

SOLENOID VALVES

integrated pilot operated spool type single/dual solenoid
aluminium Copper Einc free on exterior surface (for Lithium Segment) body, 1/4",
NAMUR & Threaded style

Series
521 Process

FEATURES

- Compact size with high flow
- Environment protected construction to protect against the ingress of liquid, dust or any other foreign matter
- Multiple functions available with Threaded and NAMUR options
- The same spool valve can be adapted for or 5/2 functions for controlling double-acting and single-acting actuators
- 8-shaped seal technology - Small contact surface, low friction and minimize "sticking"
- Internal breathing feature where the return-spring chambers of the single-acting actuator "breath" through the spool valve
- NAMUR design (LH Orientation & RH Orientation) ensures supply and exhaust ports of the solenoid valve are facing down to prevent water and debris ingress
- Robust and long lasting 316 Stainless Steel Manual Operator (push locking override)
- Epoxy coil with excellent moisture and high ambient temperature resistance

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

GENERAL

Differential pressure
Flow (Qv at 6 bar, ANR)

2 - 8 bar (1 bar = 100 kPa)
1020 l/min (Threaded 5/2)
820 l/min (NAMUR 3/2NC-5/2)

Fluid (**)	Temperature Range (TS)	Seal Material
Air, inert gas, filtered	-10°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

Body	Black Anodized Aluminium
Internal parts	POM (Polyacetal), Stainless steel, Aluminium
Seals	NBR
Core tube	SS304L
Plugnut	Stainless steel
Mounting	SS304
Screw	SS304

ELECTRICAL CHARACTERISTICS

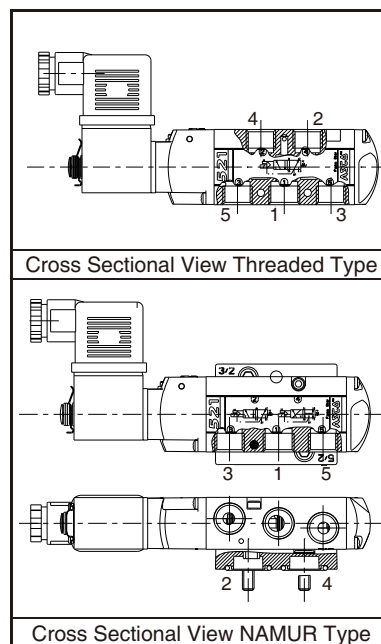
Coil insulation class	Class F
Coil material	Epoxy
Electrical safety	IEC 335
Standard voltages	DC (=) : 12V - 24V - 48V

Solenoid Type ⁽¹⁾	Nominal Power Ratings				Operator Ambient Temperature Range (TS) (°C)	Safety Code	Electrical Enclosure Protection (EN 60529)	Replacement Coil
	Inrush ~	Holding ~		Hot/Cold =				=
	(VA)	(VA)	(W)	(W)				24 V DC
Reduced Power (RP)								
B	6	3.5	2.5	2.5/3	-10 to +60	EN 60529	Moulded IP65	43004869

⁽¹⁾ Refer to the dimensional drawings

ELECTRICAL CONNECTIONS

Solenoid Type	Connection
Type B	Spade plug connector (standard) with cable gland DIN 43650, 11mm, industry standard B, for cables with an outer diameter from 6 to 8mm



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ADDITIONAL OPTIONS

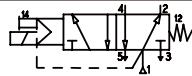
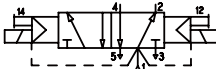
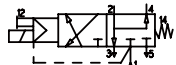
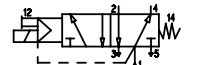
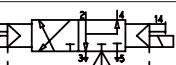
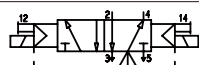
- Plug with visual indication and peak voltage suppression or with cable length of 2m, solenoid type B only
(Consult ASCO NUMATICS Office)

