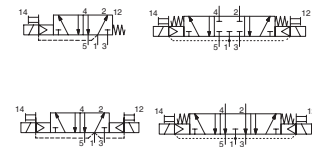




SOLENOID VALVES

pilot operated, spool type
single/dual solenoid
aluminium body, 1/4 - 1/2



5/2-5/3
Series
551
553

FEATURES

- All the exhaust ports of the spool valve are connectable, providing better environmental protection. Particularly recommended for sensitive areas, such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valves offer environmental protection against the ingress of liquids, dusts or other foreign matter (environmentally-protected construction)
- Can be externally piloted (external air pilot supply) to convert valve to zero minimum operation by flipping a gasket
- The monostable spool valves in conformity with IEC 61508 Standard (2010 route 2_H version) have TÜV (551 series) and EXIDA (551-553 series) certified with integrity levels: SIL 2 for HFT = 0 / SIL 3 for HFT = 1
- The solenoid valves satisfy all relevant EU directives

GENERAL

| | |
|-----------------------|------------------------------|
| Differential pressure | 2 - 10 bar [1 bar = 100 kPa] |
| Flow (Qv at 6 bar) | l/min (ANR) |
| | 1/4 1/2 |
| | 860 3800 |

| fluids (*) | temperature range (TS) | seal materials (*) |
|--------------------------|------------------------|------------------------------------|
| air, inert gas, filtered | -25°C to +60°C | NBR (nitrile) + PUR (polyurethane) |

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

| | |
|----------------------------|--|
| Body, end cover | Aluminium, black anodized |
| End cover (spring return) | Glass fibre filled PA |
| Spool valve internal parts | Zamak, stainless steel, POM, aluminium |
| Core tube, core spring | Stainless steel |
| Core and plugnut | Stainless steel |
| Top disc | PA |
| Pilot seals | FPM, NBR |
| Shading coil | Copper |

OTHERS MATERIALS

Solenoid enclosure Zinc plated steel (epoxy coated)

ELECTRICAL CHARACTERISTICS

| | |
|---------------------------------------|---|
| Coil insulation class | F |
| Coil connection | Embedded screw terminal (cable ø 7 - 12 mm) |
| Cable entry | Cable gland, polyamide (PA), M20x1,5 |
| Electrical safety | IEC 335 |
| Electrical enclosure protection | IP67 (EN 60529) |
| Standard voltages | DC (=) : 24V - 48V |
| (Other voltages and 60 Hz on request) | AC (~) : 24V - 48V - 115V - 230V / 50 Hz |

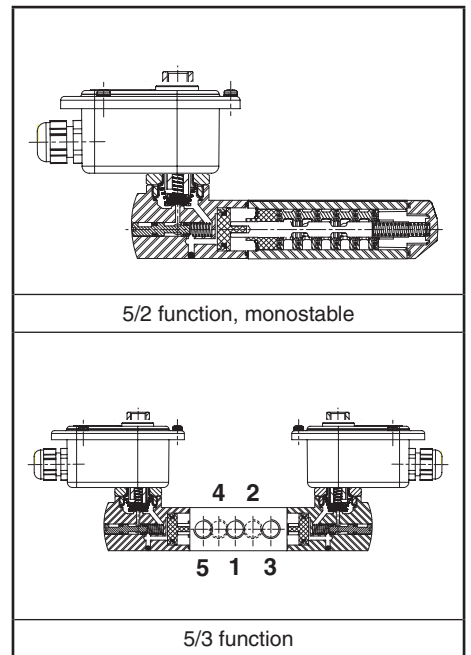
| prefix option | power ratings | | | | operator ambient temperature range (TS) (C°) | replacement coil | | type ⁽¹⁾ |
|---------------|---------------------|--------------------------|------|----------------------|---|------------------|--------------|---------------------|
| | inrush ~ (VA) | holding ~ (VA) (W) | | hot/cold = (W) | | ~ 230 V/50 Hz | = 24 V DC | |
| | | (VA) | (W) | | | | | |
| WP | 55 | 23 | 10,5 | 9/11,2 | -40 to +75 | 400405-117 | 400405-142 | 01 |

⁽¹⁾ Refer to the dimensional drawings on the following page

SPECIFICATIONS

| pipe size | orifice size | flow coefficient Kv | | operating pressure differential (bar) | | | | power coil (W) | | catalogue number | options | | |
|---|--------------|------------------------|---------|---------------------------------------|-----------|----|---------|-------------------|--------------|------------------|------------------------------------|---|--|
| | | | | min. ⁽²⁾ | max. (PS) | | air (*) | | | | impulse / maintained man. operator | | |
| G | (mm) | (m³/h) | (l/min) | | ~ | = | | ~ | = | ~/= | | | |
| 5/2 - Solenoid air pilot operated - spring return (monostable) | | | | | | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | 10,5 | 11,2 | WPG551B417 | MO | - | - | |
| 1/2 | 13 | 3,15 | 52,5 | 0 / 2 | 10 | 10 | 10,5 | 11,2 | WPG553A417 | MO | - | - | |
| 5/2 - Solenoid air pilot operated and return (bistable) | | | | | | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | 10,5 | 11,2 | WPG551B418 | MO | - | - | |
| 1/2 | 13 | 3,15 | 52,5 | 0 / 2 | 10 | 10 | 10,5 | 11,2 | WPG553A418 | MO | - | - | |
| 5/3 - W1 - pressure held, solenoid air pilot operated and return | | | | | | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | 10,5 | 11,2 | WPG551B467 | MO | - | - | |
| 1/2 | 13 | 3,15 | 52,5 | 0 / 2 | 10 | 10 | 10,5 | 11,2 | WPG553A467 | MO | - | - | |
| 5/3 - W3 - pressure release, solenoid air pilot operated and return | | | | | | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | 10,5 | 11,2 | WPG551B468 | MO | - | - | |
| 1/2 | 13 | 3,15 | 52,5 | 0 / 2 | 10 | 10 | 10,5 | 11,2 | WPG553A468 | MO | - | - | |
| 5/2 - Solenoid air pilot operated - spring return (monostable), certified IEC 61508 Functional Safety data | | | | | | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | 10,5 | 11,2 | WPG551B417SL | - | - | - | |
| 1/2 | 13 | 3,15 | 52,5 | 0 / 2 | 10 | 10 | 10,5 | 11,2 | WPG553A417SL | - | - | - | |

⁽²⁾ Zero minimum is only achieved if external pressure is applied.



