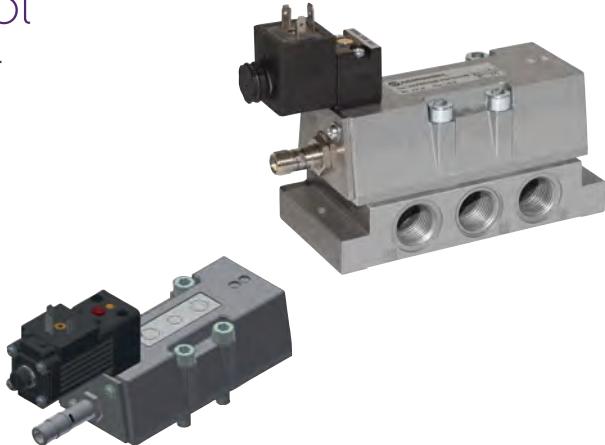


Solenoid actuated glandless spool valves with spool position sensor

- Sub-base mounted, ISO 5599-1 sizes 3
- Integrated inductive proximity switch for monitoring to realize high diagnostic coverage according to DIN EN ISO 13849
- Specially coated glandless spool and sleeve for long trouble-free life
- Shock and vibration tested to EN 61373, Category 1, class A and B



VSP550055 / VSP550045 / VSP550054 / VSP550046

Technical features

Medium:
Compressed air, 40 µm filtered, lubricated or non-lubricated

Operation:
Glandless spool valve, solenoid actuated and spool position sensing

Mounting:
On sub-bases

Sizes:
ISO 1 and 3

Operating pressure:
-0,9 ... 16 bar max.
(-13,1 ... 232 psi max.)

Ambient/Media temperature:
-15 ... +50°C (+5 ... 122°F)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

Materials:
Body: die-cast aluminium
Spool & sleeve: hard anodised aluminium with special PTFE coating
Seals: NBR
Locking plate: die-cast zinc or steel blue zinc coated
Screws: steel, blue zinc coated
Plastic parts: POM

Electrical details for solenoid operators

Voltage tolerance	± 10%
Rating	100% continuous duty
Inlet orifice	1,0 mm
Electrical connection	EN 175301-803 - Form A, 30 mm
Solenoid coil mounting	3 positions x 90°, not in place of sensor
Manual override	Push only (brass)
Protection class	IP65 (with sealed plug)

Electrical details for proximity switches

Supply voltage	10 ... 30 V d.c.
Output current	≤ 200 mA
Switching output	PNP
Output function	NO
Electrical connection	ISO 1 M8 x 1 - 3-pin ISO 3 M12 x 1 - 4-pin

Note: The proximity switches must not be altered or replaced. Improper installation could lead to malfunction. Please contact Norgren.

VSP550047 / VSP550060

Technical features

Medium:
Compressed air, 40 µm filtered, lubricated or non-lubricated

Operation:
Glandless spool valve, solenoid actuated and spool position sensing

Mounting:
On sub-bases

Sizes:
ISO 3

Maximum operating pressure:
-0,9 ... 16 bar

Ambient/Media temperature:
-40 ... +70°C (-40 ... +158°F)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

Materials:
Body: die-cast aluminium
Spool & sleeve: hard anodised aluminium with special PTFE coating, matched aluminium
Seals: NBR, VMQ
Locking plate: die-cast zinc or steel blue zinc coated
Screws: steel, blue zinc coated
Plastic parts: POM

Electrical details for solenoid operators

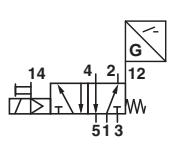
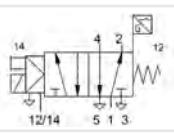
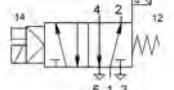
Nominal voltage	24 V DC
Power consumption	6 Watt
Voltage tolerance	± 30% or nominal
Duty cycle	100% ED
Inlet orifice	1,5 mm
Electrical connection	EN 175301-803 - Form A (DIN 43650)
Solenoid coil mounting	3 positions x 90°, not in place of sensor
Manual override	Push only (brass)
Protection class	IP 65 (with sealed plug)

Electrical details for proximity switches

Supply voltage	10 ... 30 V DC
Output current	≤ 200 mA
Switching output	PNP
Output function	NO
Electrical connection	M12 x 1 - 4-pin

Note: The proximity switches must not be altered or replaced. Improper installation could lead to malfunction. Please contact to IMI precision Engineering.