INSTALLATION

- Installation/maintenance instructions are included with each valve
- The solenoid valves can be mounted in any orientation without affecting performance
- Spool valve is supplied with one NAMUR adaptor plate. Adapter plate can be rotated 180° to convert the spool valve to 3/2 NC or 5/2 function
- 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 in outdoor or harsh environments (dust, liquids, etc.)
- NAMUR accessories (Bolts, Gaskets, Nuts & Plate) are standard supplied for NAMUR version
- Threaded pipe connection identifier is with punch marking on the body: 8 = NPT (ANSI 1.20.3); without punch marking G = G (ISO 228/1). Refer to page 4 (Marking for NPT)

SPECIFICATIONS

Pipe size 1/4"
Main valve orifice size 6 mm
Operating pressure differential Min. 2 bar
Max. 8 bar

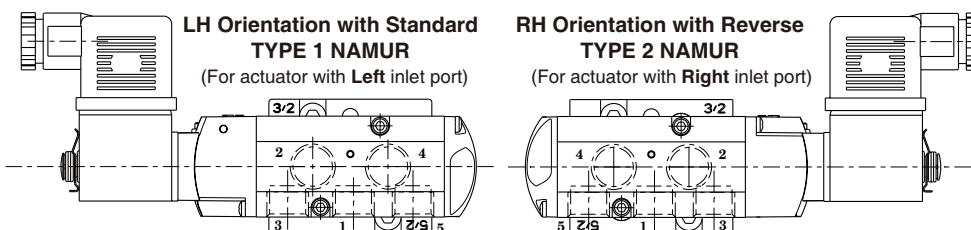
Function	Construction	Symbols	Flow Coefficient Kv	
			(m ³ /h)	(l/min)
5/2 Way	Single Solenoid, Spring Return		0.9	15
	Dual Solenoid		0.9	15
NAMUR -5/2*	LH Orientation with Standard TYPE 1 NAMUR (Single Solenoid, Spring Return)		0.75	12.5
	LH Orientation with Standard TYPE 1 NAMUR (Dual Solenoid)		0.75	12.5
	RH Orientation with Reverse TYPE 2 NAMUR (Single Solenoid, Spring Return)		0.75	12.5
	RH Orientation with Reverse TYPE 2 NAMUR (Dual Solenoid)		0.75	12.5

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ACTUATOR MOUNTING POSITION



NOTE: Selection of LH Orientation with Standard TYPE 1 NAMUR or RH Orientation with Reverse TYPE 2 NAMUR is in accordance with the type of actuator inlet position used for mounting position

Port No.	NAMUR 3/2 NC	NAMUR 5/2
1	Supply port	Supply port
2	Actuator's inlet port	Outlet port
3	Exhaust port	Exhaust port
4	Actuator's breather port	Outlet port
5	Actuator's breather exhaust port	Exhaust port

Depending on the actuator's port orientation, the ASCO 521 NAMUR Design (LH Orientation with Standard TYPE 1 NAMUR & RH Orientation with Reverse TYPE 2 NAMUR) is to ensure that the supply port (1) and exhaust ports (3 & 5) are always facing down to prevent water & debris ingress.

HOW TO ORDER

Valve Selection

15-DIGIT Product Code

8 521 A 2 B 1 2 for Regula products Voltage

Port Type
8 = NPT body connections
G = ISO 228/1 "G" body connections

Product Series
521 = Process Valve

Revision
A = Initial Release

Valve Type
2 = Rubber Packed

Solenoid Type
B = Solenoid Pilot ⁽¹⁾

Function
1 = 5/2 Threaded or 3/2-5/2 NAMUR Spring Return
4 = 5/2 Threaded or 3/2-5/2 NAMUR Dual Solenoid

Port Size
2 = 1/4"

Options
A00 = Aluminium Body (Threaded Type)
83M = Standard Aluminium NAMUR (3/2-5/2 and) (LH Orientation with Standard Type 1 NAMUR)
83P = Reverse Aluminium NAMUR (3/2-5/2) (RH Orientation with Reverse TYPE 2 NAMUR)

Electrical
S = Spade Plug Connection (IP65), with standard connector

⁽¹⁾ Comes with 316SS manual operator (ush locking override)

