



# SOLENOID VALVES

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

3/2  
5/2

Series

521

## FEATURES

- High quality coil resistance to heat & moisture and suitable for high ambient temperature & harsh environment
- The same spool valve can be adapted for 3/2<sup>#</sup> or 5/2 functions for controlling double-acting and single-acting actuators
- All the exhaust ports of this spool valve are pipe-able, providing better environmental protection, particularly recommended for sensitive areas such as applications in the pharmaceutical and food industries
- Non Breathing construction where the spring return chambers of the single or double acting actuator are collected with the solenoid valve exhaust
- NAMUR design (LH Orientation & RH Orientation) ensures supply and exhaust ports of the solenoid valve are facing down to prevent water and ingress
- Robust and long lasting 316L Stainless Steel Manual Operator (maintained manual operator)
- The solenoid valves satisfy all relevant EU Directives

<sup>#</sup> For NAMUR type, 5/2 can be converted to 3/2 NC by rotating NAMUR plate



## GENERAL

**Differential pressure** 2 - 8 bar [1 bar = 100 kPa]  
**Flow (Qv at 6 bar)** 820 l/min (ANR)

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	-20°C to +60°C	NBR (nitrile)

## MATERIALS IN CONTACT WITH FLUID

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

<b>Body</b>	Aluminium, anodized
<b>Pilot and spring end</b>	Polyamide PA6.6, 30% FV
<b>Internal parts</b>	POM (Polyacetal), stainless steel, aluminium
<b>Seals</b>	NBR
<b>Core tube</b>	Brass
<b>Plugnut</b>	Stainless steel
<b>Shading coil</b>	Copper

## ELECTRICAL CHARACTERISTICS

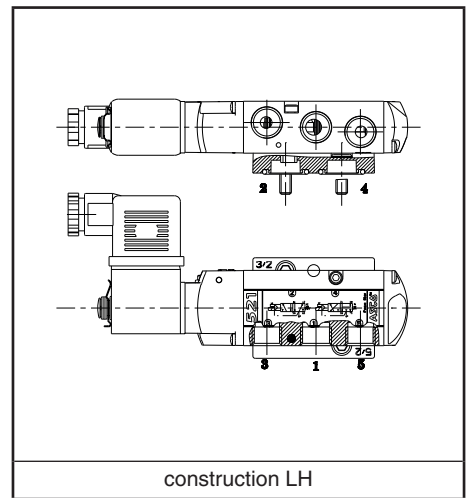
**Coil insulation class** F  
**Electrical safety** IEC 335  
**Standard voltages** DC (=) : 24V - 48V  
AC (~) 50/60Hz : 24V - 48V - 115V - 230V ; Other voltages are available on request

power ratings				operator ambient temperature range (C°) <sup>(1)</sup>	safety code	electrical enclosure protection (EN 60529)	replacement coil / kit		type <sup>(1)</sup>
inrush ~	holding ~	hot/cold =	~				=		
(VA)	(VA)	(W)	(W)				230V/50/60 Hz	24V/DC	
6	3,5	2,5	2,5/3	-20 to +60	EN 60730	IP65, moulded	<b>400125-097</b>	<b>400125-042</b>	01

<sup>(1)</sup> Refer to the dimensional drawings on page 3.

## ELECTRICAL CONNECTIONS

type	connection
01	Spade plug connector with cable gland DIN 43650, 11 mm, industry standard B, for cables with an outer diameter from 6 to 8 mm.



construction LH

## SPECIFICATIONS

Pipe size	1/4
Main valve orifice size	6 mm
Operating pressure differential	2 to 8 bar

function	construction	symbol	thread type	basic code <sup>(2)</sup> (without voltage)
NAMUR 3/2 NF - 5/2 <sup>(1)</sup>	Solenoid air pilot operated - spring return (monostable) LH construction		G	<b>G521A2B12S83M**</b>
			NPT	<b>8521A2B12S83M**</b>
	Solenoid air pilot operated and return (bistable) LH construction		G	<b>G521A2B42S83M**</b>
			NPT	<b>8521A2B42S83M**</b>
	Solenoid air pilot operated - spring return (monostable) RH construction		G	<b>G521A2B12S83P**</b>
			NPT	<b>8521A2B12S83P**</b>
	Solenoid air pilot operated and return (bistable) RH construction		G	<b>G521A2B42S83P**</b>
			NPT	<b>8521A2B42S83P**</b>

