

JOUCOMATIC

ISO 15407-1 - VDMA 24563 subbase-mounted body

SPOOL VALVES

solenoid air operated

CNOMO pilots, size 15



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

Series

539

Type

ISO size 01 (26 mm)

FEATURES

- Spool valves intended for use in potentially explosive atmospheres caused by gases, vapours, mists an/or dusts (**ATEX directive 94/9/EC**).
Classification : II 2 GD c IIB T 85°C (T6) (**Zone 1-21**)
 II 3 GD c T 85°C (T6) (**Zone 2-22**)
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with European Standards EN 13463-1 and EN 13463-5.

GENERAL

Fluid	Air or neutral gaz, filtered, lubricated or not
Operating pressure	1 to 10 bar (with internal supply to pilot) -0,950 bar to +10 bar (with external supply to pilot)
Ambient temperature	-10 °C to +60 °C
Flow (Qv at 6 bar)	1150 l/min (ANR) - conforming to ISO 6358 C = 4,40 x 10 ⁻⁸ m ³ /s.Pa (sonic conductance) b = 0,28 (absolute static pressure)
Subbase	Single or joinable subbases

CONSTRUCTION

SPOOL VALVES

Body	Injected aluminium
Top cover, end covers	PAA (polyarylamide)
Internal parts	POM (polyacetal) and aluminium
Seals	NBR (nitrile)

PILOTS (see X019 pages 130-120-115)

PILOTS ELECTRICAL CHARACTERISTICS: see following page

SPECIFICATIONS precise catalogue numbers: **spool valves + ATEX option 612081 + pilots**

function symbol	operators solenoid air operated pilot (14) return (12)	pilot pressure (bar)		spool valve		2 catalogue numbers + solenoid valve quantity and cat. n°			
		min.	max.	internal supply	external supply	with connector	(W)	(M)	
2x 3/2 	spring return	2,5	10 (1)	53992126	53992135	+ 2x			
	spring return	2,5	10 (1)	53992123	53992132				
	spring return	2,5	10 (1)	53992125	53992134				
5/2 	spring return	2,5	10 (1)	53992121	53992149	+ 1x			
	differential return	2,5	10 (1)	53992026	53992148				
	solenoid differential return	2,5	10 (1)	53992122	53992150	+ 2x			
	solenoid air return	1	10 (1)	53992027	53992127				
5/3 	pressure held W1	2,5	10 (1)	53992028	53992129	+ 2x			
	pressure applied W2	2,5	10 (1)	53992029	53992130				
	pressure release W3	2,5	10 (1)	53992030	53992131				

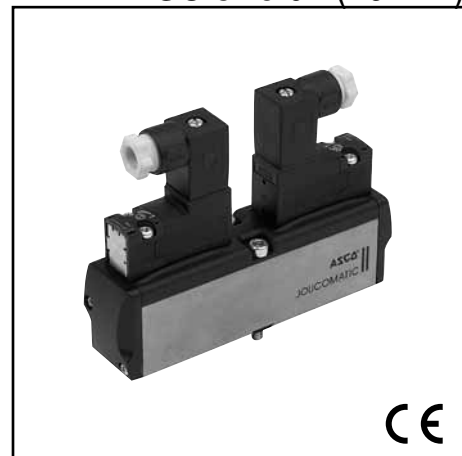
(M) Type of manual operator on pilot(s) : X : without ● : maintained ▼ : impulse

(1) The pressure max. can be limited by the pilot pressure

(2) Adaptation plate for pilot 630 on spool valve ISO 01: **88153902**

Ordering examples, catalogue number option ATEX (zone 1-21 and 2-22) **612081**:

cat. number spool valve	+	cat. number option ATEX	+	quantity	+	pilot cat. number	+	voltage	+	adaptation plate for pilot 630
53992027	+	612081	+	2 x	+	30211109NAD	+	24V DC		
53992121	+	612081	+	1 x	+	63000043	+	24V DC	+	88153902