Transformation to Copper and Eina Free X521

Existing 521 codes	Equivalent codes for X521(Lithium Segment)
8521A2B12S83MF1	X521536822001F1
G521A2B12S83MF1	X521536822002F1
8521A2B42S83MF1	X521536822003F1
G521A2B42S83MF1	X521536822004F1
8521A2B12S83PF1	X521536822005F1
G521A2B12S83PF1	X521536822006F1
8521A2B42S83PF1	X521536822007F1
G521A2B42S83PF1	X521536822008F1
8521A2B12SA00F1	X521536824001F1
G521A2B12SA00F1	X521536824002F1
8521A2B42SA00F1	X521536824003F1
G521A2B42SA00F1	X521536824004F1

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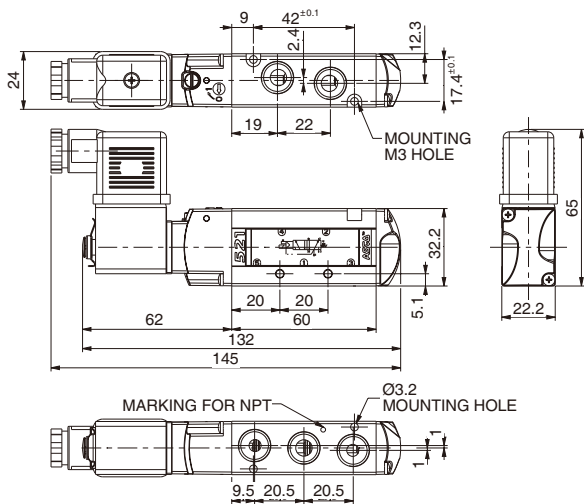
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521 Process

DIMENSIONS(mm), WEIGHT(kg)

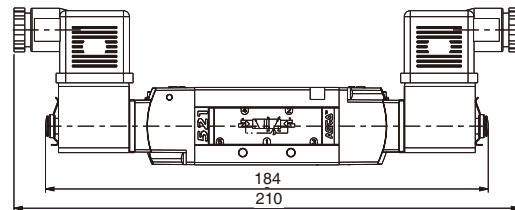


SOLENOID TYPE B
Solenoid with DIN spade plug connector (standard)
Moulded IP65
Reduced power
IEC 335 / DIN 43650

SERIES 521 THREADED 5/2 WAY (Single Solenoid, Spring Return)



SERIES 521 THREADED 5/2 WAY (Dual Solenoid)



