

AVENTICS™ Spool Valves

ISO 15407-2 (18 mm)- pad mounting body - M12 connection

Series

503

2x3/2 - 5/2 - 5/3

Features

- M12 connection with electrical interface in the subbase:
 - Allows to change the valve without any intervention on electrical and pneumatic connection
 - Reduces installation time and wiring costs
 - Prevents wiring errors
- Spool & Sleeve or rubber packed technology in the same dimension body
- High flow rate up to 1200 l/min
- Internal or external pilot pressure supply capability and compliance with ISO standard 15407-2 26 mm
- Spool & sleeve technology for long service life, rubber-packed version for high flow combined with multi-functions



General

Operating pressure	See «SPECIFICATIONS» [1 bar = 100 kPa]
Ambient temperature range (TS)	-10°C to +50°C
Rated flow	See «SPECIFICATIONS»
conforming to ISO 6358	C (5/2) = 5.21 x 10 ⁻⁸ m ³ /s.Pa (sonic conductance)
	b (5/2) = 0.34 (critical pressure ratio)
Pneumatic/electric base	ISO 15407-2 26 mm (M12 in the subbase)
Connection	Single subbase
Response time	See «SPECIFICATIONS»



M12 electrical interface in the subbase

fluids (*)	temperature range (TS)	technology	seal materials (*)
air or inert gas ISO 8573 Level 7.4.4	-10°C to +50°C	rubber packed	NBR (nitrile) + PUR (polyurethane)
	-10°C to +50°C	spool & sleeve	metal-to-metal sealing

Materials in contact with fluid

(*) Ensure that the compatibility of the fluids in contact with the materials is verified	
Body	Aluminium, E-coating treatment
Spool	Aluminium or st. steel (spool & sleeve)
Piston	POM (rubber packed)
Spring	Steel
Other seals	NBR
Other materials	PARA (polyarylamide) GF 50% (glass fiber reinforced)
Subbases	Aluminium, E-coating treatment

Electrical characteristics

Coil insulation class	F
Round connector	1 x 4 pin M12 male, IEC 61076-2-101
PIN assignment	ISO 20401
Electrical safety	IEC-EN 60730-1 / IEC-EN 60730-2-8
Electrical enclosure protection	IP65 (EN 60529)
Standard voltages	DC (=) : 24V
Power ratings (hot / cold) (=)	1.4 W / 1.7 W

M12 (ISO 20401)			1 not used 2 not used 3 common, 0 V 4 supply, coil 14
			1 not used 2 supply, coil 12 3 common, 0 V 4 supply, coil 14


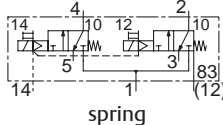
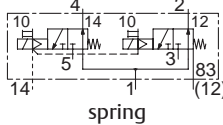
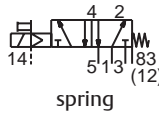
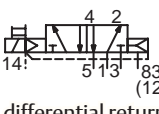
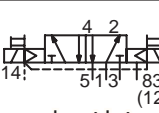
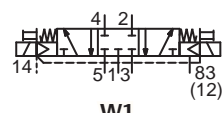
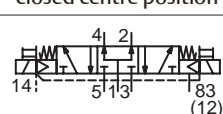
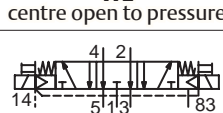
Accessories

Straight M12 connector female with 5 m cable length (5 pin):
catalogue number **88130212**



