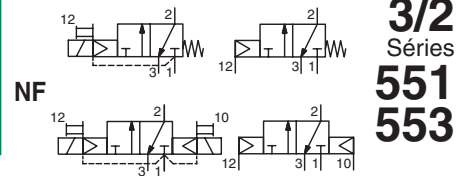




# SPOOL VALVES

pilot operated or air operated, spool type  
single/dual solenoid or air (mono/bistable function)  
aluminium body, 1/4 - 1/2



## 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)
- The monostable spool valves in conformity with IEC 61508 Standard (2010 route 2<sub>H</sub> 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

<b>Differential pressure</b>	2 - 10,4 bar [1 bar = 100 kPa]				
<b>Flow (Qv at 6 bar)</b>	l/min (ANR)				
	<table border="1"> <tr> <td>1/4</td> <td>1/2</td> </tr> <tr> <td>860</td> <td>3800</td> </tr> </table>	1/4	1/2	860	3800
1/4	1/2				
860	3800				

<b>fluids (*)</b>	<b>temperature range (TS)</b>	<b>seal materials (*)</b>
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

<b>Body, end cover</b>	Aluminium, black anodized
<b>End cover (spring return)</b>	Glass fibre filled PA
<b>Spool valve internal parts</b>	Zamak, stainless steel, POM, aluminium
<b>Seals</b>	NBR + PUR
<b>Core tube</b>	Brass
<b>Core and plugnut</b>	Stainless steel
<b>Shading coil</b>	Copper

## ELECTRICAL CHARACTERISTICS

<b>Coil insulation class</b>	F
<b>Connector</b>	Spade plug (cable Ø 6-8 mm or Ø 6-10 mm)
<b>Connector specification</b>	EN 175301-803, 11 mm, industry standard form B (type 01) or ISO 4400 / EN 175301-803, form A (type 02)
<b>Electrical safety</b>	IEC 335
<b>Electrical enclosure protection</b>	Moulded IP65 (EN 60529)
<b>Standard voltages</b>	DC (=) : 24V - 48V
(Other voltages and 60 Hz on request)	AC (~) : 24V - 48V - 115V - 230V / 50 Hz

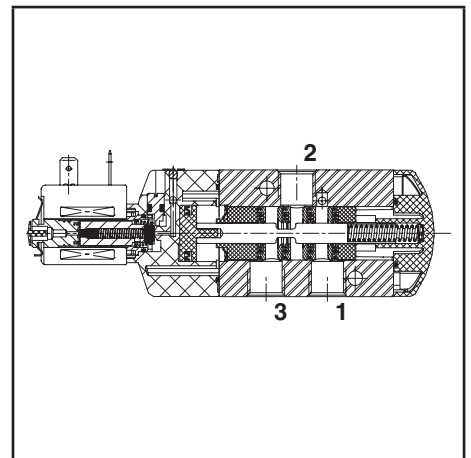
prefix option	power ratings				operator ambient temperature range (TS) (C°)	replacement coil		type <sup>(1)</sup>
	inrush	holding		hot/cold		~	=	
	~	~	=	=				
(VA)	(VA)	(W)	(W)	(C°)	230 V/50 Hz	24 V DC		
SC	6	3,5	2,5	2,5 / 3	-25 to + 60	400127-097	400904-542	01
SC	15	7	5	4 / 5	-25 to + 60	400727-117	400727-185	02

<sup>(1)</sup> Refer to the dimensional drawings on the following page.

## SPECIFICATIONS

[Configurator - CAD Files](#)

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)			power coil (W)		catalogue number	options		
				min.	max. (PS)					maintained	man.	operator
					air (*)							
G	(mm)	(m³/h)	(l/min)	~	=	~	=	~/=				
<b>NC - Normally closed, solenoid air pilot operated - spring return (monostable)</b>												
1/4	6	0,75	12,5	2	10	10	2,5	3	SCG551A005	MS	-	-
1/2	13	3,15	52,5	2	10	10	5	5	SCG553A005	MS	-	-
<b>NC - Normally closed, solenoid air pilot operated and return (bistable)</b>												
1/4	6	0,75	12,5	2	10	10	2,5	3	SCG551A006	MS	-	-
1/2	13	3,15	52,5	2	10	10	5	5	SCG553A006	MS	-	-
<b>NC - Solenoid air pilot operated - spring return (monostable), certified IEC 61508 Functional Safety data</b>												
1/4	6	0,75	12,5	2	10	10	2,5	3	SCG551A005SL	-	-	-
1/2	13	3,15	52,5	2	10	10	5	5	SCG553A005SL	-	-	-