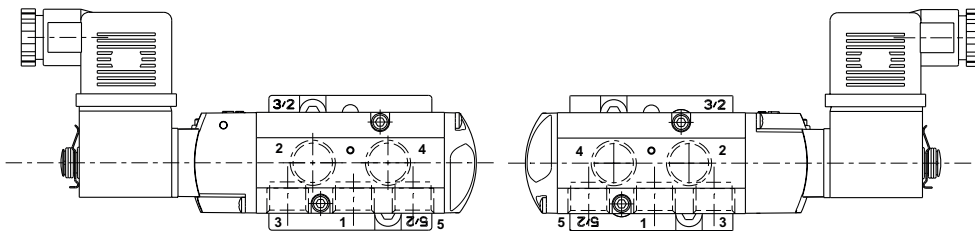
<sup>(1)</sup> For NAMUR type, 5/2 can be converted to 3/2 NC by rotating NAMUR plate

<sup>(2)</sup> For the voltage, please replace the 2 last digits by the ones according to the requested voltage (see below valve selection table)

## ACTUATOR MOUNTING POSITION

NAMUR LH construction

NAMUR RH construction



NOTE: Selection of LH or RH NAMUR construction.

Port No.	NAMUR 3/2 NC	NAMUR 5/2
1	Pilot inlet pressure	Pilot inlet pressure
2	Actuator piloting	Actuator piloting
3	Pilot exhaust	Pilot exhaust
4	Actuator exhaust	Actuator piloting
5	Pilot exhaust	Pilot exhaust

Depending on the actuator's port orientation, the ASCO 521 NAMUR Design (LH construction NAMUR & RH construction NAMUR) is to ensure that the supply port (1) and exhaust ports (3 & 5) are always facing down to prevent water dust ingress.

## HOW TO ORDER

### Valve Selection

**G 521 A 2 B 1 2 S 83P F1**

<p><b>Thread connection</b> G = ISO228/1-G 8 = NPTF</p> <p><b>Product series</b> 521</p> <p><b>Revision letter</b> A</p> <p><b>Actuation</b> 2 = Rubber Packed</p> <p><b>Valve type</b> B = Solenoid air pilot</p> <p><b>Function</b> 1 = 3/2-5/2 NAMUR Spring Return 4 = 3/2-5/2 NAMUR Dual Solenoid</p> <p><b>Port size</b> 2 = 1/4</p>	<p><b>Voltage</b> EW = 115/50, 120/60 EY = 110/50-60 FH = 230/50-60 FQ = 24/50-60 FS = 48/50-60 F1 = 24/DC F3 = 12/DC F9 = 48/DC</p> <p><b>Options</b> 83M = Namur version LH construction 83P = Namur version RH construction</p> <p><b>Electrical interface</b> S = With spade plug connector <sup>(1)</sup></p> <p><sup>(1)</sup> For non standard connector (e.g. LED connector), please contact us.</p>
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### ADDITIONAL OPTIONS

- Plug with visual indication and peak voltage suppression or with cable length of 2 m (Contact us)

### INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- Spool valve supplied with one adapter plate with NAMUR mating surface. Adapter plate can be rotated 180° and converted to 3/2 or 5/2 function. The plate must be mounted on the actuator prior to assembling the solenoid valve
- It is strongly recommended 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.)
- NAMUR accessories (Bolts, Gaskets, Nuts & Plate) are standard supplied for NAMUR version
- Threaded pipe connection is standard: G = G (ISO 228/1); 8 = NPT (ANSI 1.20.3)
- Installation/maintenance instructions are included with each valve

