (DN350 – DN500)

Pressure Rating: ANSI 150 ~ ANSI 300 (PN16~PN64, JIS10K~JIS30K)

Body Material: Carbon steel, Stainless steel, Alloy steel

Operation: Pneumatic diaphragm actuator, Pneumatic piston actuator, Electric actuator
Product 4: Pressure Balanced Cage type Control Valve

Type: Straight-through, cast globe valve
Size: 1-1/2", 2", 2-1/2", 3", 4", 6", 8"
Pressure Rating: ANSI 125 ~ ANSI 600 (PN16~PN100, JIS10K~JIS40K)
Body Material: Carbon steel, Stainless steel, Alloy steel
Operation: Pneumatic diaphragm actuator, Pneumatic piston actuator, Electric actuator
Product 5: Pressure Unbalanced Cage type Control Valve

Type: Straight-through, cast globe valve
Size: 1-1/2”, 2”, 2-1/2”, 3”, 4”, 6” and 8”
Pressure Rating: ANSI 125 ~ ANSI 600 (PN16~PN100, JIS10K~JIS40K)
Body Material: Carbon steel, Stainless steel, Alloy steel
Operation: Pneumatic diaphragm actuator, Pneumatic piston actuator, Electric actuator
**Product 6: Pressure Balanced High Pressure Cage type Control Valves**

Type: Straight-through, cast globe valve

Size: 1-1/2”, 2”, 3”, 4”, 6” and 8”

Pressure Rating: ANSI Class 900 ~ Class 2500

Body Material: A216 WCB, A217 WC6, A217 WC9, A217 C5, A351 CF8, A351CF8M

Operation: Pneumatic diaphragm actuator, Pneumatic piston actuator, Electric actuator