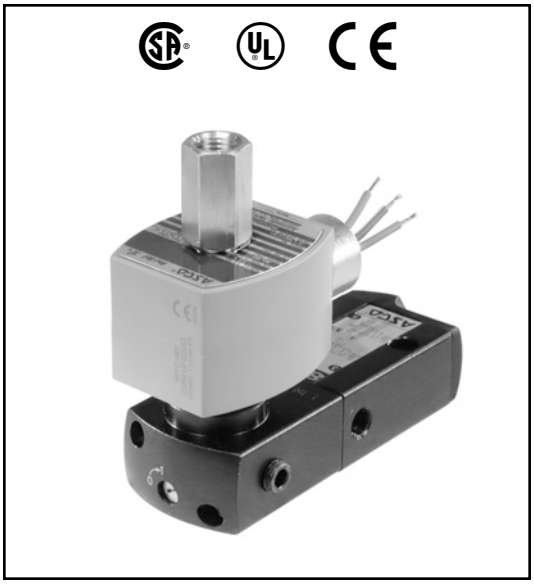
# Direct Mount RedHat II Spool Valves

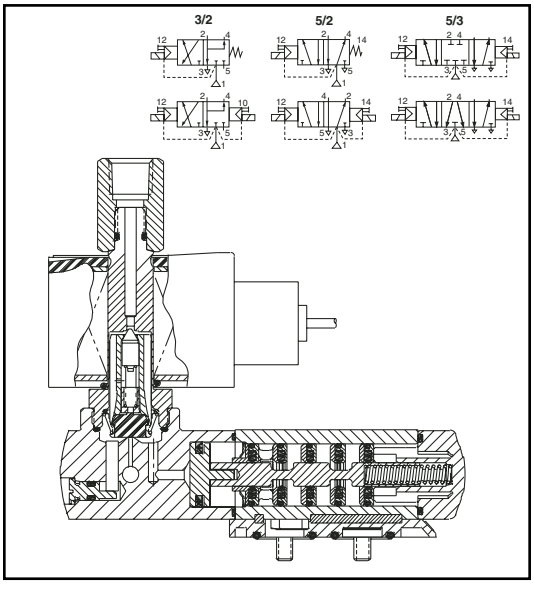
Anodized Aluminum, Brass and Stainless Steel Bodies
1/4" and 1/2" NPT



## Features

- Compact Spool Valve convertible from 3/2 to 5/2 with flow plates
- Mount directly to actuators with NAMUR interface per VDI/VDE 3845
- Single and dual solenoid constructions available
- Integral Breather Block vents to spring side of actuator to exhaust, preventing corrosion of the actuator
- Unique design combines hard T-seals and flexible o-rings, provides bubble-tight shutoff, resistance to dirt and multimillion cycle life controlling air or inert gas
- Low Power and Intrinsically Safe construction available *See Special Service Pilot Valve Section for details*






## Construction

| Valve Parts in Contact with Fluids | | | |
|---|---|---|---|
| **Body** | Aluminum, Black Anodized | Brass | 316L Stainless Steel |
| **End Cover (Spring end)** | Glass-filled Polyamide | Brass | 316L Stainless Steel |
| **Spool Valve Internals** | Zamak, Stainless Steel, Acetal (POM), Aluminum | Brass, Acetal (POM), Delrin | |
| **Pilot End Covers** | Aluminum, Black Anodized | Brass | 316L Stainless Steel |
| **Core Tube** | Stainless Steel | | |
| **Core and Plugnut** | Stainless Steel | | |
| **Springs** | Stainless Steel | | |
| **Seals and Discs** | NBR | | |
| **Top Disc** | Nylon (PA) | | |
| **Core Guide** | Acetal | | |
| **Seat and Seat Insert** | Brass, Acetal | | |
| **Shading Coil** | Copper | | |
| **Rider Ring (low power)** | PTFE | | |

## Electrical

| Standard Coil and Class of Insulation | Watt Rating and Power Consumption | | | | Spare Coil Part Number | | | |
|---|---|---|---|---|---|---|---|---|
| | | AC | | | General Purpose | | Explosionproof | |
| | DC Watts | Watts | VA Holding | VA Inrush | AC | DC | AC | DC |
| F | 11.6 | 10.1 | 25 | 50 | 238610 | 238710 | 238614 | 238714 |

**Standard Voltages:** 24, 120, 240, 480 volts AC, 60 Hz (110, 220 volts AC, 50 Hz).
6, 12, 24, 120, 240 volts DC. Must be specified when ordering.
Other voltages are available when required.