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

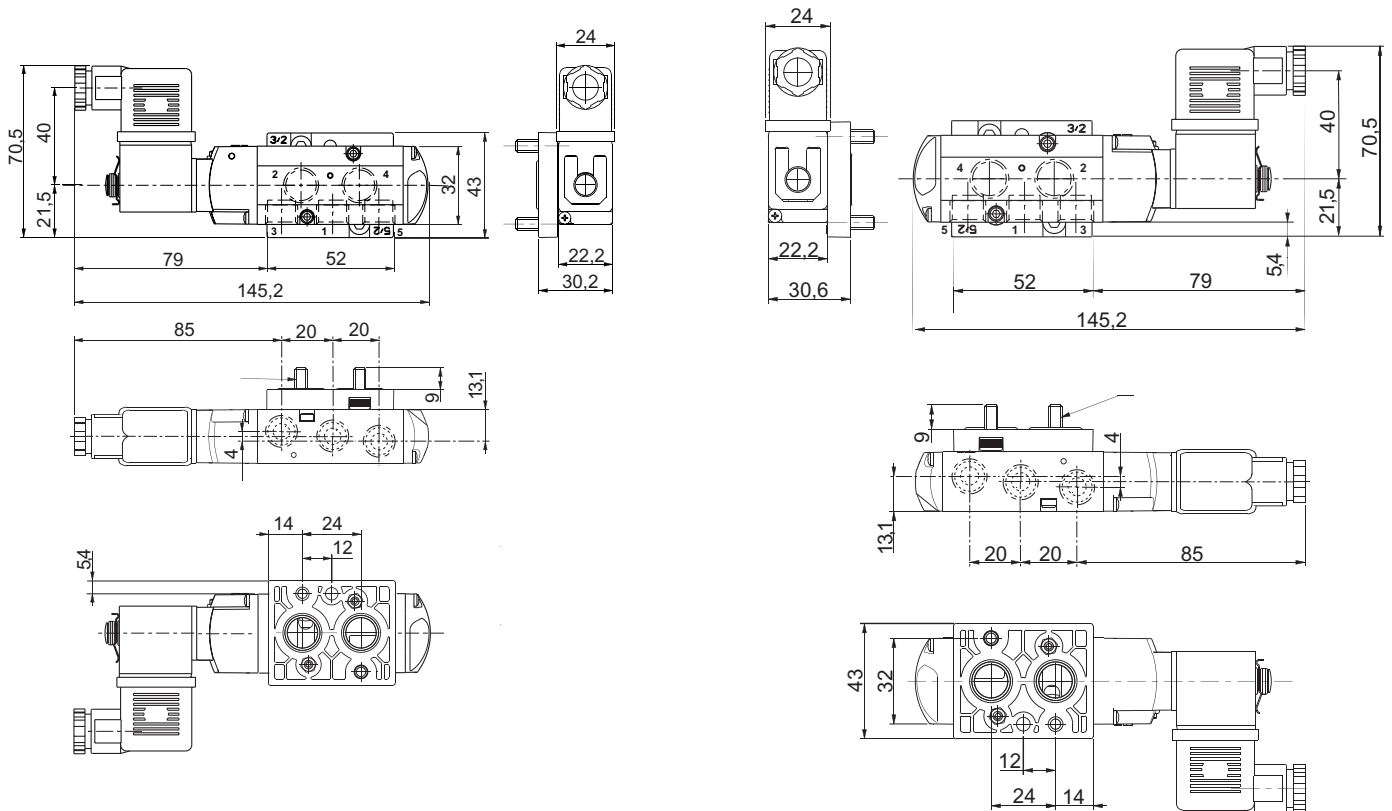


#### TYPE 01

Solenoid with DIN spade plug connector  
Moulded IP65  
Reduced power

LH construction NAMUR

RH construction NAMUR



weight <sup>(1)</sup> (kg)	type 01 *
monostable	0,25
bistable	0,38

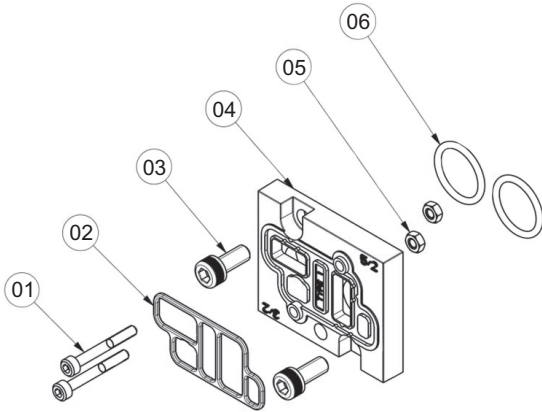
① Actuator mounting  
M5 screw (2x)

\* For NAMUR type, 5/2 can be converted to 3/2 NC by rotating NAMUR plate

<sup>(1)</sup> Incl. coil(s) and connector(s).

**NAMUR ADAPTOR KIT**

(LH construction NAMUR & RH construction NAMUR)



NAMUR Adapter Kit Number				
Det. No	Part Name	Qty	LH construction	RH construction
01	Mounting Screws M3 x 25	2	<b>R521AT514630001</b>	<b>R521AT514630002</b>
02	Profile Gasket	1		
03	Adapter Mounting Screw M5 x 10	2		
04	NAMUR Plate	1		
05	M3 Nut	2		
06	O Ring	2		