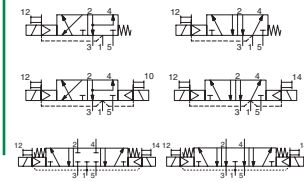




SOLENOID VALVES

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



3/2-5/2
5/3
Series
551
553

FEATURES

- The solenoid operated spool valves have threaded port connections and NAMUR interface
- The same spool valve can be adapted for 3/2 NC or 5/2 functions for controlling double-acting and single-acting actuators
- 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
Flow (Qv at 6 bar)

2 - 10 bar [1 bar = 100 kPa]
l/min (ANR)
1/4 | 1/2
700 | 3000

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, anodised
End cover (spring return)	Glass fibre filled PA
Interface plates	Glass fibre filled PA
Spool valve internal parts	Zamak, stainless steel, POM, aluminium
Core, core tube and plugnut	Stainless steel
Core spring	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 AC (~) : 24V - 48V - 115V - 230V / 50 Hz
(Other voltages and 60 Hz on request)	

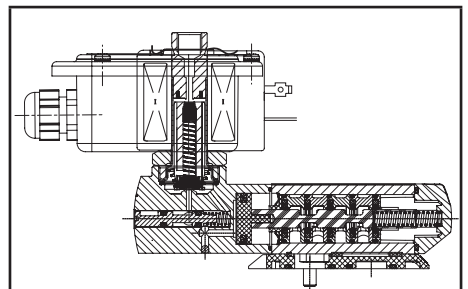
prefix option	power ratings				operator ambient temperature range (TS) (C°)	replacement coil		type ⁽¹⁾
	inrush ~ (VA)	holding ~ (W)		hot/cold = (W)		~	=	
		(VA)	(W)					
WP	55	23	10,5	9/11,2	-40 to +75	230 V/50 Hz	24 V DC	01

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

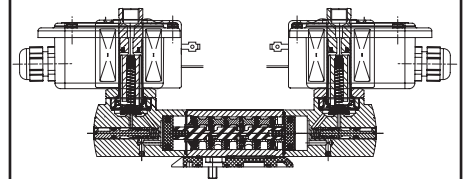
SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)			power coil (W)		catalogue number			options		
				min. ⁽²⁾	max. (PS)				monostable	bistable	5/3	impulse / maintained	man. operator	
(mm)	(m³/h)	(l/min)	air (*)		~	=	~/=	~/=						~/=
G														
3/2 NC - 5/2 - Solenoid air pilot operated - spring return, or solenoid air pilot and return														
1/4	6	0,6	10	0 / 2	10	10	10,5	11,2	WPG551B401	WPG551B402	-	MO	-	-
1/2	13	2,49	41,5	0 / 2	10	10	10,5	11,2	WPG553A401	WPG553A402	-	MO	-	-
3/2 NC - 5/2 - Solenoid air pilot operated spring return (monostable), certified IEC 61508 Functional Safety data														
1/4	6	0,6	10	0 / 2	10	10	10,5	11,2	WPG551B401SL	-	-	-	-	-
1/2	13	2,49	41,5	0 / 2	10	10	10,5	11,2	WPG553A401SL	-	-	-	-	-
5/3 - W1 - pressure held, solenoid air pilot and return														
1/4	6	0,6	10	0 / 2	10	10	10,5	11,2	-	-	WPG551B465	MO	-	-
1/2	13	2,49	41,5	0 / 2	10	10	10,5	11,2	-	-	WPG553A465	MO	-	-
5/3 - W3 - pressure released, solenoid air pilot and return														
1/4	6	0,6	10	0 / 2	10	10	10,5	11,2	-	-	WPG551B466	MO	-	-
1/2	13	2,49	41,5	0 / 2	10	10	10,5	11,2	-	-	WPG553A466	MO	-	-

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



3/2 NC - 5/2 function, monostable



5/3 function

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
- Valves equipped with exhaust reducers G 1/8 (3/2 NC-5/2, series 551), suffix M
- Set of stainless steel mounting screws (series 551), catalogue number **97802212**
- Set of two G 1/8 exhaust reducers (series 551), catalogue number **88100344**
- Other pipe connections are available on request

INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- 3/2 NC-5/2 spool valve supplied with one or two interface plates with NAMUR mating surfaces. Depending on function (3/2 NC or 5/2), position the plate (series 551) or one of the two plates (series 553) on the spool valve body before installing on actuator
- Do not connect the pressure supply to the exhaust port 3. The "environmentally-protected" construction is not adapted for NO function. Contact us for function available in specific version
- Dowel pin (if necessary), bolts and gaskets are standard supplied
- 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 (W1/W3)	G 1/4	34600419 ⁽¹⁾
553	G 1/2	34600479 ⁽¹⁾

⁽¹⁾ Supplied with suffix "SL"

ORDERING EXAMPLES:

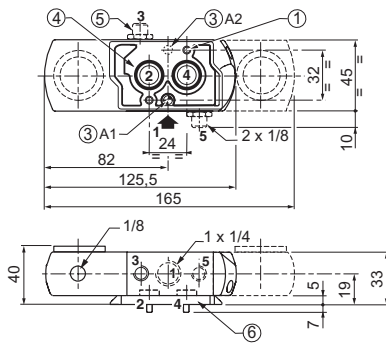
WP	G	551	B	401	230V / 50 Hz
WP	G	551	B	401	SL 230V / 50 Hz
WP	G	553	A	402	MO 24V / DC
WPHT	G	551	B	402	MO 230V / 50 Hz
WP	G	553	A	402	MO 115V / 50 Hz

prefix _____ voltage _____
 pipe thread _____
 basic number _____ suffix _____

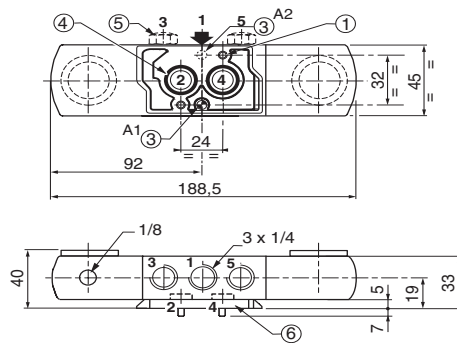
DIMENSIONS (mm), WEIGHT (kg)



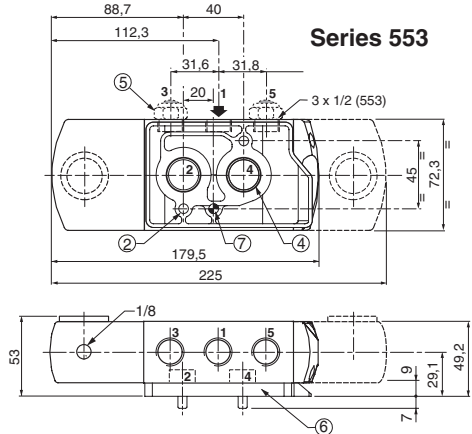
Series 551



W1 - W3

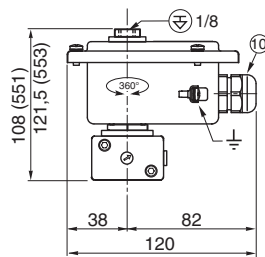
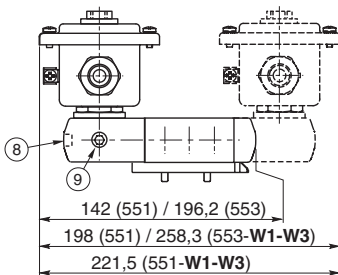


Series 553



TYPE 01

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



- ① 2 mounting holes: 5,3 mm dia. (Spotfacing: 9 mm dia., depth 5 mm)
- ② 2 mounting holes: 6,5 mm dia. (Spotfacing: 11 mm dia., depth 6 mm)
- ③ One 5 mm dia. hole for dowel pin:
- in position A1: 3/2 NC function plate
- in position A2: 5/2 function plate
- ④ 2 O-ring seals (supplied)
- ⑤ Exhaust reducer (G 1/8, 3/2 NC-5/2, series 551) or exhaust protector
- ⑥ Interface plate
- ⑦ One 6,5 mm dia. hole for dowel pin, position for 3/2 NC or 5/2 function plate
- ⑧ Manual operator location
- ⑨ External pilot air supply, 1/8 pipe size
- ⑩ Cable gland for unarmoured cable with 7 to 12 mm dia. sheath

type	prefix option	weight ⁽²⁾					
		monostable		bistable		W1 - W3	
		551	553	551	553	551	553
04	WP	0,79	1,57	1,33	2,14	1,43	2,14

⁽²⁾ Including coil and cable gland.

All leaflets are available on: www.asco.com

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