## Solenoid Enclosures

**Standard:** Watertight, Types 1, 2, 3, 3S, 4, and 4X.

**Optional:** Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9. (To order, add prefix "EF" or ("EV" for stainless steel) to catalog number.)

*See Optional Features Section for other available options.*

## Nominal Ambient Temp. Ranges

| Body Material | Description |
|---|---|
| **Aluminum** | AC: 5˚F to 125˚F (-15˚C to 52˚C)<br>DC: 5˚F to 104˚F (-15˚C to 40˚C) |
| **Brass** | AC: -40˚F to 125˚F (-40˚C to 52˚C) |
| **Stainless Steel** | DC: -40˚F to 104˚F (-40˚C to 40˚C) |

## Approvals

UL/CSA approvals for aluminum constructions pending. EF and EV are UL listed solenoids. CSA certified. Meet applicable CE directives.
SIL 3 capable per IEC 61508 on normally closed single solenoid. Third party certification provided by EXIDA.

*Refer to Engineering Section for details.*

## Specifications (English units)

| Body Material | Pipe Size (in) | Orifice Size (in) | Cv Flow Factor | Single Solenoid – $PFD_{AVG}$ = 3.3 x $10^{-3}$ | | | | | | | Dual Solenoid | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Operating Pressure Differential (psi) Air-Inert Gas | | | Max. Fluid Temp.˚F | | Catalog Number | Const. Ref. | Operating Pressure Differential (psi) Air-Inert Gas | | | Max. Fluid Temp.˚F | | Catalog Number | Const. Ref. | Watt Rating/ Class of Coil Insulation | |
| | | | | Min. | Max. AC | Max. DC | AC | DC | | | Min. | Max. AC | Max. DC | AC | DC | | | AC | DC |
| Aluminum 3/2, 5/2 | 1/4 ① | 1/4 | .86 | 30 | 150 | 120 | 140 | 120 | 8551G401 | 1 | 30 | 150 | 120 | 140 | 120 | 8551G402 | 1 | 10.1/F | 11.6/F |
| Aluminum 5/3 Center Closed | | | | | | | | | - | 2 | | | | | | 8551G465 | 2 | | |
| Aluminum 5/3 Center Open | | | | | | | | | - | 2 | | | | | | 8551G466 | 2 | | |
| Brass 3/2, 5/2 | | | | | | | | | EF8551G403 ② | 1 | | | | | | EF8551G404 ② | 1 | | |
| 316L Stainless Steel 3/2, 5/2 | | | | | | | | | EV8551G409 ③ | 2 | | | | | | EV8551G410 ③ | 2 | | |
| Aluminum 3/2, 5/2 | 1/2 | 1/2 | 3.7 | | | | | | 8553G401 | 2 | | | | | | 8553G402 | 2 | | |

① 1/8 inch NPT exhaust for aluminum and brass. ② Brass construction supplied standard with EF solenoid. ③ Stainless steel construction supplied standard with EV solenoid.

## Specifications (Metric units)

| Body Material | Pipe Size (in) | Orifice Size (mm) | Kv Flow Factor (m3/h) | Single Solenoid – $PFD_{AVG}$ = 3.3 x $10^{-3}$ | | | | | | | Dual Solenoid | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Operating Pressure Differential (bar) Air-Inert Gas | | | Max. Fluid Temp.˚C | | Catalog Number | Const. Ref. | Operating Pressure Differential (bar) Air-Inert Gas | | | Max. Fluid Temp.˚C | | Catalog Number | Const. Ref. | Watt Rating/ Class of Coil Insulation | |
| | | | | Min. | Max. AC | Max. DC | AC | DC | | | Min. | Max. AC | Max. DC | AC | DC | | | AC | DC |
| Aluminum 3/2, 5/2 | 1/4 ① | 6.4 | .7 | 2 | 10 | 8.2 | 60 | 48 | 8551G401 | 1 | 2 | 10 | 8.2 | 60 | 48 | 8551G402 | 1 | 10.1/F | 11.6/F |
| Aluminum 5/3 Center Closed | | | | | | | | | - | 2 | | | | | | 8551G465 | 2 | | |
| Aluminum 5/3 Center Open | | | | | | | | | - | 2 | | | | | | 8551G466 | 2 | | |
| Brass 3/2, 5/2 | | | | | | | | | EF8551G403 ② | 1 | | | | | | EF8551G404 ② | 1 | | |
| 316L Stainless Steel 3/2, 5/2 | | | | | | | | | EV8551G409 ③ | 2 | | | | | | EV8551G410 ③ | 2 | | |
| Aluminum 3/2, 5/2 | 1/2 | 13 | 3.2 | | | | | | 8553G401 | 2 | | | | | | 8553G402 | 2 | | |

① 1/8 inch NPT exhaust for aluminum and brass. ② Brass construction supplied standard with EF solenoid. ③ Stainless steel construction supplied standard with EV solenoid.