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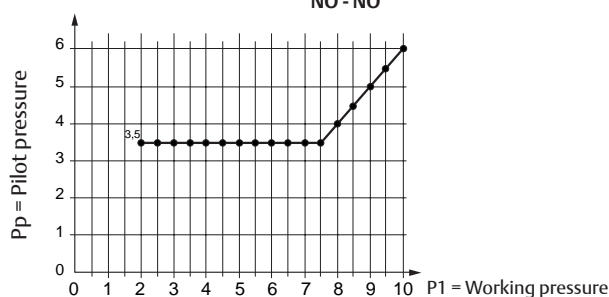
Specifications

function	symbol	rated flow at 6.3 bar ΔP 1 bar l/min (ANR)		response time open / closed (ms)	pilot pressure at 23°C (bar)		operating pressure port 1 (bar)		dimensions/ type (1)	Catalog number  ISO 15407-2
					min.	max.	min.	max. (PS) air (*)		
	pilot (14) return (12)	1 → 2 1 → 4	2 → 3 4 → 5							
SPOOL VALVE, RUBBER PACKED TECHNOLOGY, WITH IMPULSE MANUAL OPERATOR (EXTERNAL SUPPLY)										
2 x 3/2 NC	 spring	900	800	15 / 20	3.5 ^(a)	8	2	8	01	R503A2BD0MA00F1
2 x 3/2 NO	 spring	900	900	15 / 20	3.5 ^(a)	8	2	8	01	R503A2BA0MA00F1
5/2	 spring	1200	1100	20 / 60	3	8	-0.95	8	01	R503A2B10MA00F1
	 differential return	1200	1100	28 / 40	3	8	-0.95	8	01	R503A2BN0MA00F1
	 solenoid air	1200	1100	20	2	8	-0.95	8	01	R503A2B40MA00F1
5/3	 W1 closed centre position	1200	1100	15 / 20	3	8	-0.95	8	01	R503A2B60MA00F1
	 W2 centre open to pressure	1100	600	18 / 45	3	8	-0.95	8	01	R503A2B70MA00F1
	 W3 centre open to exhaust	600	1100	18 / 45	3	8	-0.95	8	01	R503A2B50MA00F1

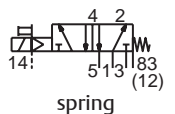
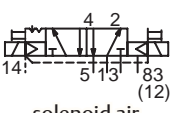
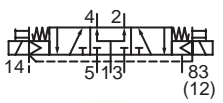
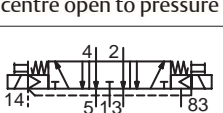
⁽¹⁾ For dimensions, see drawing(s) for each construction type on the following page(s).