00079GB-2018/R01  
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**AIR OPERATED AND OPTIONS**

- Versions (Type 03): - pilot air operated, spring return, catalogue numbers: **G551A105 / G551A105SL** (1/4); **G553A105 / G553A105SL** (1/2)  
- pilot air operated and return, catalogue numbers: **G551A106** (1/4); **G553A106** (1/2)
- Suffix **"GD"** (air operated only, ATEX 2GD c)
- Explosionproof enclosures for use in zones 1/21-2/22, categories 2-3 to ATEX Directive 2014/34/EU ([www.asco.com](http://www.asco.com))
- Supply rail ([www.asco.com](http://www.asco.com))
- Other pipe connections are available on request
- Connector with visual indication and peak voltage suppression or with cable length of 2 m ([www.asco.com](http://www.asco.com))

**INSTALLATION**

- The valves can be mounted in any position without affecting operation
- Do not connect the pressure supply to the exhaust port 3. The "environmentally-protected" construction is not adapted for a "distributing" function or use in NO function. Contact us for functions available in specific versions
- 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
- Valves with suffix "SL" are supplied with specific exhaust protectors
- Threaded pipe connection is standard: G = G (ISO 228/1)
- Installation/maintenance instructions are included with each valve

**ACCESSORIES**

series	pipe size	exhaust protector (stainless steel)
551	G 1/4	<b>34600419</b> <sup>(1)</sup>
553	G 1/2	<b>34600479</b> <sup>(1)</sup>
551-553	M5	<b>34600484</b> <sup>(1)</sup>

<sup>(1)</sup> Supplied with suffix "SL".

**ORDERING EXAMPLES:**

**SC** G 551 **A** 005 **MS** 230V / 50 Hz  
**SC** G 551 **A** 005 **SL** 24V / DC  
**SC** G 553 **A** 006 115V / 50 Hz  
**G** 551 **A** 105 **SL**

prefix | pipe thread | basic number | voltage | suffix

**DIMENSIONS (mm), WEIGHT (kg)**

**TYPE 01**  
Prefix "SC" Solenoid  
Epoxy moulded  
IEC 335 / DIN 43650  
IP65

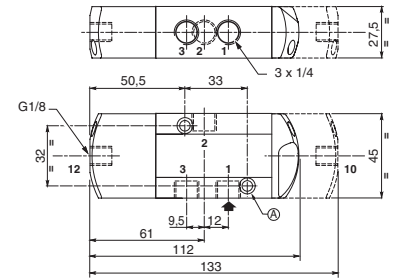
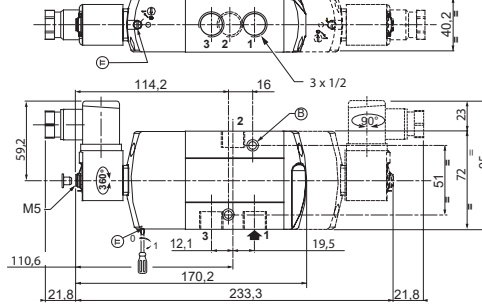
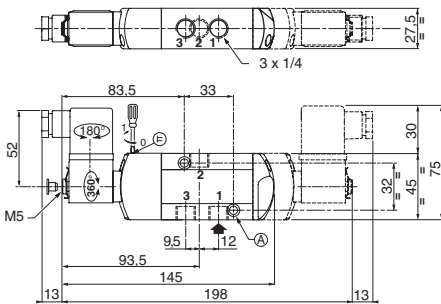
**551A005 / A005MS / A005SL / A006 / A006MS**