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PILOTS ELECTRICAL CHARACTERISTICS

type of sol. valve	coil size	classification	voltage	consumption	insulation class	protection degree	electrical connection
series 302 nA	size 15	II 3 G EEx nA IIC T6-T5 II 3 D IP65 T 85°C or T 100°C	~ 24V-115V = 12V-24V	1 W	F	IP65	connector size 15, spade plug, DIN 43650, 9,4mm, industrial standard B
series 302 ia	size 15	II 1 G EEx ia IIC T6..T4 II 1 D IP6X T 85°C to T 135°C	12V-24V =	0,5 W	F	IP65	connector size 15, spade plug, DIN 43650, 9,4mm, industrial standard B + LED and protection
series 630 ia	size 15	II 1 GD IP65 EEx ia IIC T6	24V =	0,046 W	F	IP65	connector size 15, spade plug, DIN 43650, 9,4 mm, industrial standard B,

COILS TEMPERATURE CLASSIFICATION TABLE

Operator for explosive atmospheres

Pilot 302 nA

Pn (Watt)	max. ambient °C ⁽¹⁾					
	surface temperature					
	T6 85°C		T5 100°C		T4 135°C	
	V =	V ~	V =	V ~	V =	
insulation class F (155°C) 100% E.D.						
1			60	60		

⁽¹⁾ Minimum ambient temperature: -25°C

Pilot 302 ia

Pn (Watt)	max. ambient °C ⁽¹⁾					
	surface temperature					
	T6 85°C		T5 100°C		T4 135°C	
	12V	24V	12V	24V	12V	24V
insulation class F (155°C) 100% E.D.						
0,5	40	40	50	60	60	60

⁽¹⁾ Minimum ambient temperature: -10°C

Pilot 630 ia

Pn (Watt)	max. ambient °C ⁽¹⁾			
	surface temperature			
	T6 85°C	T5 100°C	T4 135°C	T3 200°C
insulation class F (155°C) 100% E.D.				
0,046	50			

⁽¹⁾ Minimum ambient temperature: -20°C

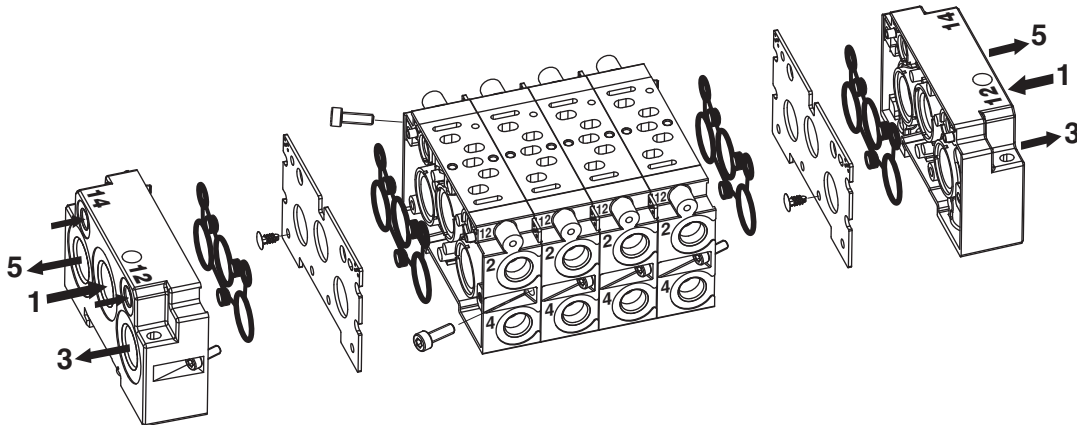
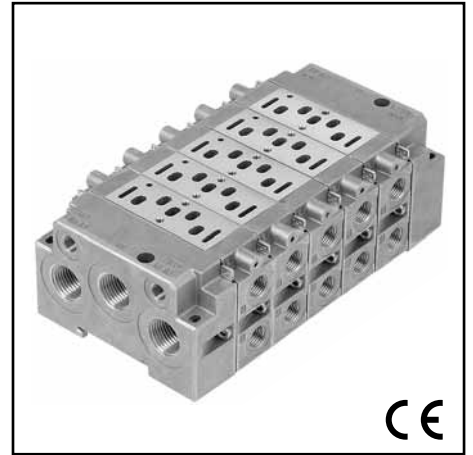
GENERAL

This subbase system offers the following main characteristics:

- The equipment has a **standard** interface complying with the international standard ISO 15407-1, size 01 (26 mm), so that spool valves series 539 can be fitted.
- Subbases with **side ports or bottom ports**.
- Choice of connections: ports 2 and 4 tapped or with couplers.
- The subbases are fitted with selector plates, allowing for a choice of piping arrangements and inter-connections.