^(a) NC - NC
NO - NO

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



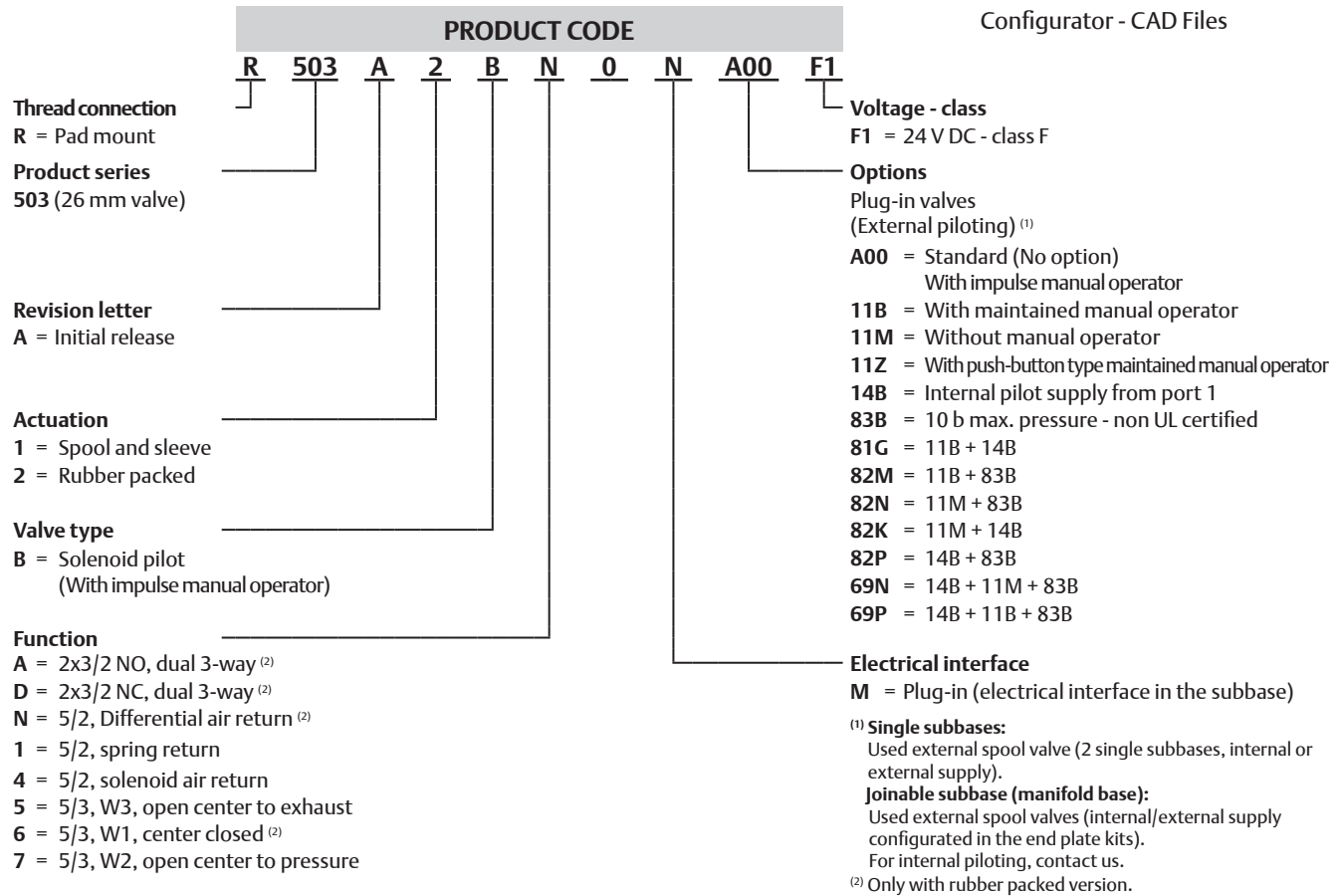
Specifications

function	symbol pilot (14) return (12)	rated flow at 6.3 bar ΔP 1 bar l/min (ANR)		response time open / closed (ms)	pilot pressure at 23°C (bar)		operating pressure port 1 (bar)		dimensions / type ⁽¹⁾	Catalog number
		1 → 2 1 → 4	2 → 3 4 → 5		min.	max.	min.	max. (PS)		ISO 15407-2
								air (*)		
SPOOL VALVE, SPOOL AND SLEEVE TECHNOLOGY, WITH IMPULSE MANUAL OPERATOR										
5/2	 spring	1100	1000	20 / 60	2	8	-0.95	8	01	R503A1B10MA00F1
	 solenoid air	1100	1000	15	2	8	-0.95	8	01	R503A1B40MA00F1
5/3	 W2 centre open to pressure	800	800	20 / 60	2	8	-0.95	8	01	R503A1B70MA00F1
	 W3 centre open to exhaust	800	800	20 / 60	2	8	-0.95	8	01	R503A1B50MA00F1

⁽¹⁾ For dimensions, see drawing(s) for each construction type on the following page(s).