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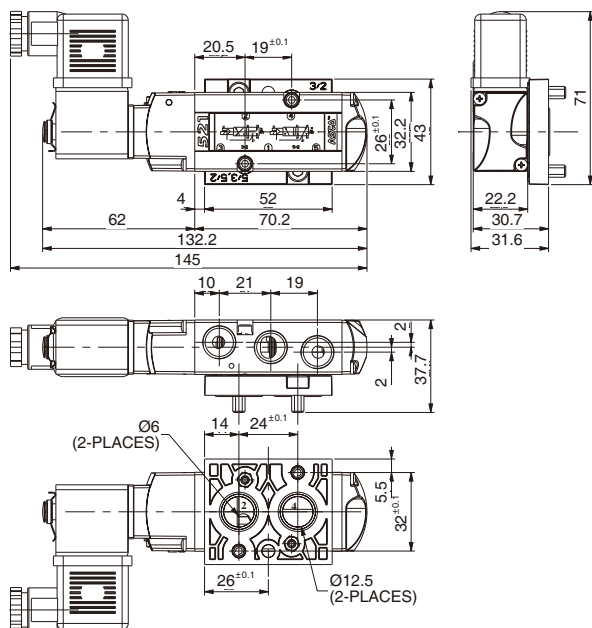
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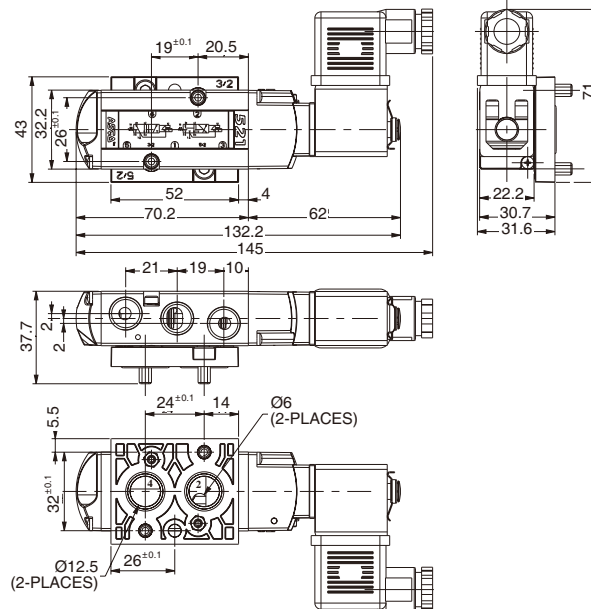
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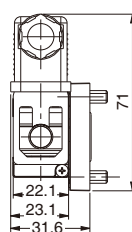
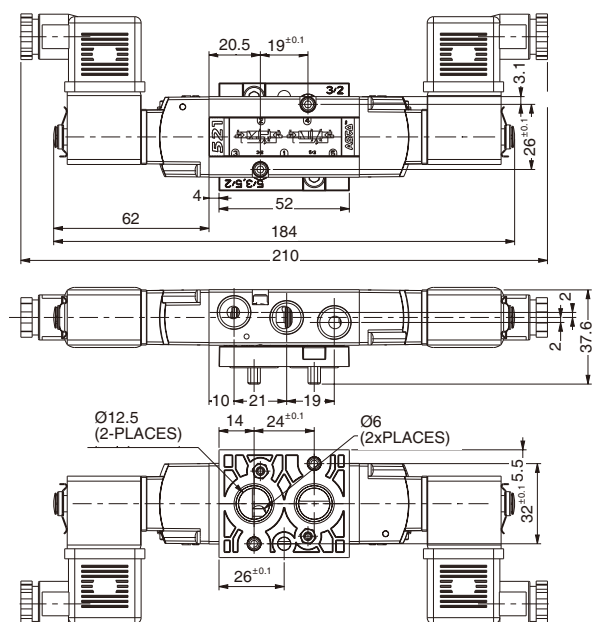
SERIES 521 NAMUR 3/2 - 5/2 WAY*
LH Orientation with Standard TYPE 1 NAMUR
(Single Solenoid, Spring Return)



RH Orientation with Reverse TYPE 2 NAMUR
(Single Solenoid, Spring Return)



NAMUR Dual Solenoid
(LH & RH Orientation)



Valve Type B (Weight, kg)			
Function	Aluminium		
	Single	Dual	
THREADED 5/2	0.23	0.35	
NAMUR 3/2 - 5/2*	0.25	0.38	
3/2 WAY			
5/3 THREAD (W1&W3)			
5/3 NAMUR (W1&W3)			
2x3/2 NC			

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

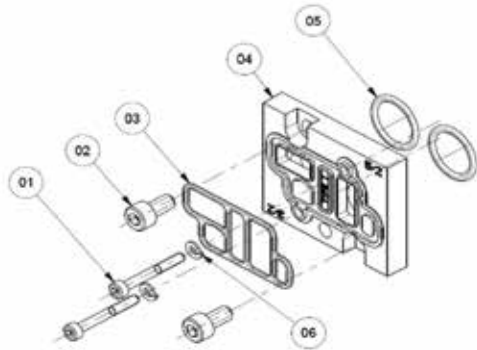
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NAMUR ADAPTOR KIT

(LH ORIENTATION WITH STANDARD TYPE 1 NAMUR & RH ORIENTATION WITH
REVERSE TYPE 2 NAMUR)



NAMUR Adaptor Kit Number				
Det. No	Part Name	Qty	LH Orientation (Type 1)	RH Orientation (Type 2)
01	Mounting Screw M3	2	R521AT514630001	R521AT514630002
02	Adaptor Screw M5	2		
03	Profile Gasket	1		
04	NAMUR Plate	1		
05	O Ring	2		
06	Lock Washer	2		