5/2 Solenoid pilot actuated valves

Symbol	ISO size	Flow regulator	Actuation	Pilot supply	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)	Weight (kg)	Model
	3	—	Solenoid/spring	Internal	4400	2 ... 12	2 ... 12	0,93	VSP550047
	3	—	Solenoid/spring	External	4400	-0,9 ... 16	2 ... 12	0,93	VSP550060 *1)
	1		Solenoid/spring	External	1230	-0,9 ... 16	1,8 ... 16	0,26	VSP550055 *1)
	3		Solenoid/spring	External	4400	-0,9 ... 16	1,8 ... 16	0,85	VSP550045 *1)
	1		Solenoid/spring	Internal	1230	1,8 ... 16	—	0,26	VSP550054
	3		Solenoid/spring	Internal	4400	1,8 ... 16	—	0,85	VSP550046

*1) External control air to port 12 or 14 (unused ports 12 or 14 must be closed).

Accessories for VSP550055 / VSP550045 / VSP550054 / VSP550046

Connector	Connector with moulded cable
	
0570275	M/P 43315/1 (1 m) M/P 43315/3 (3 m)

Sub-bases, end plates and blanking disc - VDMA 24345 sub-base options

	Single station sub-base, Form A side ported	Single station sub-base Form B bottom ported	Modular sub-base Form C	Form D End plates	Blanking disc for VDMA sub-bases *1)		
ISO size	Page 5	Page 5	Page 5	Page 5	Page 5		
3	M/P19138 (1/2)	C/P19138 (1/2)	M/P19137 (1/2)	COM/22354/3/21 239-246B	CQM/22354/3/22 239-293B	FP 8582	239-253

Accessories for ISO G parallel and NPT threads

	Blanking plate for VDMA and universal sub-bases	Transition plate for VDMA sub-bases	Sandwich plate with check valves	Flow regulator plate, ports 3 and 5 regulated
ISO size	Page 6	Page 6	Page 6 ... 7	Page 7
3	CQM/22354/3/23	FP8570 (1 » 3)	FP7070	CQM/22354/3/26

Accessories for VSP550047 / VSP550060

Connector	Connector with moulded cable
	
0570275	M/P 43315/1 (1 m)
	M/P 43315/3 (3 m)

Spare coilsoid operator - ordered separately

30 mm coil for connector interface acc. EN 175 301-803, form A

Voltage	Power Inrush/Hold	Model
12 V d.c.	4 W	V10633-A32N
24 V d.c.	4 W	V10633-A33N
110 V d.c.	4 W	V10633-A37N
24 V 50/60 Hz	10/8 VA	V10633-A84N
110/120 V 50/60 Hz	10/8 VA	V10633-A88N
220/240 V 50/60 Hz	10/8 VA	V10633-A89N

Connector plugs - ordered separately

30 mm, EN 175301-803
(DIN 43650 A) form A
2-pole + PE



0570275

Sub-bases, end plates and blanking disc - VDMA 24345 sub-base options

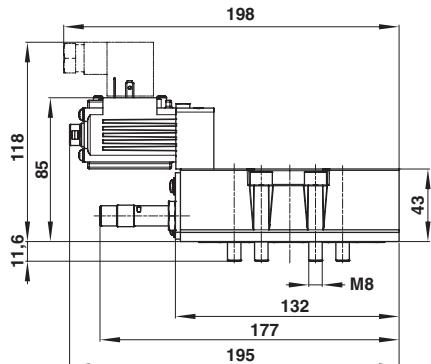
Single station sub-base, Form A side ported		Single station sub-base Form B bottom ported		Modular sub-base Form C		Form D End plates		Blanking disc for VDMA sub-bases			
ISO size	Page 5	ISO G thread	NPT thread	Page 5	ISO G thread	Page 5	ISO G thread	NPT thread	Page 5	ISO G thread	NPT thread
1	M/P19126 (1/4)	C/P19126 (1/4)	M/P19125 (1/4)	CQM/22152/3/21	239-238B	CQM/22152/3/22	239-289B	FP8382	239-251		
3	M/P19138 (1/2)	C/P19138 (1/2)	M/P19137 (1/2)	CQM/22354/3/21	239-246B	CQM/22354/3/22	239-293B	FP 8582	239-253		

Accessories

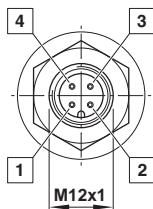
Blanking plate for VDMA and universal sub-bases		Transition plate for VDMA sub-bases		Sandwich plate with check valves		Flow regulator plate, ports 3 and 5 regulated	
ISO size	Page 6	Page 6	Page 6	Page 6 ... 7	Page 7	Page 7	Page 7
1	CQM/22152/3/23	CQM/22152/3/24 (1 » 2)	FP7050	–	–	–	–
3	CQM/22354/3/23	FP8570 (1 » 3)	FP7070	CQM/22354/3/26			