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

How to Order - Valves



Installation

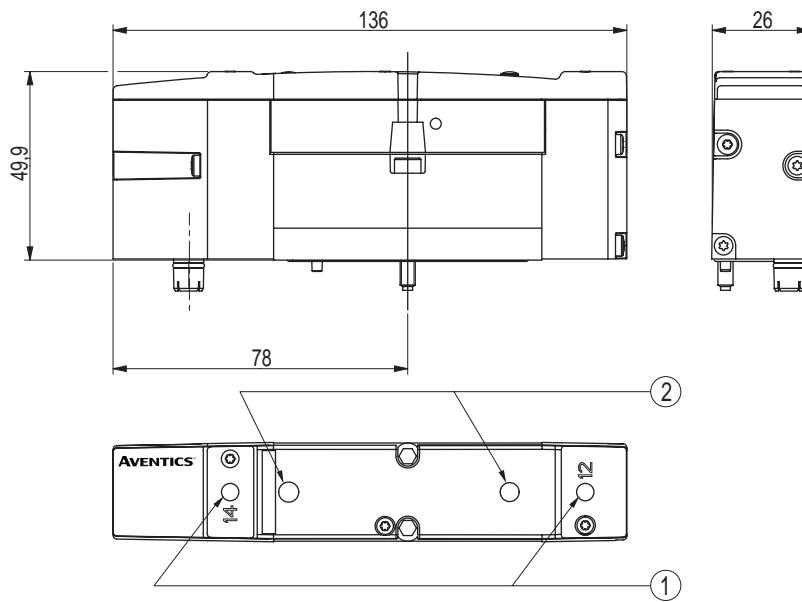
- The spool valves can be mounted in any position without affecting operation
- Spool valve supplied with mounting screws and mounting pad gasket
- ISO 15407-2 pneumatic/electric pad mounting body (plug-in version, single subbase M12)

Dimensions (mm), Weight (kg)

Configurator - CAD Files



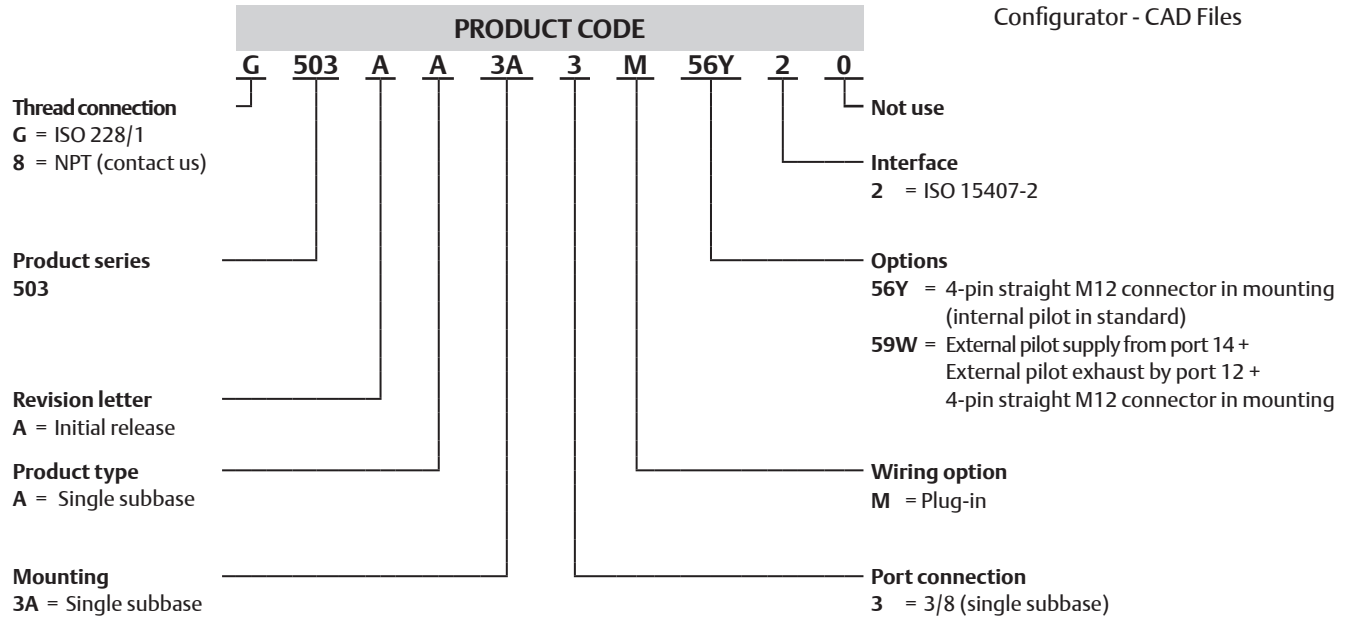
TYPE 01
Electrical interface "M"
ISO 15407-2 / ISO 20401
IP65