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Direct or Pilot Operated Solenoid Valves (5/2-5/3) - 9

OPTIONS

- Valves configured for external pilot air supply with ASCO solenoid interface, TPL 20547
- Explosionproof enclosures for use in zones 1/21-2/22, categories 2-3 to ATEX Directive 2014/34/EU (www.asco.com)
- Compliance with "UL", "CSA" and other local approvals available on request
- Coil insulation class H for max. ambient temperature +80°C, prefix "WPHT"
- 1/2" NPT (prefix "T") and M20 x 1.5 (prefix "ET") conduits (aluminium or 316 SS) available for steel solenoid enclosure
- Other pipe connections are available on request

INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the spool valve and its pneumatic operator if used outside or in harsh environments (dusts, liquids etc.)
- IEC 61508 Functional Safety (suffix SL). Check temperature range of valve body and solenoid for suitability. For probability of failure, contact us
- Threaded pipe connection is standard: G = G (ISO 228/1)
- Solenoid enclosure has a cable gland with integral strain relief for cables with an O.D. from 7 to 12 mm and is provided with internal and external grounding terminals
- Valves with suffix "SL" are supplied with specific exhaust protectors
- Installation/maintenance instructions are included with each valve

ACCESSORIES

| series | pipe size | exhaust protector (stainless steel) |
|---------|-----------|-------------------------------------|
| 551-553 | G 1/8 | 34600418 ⁽¹⁾ |
| 551 | G 1/4 | 34600419 ⁽¹⁾ |
| 553 | G 1/2 | 34600479 ⁽¹⁾ |

⁽¹⁾ Supplied with suffix "SL".

ORDERING EXAMPLES:

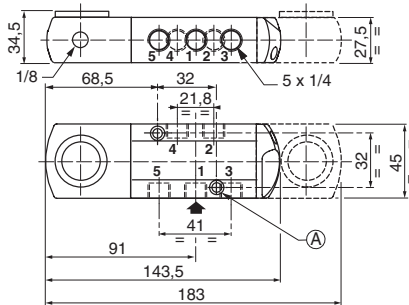
| | | | | | |
|------|---|-----|---|-----|-----------------|
| WP | G | 551 | B | 417 | 230V / 50 Hz |
| WP | G | 551 | B | 417 | SL 230V / 50 Hz |
| WP | G | 553 | A | 418 | MO 24V / DC |
| WPHT | G | 551 | B | 418 | MO 230V / 50 Hz |
| WP | G | 553 | A | 418 | MO 115V / 50 Hz |

prefix — pipe thread — basic number — voltage — suffix

DIMENSIONS (mm), WEIGHT (kg)

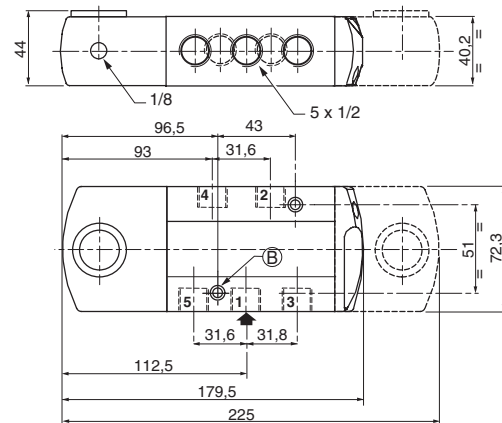


Series 551

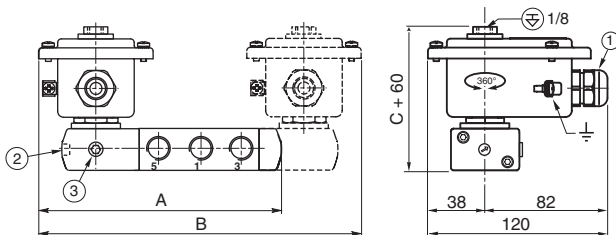


- (A) 2 mounting holes: 5,3 mm dia. (Spotfacing: 9 mm dia., depth 5 mm)
 (B) 2 mounting holes: 6,5 mm dia. (Spotfacing: 11 mm dia., depth 6 mm)

Series 553



TYPE 01
 Prefix "WP" Solenoid
 Metal; epoxy coated
 IEC 335
 IP67



- ① Cable gland for unarmoured cable with 7 to 12 mm dia. sheath
 ② Manual operator location
 ③ External pilot air supply, 1/8 pipe size

| type | series | prefix option | A | B | C | weight ⁽²⁾ | | |
|------|--------|---------------|-------|-------|-------|-----------------------|----------|---------|
| | | | | | | monostable | bistable | W1 - W3 |
| 04 | 551 | WP | 160 | 216 | 103 | 0,87 | 1,52 | 1,52 |
| | 553 | WP | 196,2 | 256,3 | 112,5 | 1,51 | 2,08 | 2,08 |

⁽²⁾ Including coil and cable gland.

All leaflets are available on: www.asco.com

10 - Direct or Pilot Operated Solenoid Valves (5/2-5/3)



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