**TYPE 02**  
Prefix "SC" Solenoid  
Epoxy moulded  
IEC 335 / ISO 4400  
IP65

**553A005 / A005MS / A006 / A006MS**

**TYPE 03**  
No Prefix  
Air operated version

**551A105 / A105SL / A106**

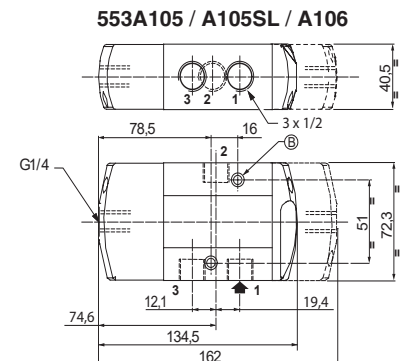


2 mounting holes:

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

type	prefix option	weight	
		monostable	bistable
01 (551)	SC	0,35 <sup>(2)</sup>	0,43 <sup>(2)</sup>
02 (553)	SC	0,69 <sup>(2)</sup>	0,99 <sup>(2)</sup>
03 (551)	-	0,28	0,36
03 (553)	-	0,80	1,06

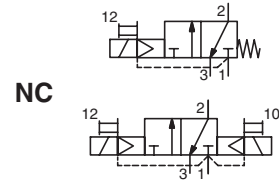
<sup>(2)</sup>Incl. coil(s) and connector(s).





# SOLENOID VALVES

pilot operated, spool type  
single/dual solenoid (mono/bistable function)  
aluminium body, 1/4 - 1/2



**3/2**  
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)
- Solenoid pilot valve with spade-plug connector type EN 175301-803, industry standard form C, with 9,4 mm spacing. Versions with M12 connection
- Solenoid pilot valve, CNOMO size 15 interface, with or without integral LED and electrical protection. LED indicator visible from 3 sides
- The monostable spool valves in conformity with IEC 61508 Standard (2010 route 2<sub>H</sub> 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 - 10,4 bar [1 bar = 100 kPa]  
**Flow (Qv at 6 bar)** l/min (ANR)

1/4	1/2
860	3800

**Pilot mounting interface surface** ISO 15218 (CNOMO E06.36.120N, size 15)

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 25°C to + 40°C	NBR (nitrile) + PUR (polyurethane)

## MATERIALS IN CONTACT WITH FLUID

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

<b>Body, end cover</b>	Aluminium, black anodized
<b>End cover (spring)</b>	Glass fibre filled PA
<b>Spool valve internal parts</b>	Zamak, stainless steel, POM, aluminium
<b>Pilot body</b>	PARA
<b>Pilot internal parts</b>	POM, PET, stainless steel and brass
<b>Pneumatic interface seal</b>	TPE

## ELECTRICAL CHARACTERISTICS

<b>Coil insulation class</b>	F
<b>Connector (type 05)</b>	Spade plug (cable Ø 4-6 mm)
<b>Connector specification</b>	Type 05: DIN 43650, 9,4 mm, form C
<b>Connection</b>	Type 07: M12 (CNOMO E03.62.520.N)
<b>Electrical safety</b>	IEC 335
<b>Electrical enclosure protection</b>	Moulded IP65 [05] or IP67 [07] (EN 60529)
<b>Standard voltages</b>	DC (=): 24V
(Other voltages and 60 Hz on request)	AC (~): 24V-115V-230V / 50 Hz (prefix CFSC)

prefix option	power ratings				operator ambient temperature range (TS) (C°)	voltage		type <sup>(1)</sup>	
	inrush ~	holding ~		hot/cold =		~	=		
	(VA)	(VA)	(W)	(W)		(V)	(V)		
CFSC	1,4	1,2	1,1	1/1,2	-25 to + 60	24-115	24	05	
	1,8 <sup>(2)</sup>	1,6 <sup>(2)</sup>	1,5 <sup>(2)</sup>	1,15/1,35 <sup>(2)</sup>					
	2,1	1,6	1,5	-		-25 to + 60	230		-
	2,5 <sup>(2)</sup>	2 <sup>(2)</sup>	1,9 <sup>(2)</sup>	-		-25 to + 50	-		-
CFVT <sup>(3)</sup>	-	-	-	1,15/1,35	-25 to + 60	-	24	07	