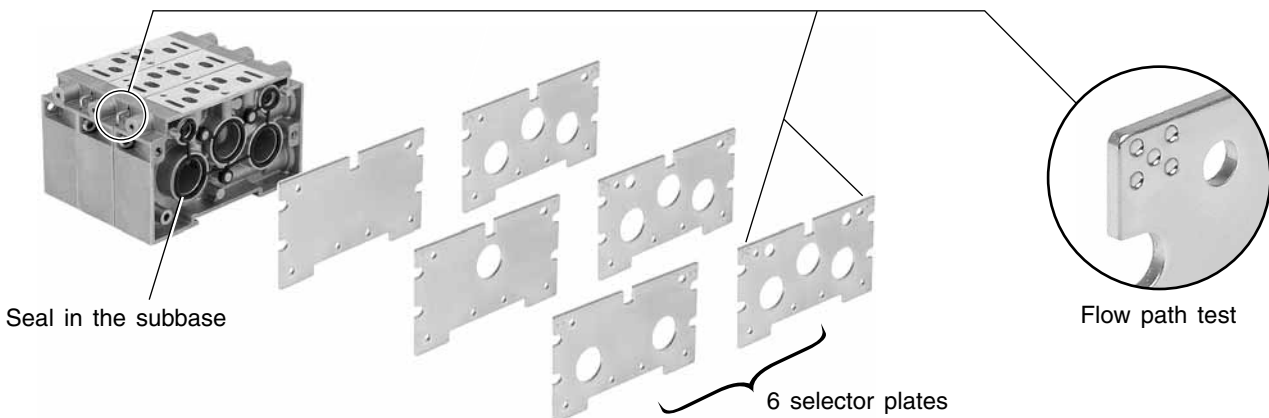
CHARACTERISTICS AND ADVANTAGES

- Easy connection due to a large number of piping options on the subbase:
 - Side ports (2 and 4: tapped or with couplers).
 - Bottom ports (2 and 4: tapped or with couplers).
 - Ports 12 and 14 for external pilot pressure supply (tapped M5).
- Captive selector plates:
 - Each plate is provided with perforations allowing for error-free identification of the ports in use.
 - The standard selector plate (connection of ports 1-3-5-12-14) is pre-mounted on the subbase to allow for quick installation.
- Suitable for direct installation on machine frame:
 - Quick mounting on DIN rail with eccentric quarter-turn tappets.
- Easy assembly/disassembly: easy maintenance.
 - The inclined position of the mounting screws provides for easy assembly or disassembly of individual subbases without having to disassemble the whole system.