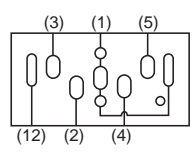

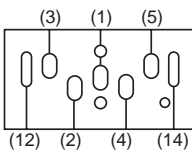
type	weight
01	0.236

- ① Manual operator
② LED indicator

How to Order - Single subbases



Single subbases

function		designation		thread type	dimensions / type ⁽¹⁾	Catalog number
SINGLE SUBBASE (ISO 15407-2) FOR PLUG-IN VALVE						
		<p>internal supply 1-2-3-4-5 = 5 x 3/8 12 = 1/8 (pilot exhaust) (mounting interface surface with electrical connector)</p>		G	02	G503AA3A3M56Y20
		<p>external supply 1-2-3-4-5 = 5 x 3/8 12 = 1/8 (pilot exhaust) 14 = 1/8 [pilot external supply] (mounting interface surface with electrical connector)</p>		G	02	G503AA3A3M59W20

⁽¹⁾For dimensions, see drawing(s) for each construction type on the following page(s).

Dimensions (mm), Weight (kg)

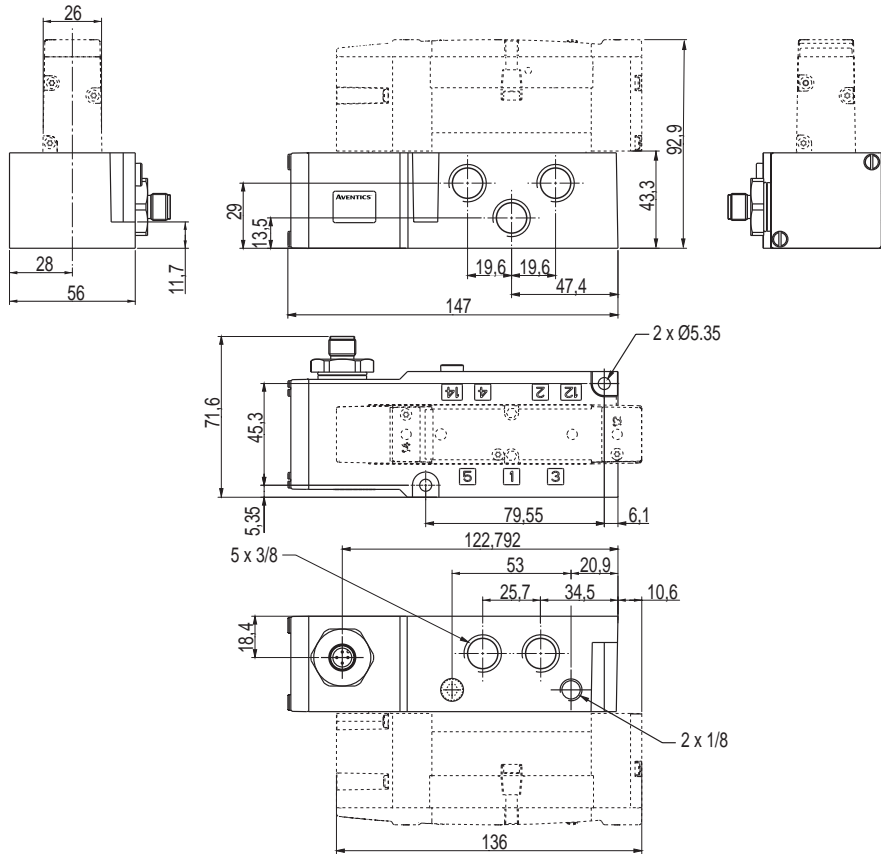
Configurator - CAD Files



TYPE 02

Single subbases, M12 connector in mounting
ISO 15407-2, plug-in version
3/8 = 1, 2, 3, 4, 5 ports
1/8 = 12, 14 ports

G503AA3A3M56Y20 - G503AA3A3M59W20



type	Catalog number	weight
02	G503AA3A3M56Y20	0.231
	G503AA3A3M59W20	0.228