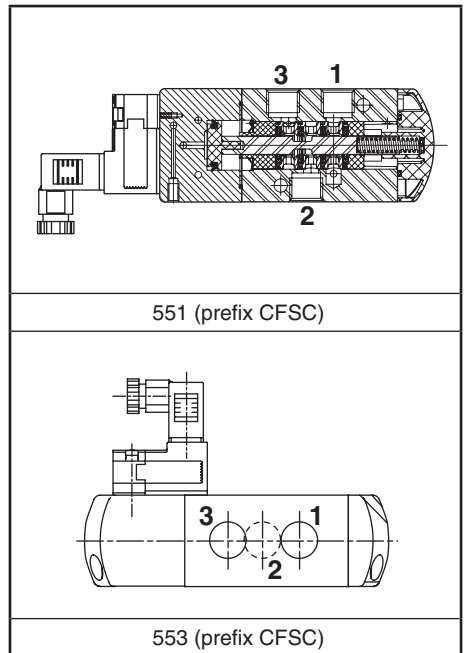
<sup>(1)</sup> Refer to the dimensional drawings on the following page.  
<sup>(2)</sup> Values with LED indicator and protection, use TPL 20674.

<sup>(3)</sup> Supplied with LED indicator and protection.

## SPECIFICATIONS

[Configurator - CAD Files](#)

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)			power coil (W)		catalogue number		options		
									connector EN 175301-803 (9,4 mm) (type 05)	M12 (type 07)	maintained man. operator	impulse man. operator	
													~
<b>NC - Normally closed, solenoid air pilot operated - spring return (monostable)</b>													
1/4	6	0,75	12,5	2	10	10	1,1..1,5	1,2	CFSCG551C505	-	MS	MO	-
							-	1,35	-	CFVTG551C505	MS	MO	-
1/2	13	3,15	52,5	2	10	10	1,1..1,5	1,2	CFSCG553A505	-	MS	MO	-
							-	1,35	-	CFVTG553A505	MS	MO	-
<b>NC - Normally closed, solenoid air pilot operated and return (bistable)</b>													
1/4	6	0,75	12,5	2	10	10	1,1..1,5	1,2	CFSCG551C506	-	MS	MO	-
							-	1,35	-	CFVTG551C506	MS	MO	-
1/2	13	3,15	52,5	2	10	10	1,1..1,5	1,2	CFSCG553A506	-	MS	MO	-
							-	1,35	-	CFVTG553A506	MS	MO	-



### SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)				power coil (W)		catalogue number		options	
				min.	max. (PS)		connector EN 175301-803 (9,4 mm) (type 05)			M12 (type 07)	maintained man. operator	impulse man. operator	
					air (*)								=
G	(mm)	(m³/h)	(l/min)	~	=		~	=	-/=	=			
<b>NC - Solenoid air pilot operated - spring return (monostable), certified IEC 61508 Functional Safety data</b>													
1/4	6	0,75	12,5	2	10	10	1,1..1,5	1,2	CFSCG551C505SL	-	-	MO -	
							-	1,35	-	CFVTG551C505SL	-	MO -	
1/2	13	3,15	52,5	2	10	10	1,1..1,5	1,2	CFSCG553A505SL	-	-	MO -	
							-	1,35	-	CFVTG553A505SL	-	MO -	

### OPTIONS

- Explosionproof enclosures for use in zones 0/20-1/21-2/22, categories 1-2-3 to ATEX-Directive 2014/34/EU ([www.asco.com](http://www.asco.com))
- LED and protection, prefix CFSC, use TPL number: TPL 20674 (e.g.: CFSCXG551C505TPL20674)
- Straight M12 connector: with 5 m cable length (catalogue number **88130212**)
- Supply rail ([www.asco.com](http://www.asco.com))
- Versions with spade-plug connector type ISO 15217/DIN 43650 form C with 8 mm spacing or with cable ends: contact us
- Other pipe connections are available on request
- Connector with visual indication and peak voltage suppression or with cable length of 2 m ([www.asco.com](http://www.asco.com))

### INSTALLATION

- The valves can be mounted in any position without affecting operation
- Do not connect the pressure supply to the exhaust port 3. The “environmentally-protected” construction is not adapted for a “distributing” function or use in NO function. Contact us for functions available in specific versions
- 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)
- 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	G 1/4	<b>34600419</b> <sup>(1)</sup>
553	G 1/2	<b>34600479</b> <sup>(1)</sup>
551-553	M5	<b>34600484</b> <sup>(1)</sup>

<sup>(1)</sup> Supplied with suffix “SL”.