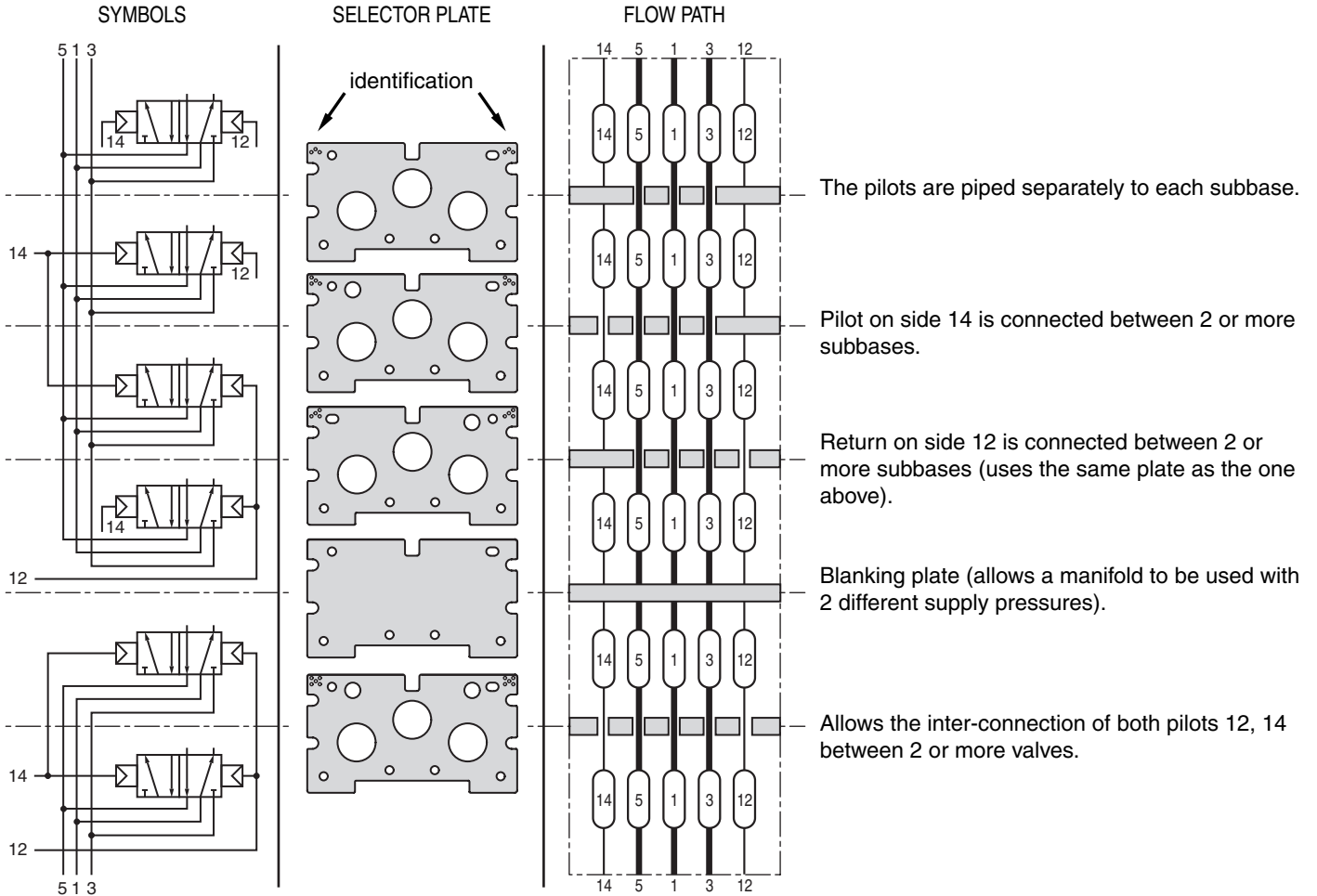


POSSIBLE FLOW PATHS

The subbases include 5 flow paths (1-3-5-12-14), all of which can be connected through the end plates of each manifold assembly.



POSSIBLE FLOW PATHS



PIPING OF SUPPLY AND EXHAUSTS TO THE END COVERS

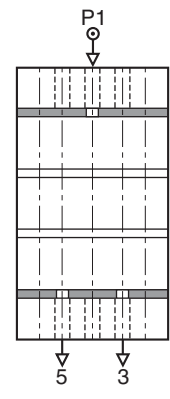
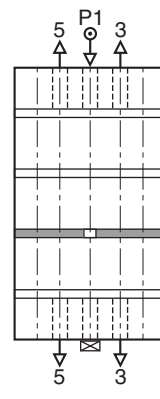
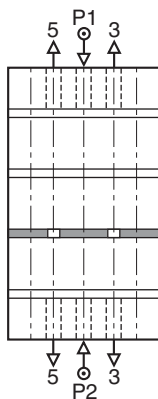
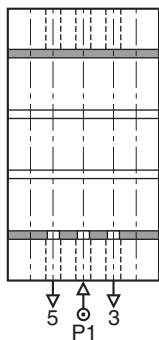
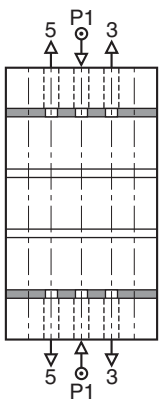
Pressure supply and exhaust on the end fittings.

Supply and exhausts to 1 side plate.

Assembly with 2 different pressures and with the exhaust piped to both end plates.

Assembly with 1 supply on 1 plate but with exhausts from the 2nd end plate.

Assembly with the supply port in 1 end plate and the exhaust from the other end plate.



Selector plates supplied as standard allows the assembly as shown above.

This assembly requires a blank selector plate (no flow).

For this assembly a selector plate with connections between 3, 5 is necessary.

For this assembly a selector plate allows flow through port 1 if required. The supply port in the second plate must be plugged.

For this assembly you require 2 selector plates, 1 allowing flow through port 1 and 1 allowing flow through ports 3, 5. This arrangement allows the assembly without plugging any ports.