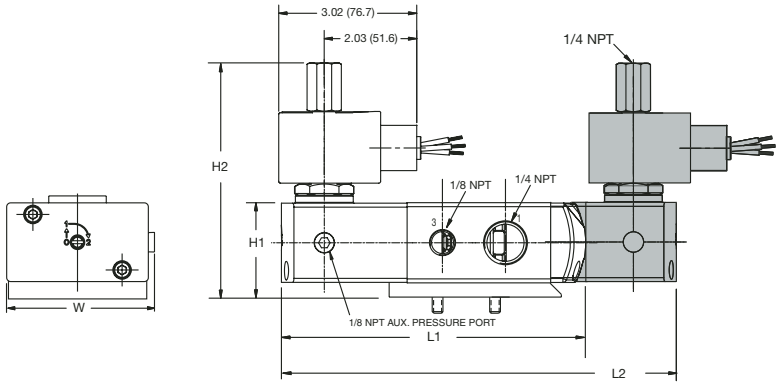
## Dimensions inches (mm)

| Series | 8551 |
|---|---|
| NPT | 1/4 |
| L1 ① | 4.96 (126) |
| L2 ① | 6.50 (165) |
| H2 | 4.38 (111) |
| H1 | 1.57 (40) |
| W | 1.77 (45) |

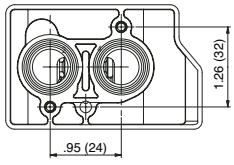
① Manual override option MH adds .250" (6.4), MS option adds .468" (11.9) to each solenoid endcap.

| Optional Manual Operators | | |
|---|---|---|
| Add Suffix | | Description |
| MO | | Push and turn to lock with flat head screwdriver slot |
| MI | | Momentary push in with flat head screwdriver slot |
| MH | | Momentary push in by hand |
| MS | | Push and turn to lock by hand |

**Const. Ref. 1**




**8551 NAMUR Footprint**

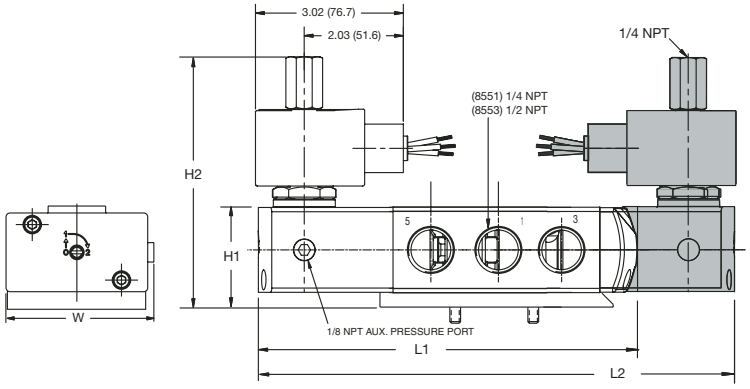



| Series | 8551 (5/3) | 8553 |
|---|---|---|
| NPT | 1/4 | 1/2 |
| L1 ① | - | 7.09 (180) |
| L2 ① | 7.44 (189) | 8.85 (225) |
| H2 | 4.38 (111) | 4.77 (121) |
| H1 | 1.57 (40) | 2.08 (53) |
| W | 1.77 (45) | 2.87 (73) |

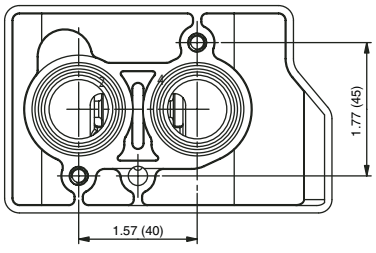
① Manual override option MH adds .250" (6.4), MS option adds .468" (11.9) to each solenoid endcap.

| Optional Manual Operators | | |
|---|---|---|
| Add Suffix | | Description |
| MO | | Push and turn to lock with flat head screwdriver slot |
| MI | | Momentary push in with flat head screwdriver slot |
| MH | | Momentary push in by hand |
| MS | | Push and turn to lock by hand |

**Const. Ref. 2**




**8553 NAMUR Footprint**

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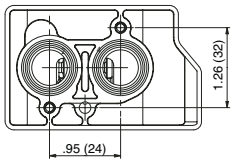


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