### ORDERING EXAMPLES:

CFSC	G	551	C	505	230V / 50 Hz
CFSC	G	551	C	505	SL 115V / 50 Hz
CFVT	G	553	A	506	MS 24V / DC
CFSC	G	553	A	505	SLMO 230V / 50 Hz

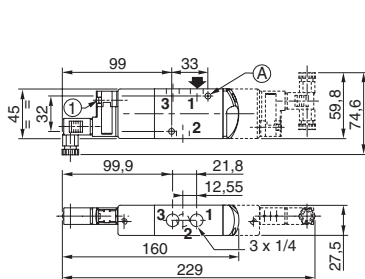
prefix — pipe thread — basic number — voltage — suffix

[Configurator - CAD Files](#)

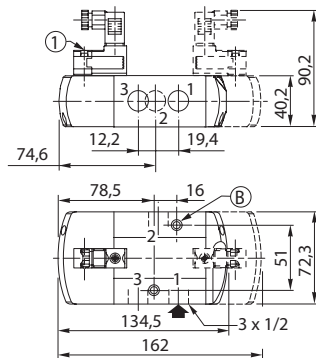
### DIMENSIONS (mm), WEIGHT (kg)



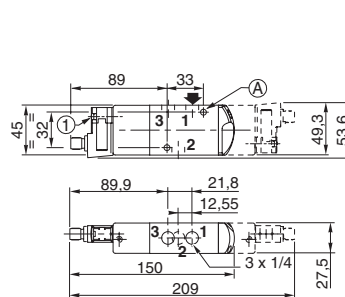
551



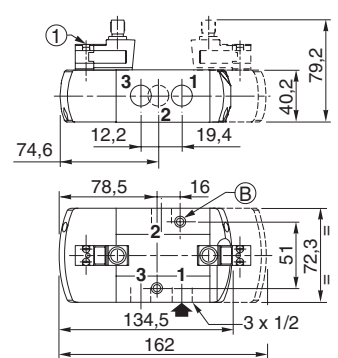
553



551



553



type	prefix option	weight <sup>(2)</sup>			
		monostable		bistable	
		551	553	551	553
05	CFSC	0,33	1,03	0,46	2,08
07	CFVT	0,35	1,04	0,5	2,12

- ① Manual operator location
- 2 mounting holes:
- (A) 5,3 mm dia. (Spotfacing: 9 mm dia., depth 5 mm)
- (B) 6,5 mm dia. (Spotfacing: 11 mm dia., depth 6 mm)

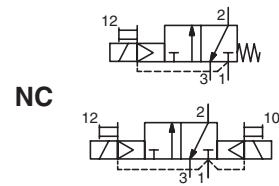
<sup>(2)</sup> Prefix CFSC: including connector(s).

All leaflets are available on: [www.asco.com](http://www.asco.com)



# SOLENOID VALVES

pilot operated, spool type  
single/dual solenoid (mono/bistable function)  
aluminium body, 1/4 - 1/2



**3/2**  
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<sub>H</sub> 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 - 10,4 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

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

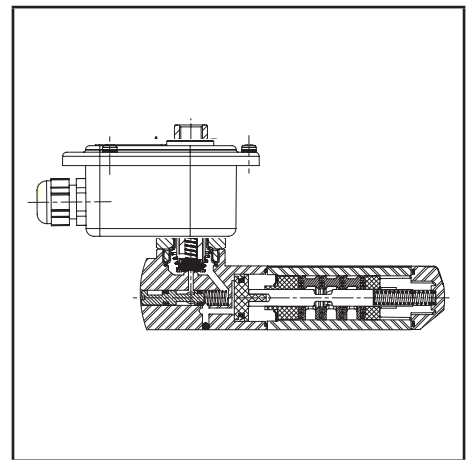
prefix option	power ratings				operator ambient temperature range (TS) (C°)	replacement coil		type <sup>(1)</sup>
	inrush ~	holding ~		~		=		
	(VA)	(VA)	(W)	(W)		230 V/50 Hz	24 V DC	
WP	55	23	10,5	9/11,2	-40 to +75	400405-117	400405-142	01