SUBBASES

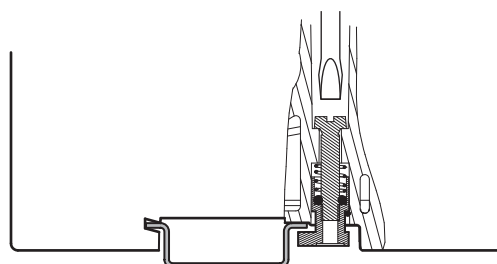
subbase	size	connection	description	port connection			catalogue number
				1-3-5	2-4	12-14	
single subbase	ISO 01		subbase	G 1/4	G 1/4	M5	35500526
joinable subbases	ISO 01	side	1 subbase + 2 seals 1 selector plate (connects ports 1-3-5-12-14)	-	G 1/4	(1)	35500576
				-	instant fittings tube 10mm O.D	-	35500578
		bottom	1 subbase + 2 seals 1 selector plate (connects ports 1-3-5-12-14)	-	G 1/4	-	35500573
				-	instant fittings tube 10mm O.D	-	35500575
			2 end plates + 2 seals 1 selector plate (connects ports 1-3-5-12-14)	G 1/2	G 1/4	G 1/8	88135559
			blank selector plate (no flow)				88135558
			selector plate (connects port 1)				88135557
			selector plate (connects ports 3 and 5)				88135556
			selector plate (connects ports 1 - 3 - 5)				88135555
			selector plate (connects ports 1 - 3 - 5 and 1 pilot 12 or 14)				88135554
	selector plate (connects ports 1 - 3 - 5 and 2 pilots 12 and 14)				88135553		

(1) Joinable subbase with side ports G 1/4 and ports 12-14 tapped M5, catalogue number **35500588**



Spool valves with subbase mounted pilots on joinable subbases

Joinable subbases ISO 01 can be mounted on symmetrical EN 50022 profile with two 1/4-turn eccentric nuts.



SPOOL VALVES OPTIONS

- Version with collectable exhausts, consult us

M12 CONNECTORS

Straight M12 connector with 5 female contacts, Ø4 to 6mm cable entry, catalogue number: **88100304**

Straight M12 connector with 5 female contacts, Ø6 to 8mm cable entry, catalogue number: **88100256**

Straight M12 connector with 5 female contacts, cable length 5m, catalogue number: **88130212**

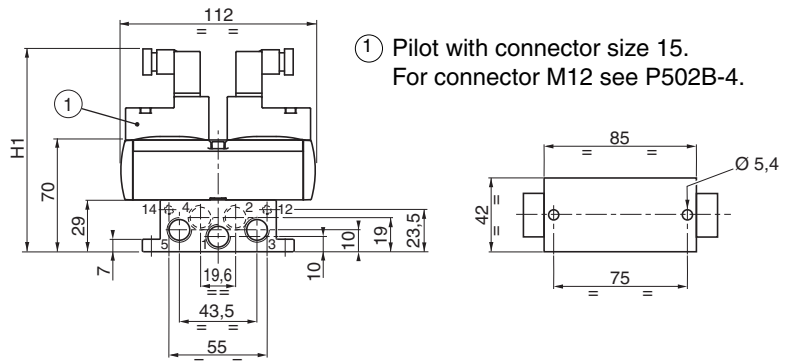
Right-angle M12 connector with 5 female contacts, cable length 5m, catalogue number: **88130213**

DIMENSIONS (mm), WEIGHT (kg)

Spool valve on single subbase

weight	
spool valve + subbase	
with 1 pilot	with 2 pilots
0,465	0,510

n° ports	Ø ports	pilot	dimension H1
1-3-5	G 1/4	size 15	120
2-4	G 1/4	M12	109
12-14	M5	integrated M12	109



Spool valve on joinable subbases

number of subbases	dimension		weight spool valve + 2 pilots + subbases + end plates
	A	B	
3	128,8	140	1,601
4	155,8	167	1,966
5	182,8	194	2,331
6	209,8	221	2,696
7	236,8	248	3,061
8	263,8	275	3,426
+1	+27	+27	0,365

n° ports	Ø ports	pilot	dimension H2
1-3-5	G 1/2	size 15	151
2-4	G 1/4	M12	140
12-14 (*)	G 1/8	integrated M12	140

(*) subbases : tapping M5 of ports 12 and 14 on request

- ① Pilot with connector size 15.
Connector M12: see P502B-4.
- ② Tapped bottom port
- ③ Bottom port with instant fittings
for flexible tube 10mm O.D
- ④ Tapped side port
- ⑤ Side port with instant fittings
for flexible tube 10mm O.D