<sup>(1)</sup> 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. <sup>(2)</sup>	max. (PS)		air (*)				impulse / maintained	man. operator	
(mm)	(m³/h)	(l/min)											
G										~/=			
<b>NC - Normally closed, solenoid air pilot operated - spring return (monostable)</b>													
1/4	6	0,75	12,5	0 / 2	10	10	10,5	11,2		WPG551B405	MO	-	-
1/2	13	3,15	52,5	0 / 2	10	10	10,5	11,2		WPG553A405	MO	-	-
<b>NC - Normally closed, solenoid air pilot operated and return (bistable)</b>													
1/4	6	0,75	12,5	0 / 2	10	10	10,5	11,2		WPG551B406	MO	-	-
1/2	13	3,15	52,5	0 / 2	10	10	10,5	11,2		WPG553A406	MO	-	-
<b>NC - Solenoid air pilot operated - spring return (monostable), certified IEC 61508 Functional Safety data</b>													
1/4	6	0,75	12,5	0 / 2	10	10	10,5	11,2		WPG551B405SL	-	-	-
1/2	13	3,15	52,5	0 / 2	10	10	10,5	11,2		WPG553A405SL	-	-	-

<sup>(2)</sup> Zero minimum is only achieved if external pressure is applied.



## 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](http://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
- Do not connect the pressure supply to the exhaust port 3. The "environmentally-protected" construction is not adapted for a "distributing" function or use in NO function. Contact us for functions available in specific versions
- 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	<b>34600418</b> <sup>(1)</sup>
551	G 1/4	<b>34600419</b> <sup>(1)</sup>
553	G 1/2	<b>34600479</b> <sup>(1)</sup>

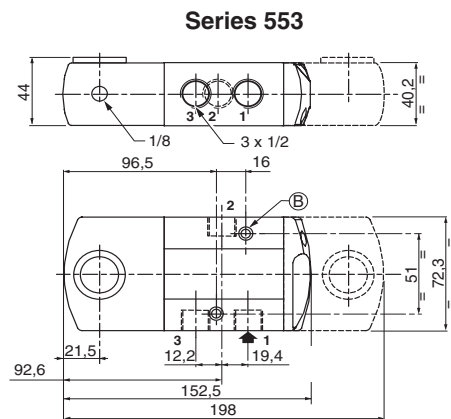
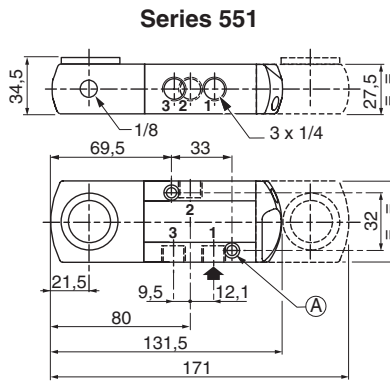
<sup>(1)</sup> Supplied with suffix "SL".

## ORDERING EXAMPLES:

WP	G	551	B	405	230V / 50 Hz
WP	G	551	B	405	SL 230V / 50 Hz
WP	G	553	A	406	MO 24V / DC
WPHT	G	551	B	406	MO 230V / 50 Hz
WP	G	553	A	406	MO 115V / 50 Hz

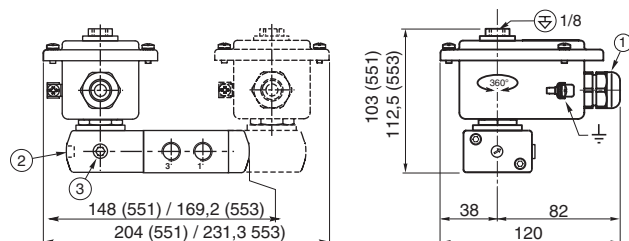
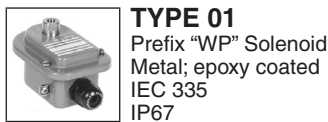
prefix — WP  
 pipe thread — G  
 basic number — 551 B 405  
 voltage — 230V / 50 Hz  
 suffix — SL, MO

## DIMENSIONS (mm), WEIGHT (kg)



2 mounting holes:

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



type	prefix option	weight <sup>(2)</sup>			
		monostable		bistable	
		551	553	551	553
01	WP	0,79	1,36	1,49	1,93

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

<sup>(2)</sup> Including coil and cable gland.