Dimensions VSP550055 / VSP550045 / VSP550054 / VSP550046

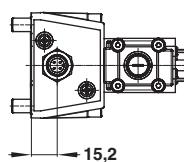
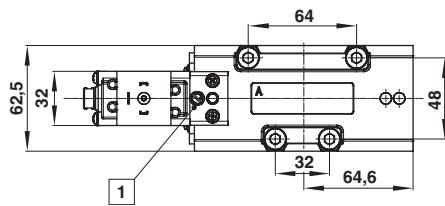
Dimensions in mm
Projection/First angle



Pin assignment

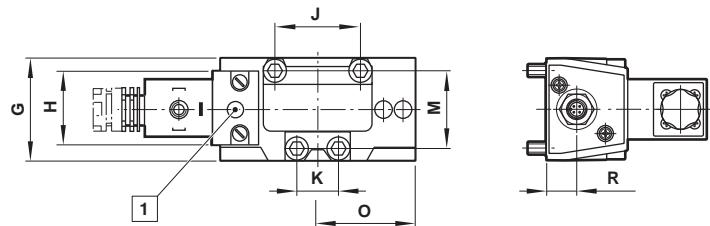
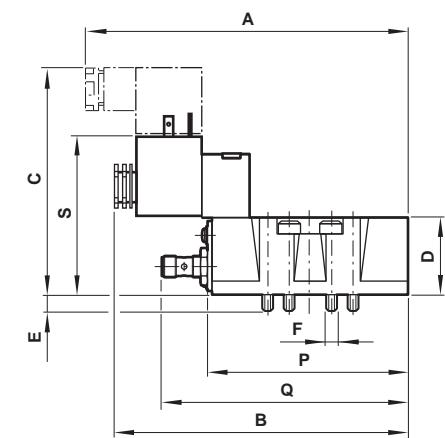


Pin Nr.	Function
1	L + (brown)
2	Not connected
3	M - (blue) Ground
4	Q (black) Closer



1 Manual override

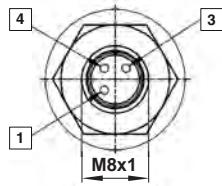
Dimensions VSP550047 / VSP550060



1 Manual override

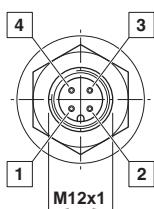
ISO size	A	B	C	D	E	F	G	H	J	K	M	O	P	Q	R	S	kg
1	137,5	128	98	33	7,5	M5	42	32	36	18	28	42	88	118,5	13,5	62	0,26
3	181	167	108	43	11,5	M8	62,5	32	64	32	48	65,5	135,5	158	15,5	78,5	0,70

Pin assignment ISO 1



Pin Nr.	Function
1	L + (brown)
3	M - (blue) Ground
4	Q (black) Closer

Pin assignment ISO 3

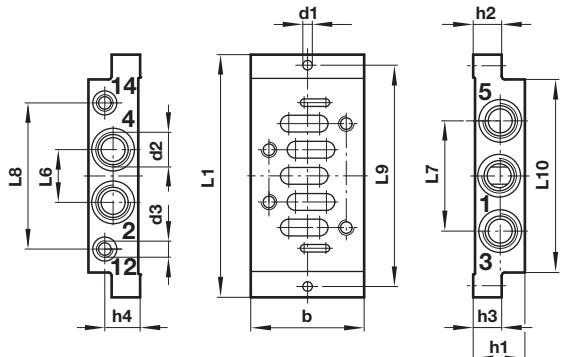


Pin Nr.	Function
1	L + (brown)
2	Not connected
3	M - (blue) Ground
4	Q (black) Closer

Sub-bases and end plates

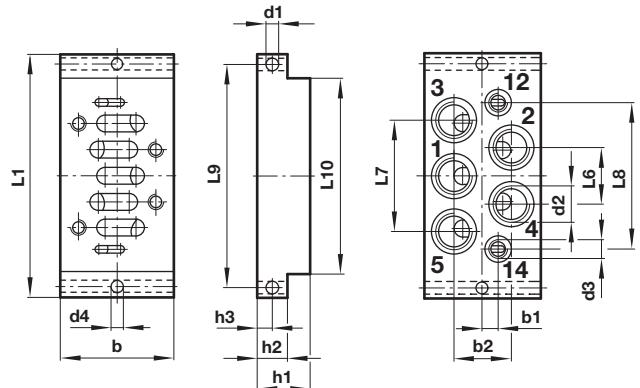
VDMA 24345 sub-base options

Single station sub-base side ported (Form A)
for ISO G and NPT threads



ISO size	b	d1	d2	d3	h1	h2	h3	Model
1	48	5,5	1/4"	1/8"	32	10	10,5 (21,5)	#/P19126
3	71	6,6	1/2"	1/8"	32	18	179	#/P19138

Single station sub-base
bottom ported (Form B)
for ISO G and NPT threads

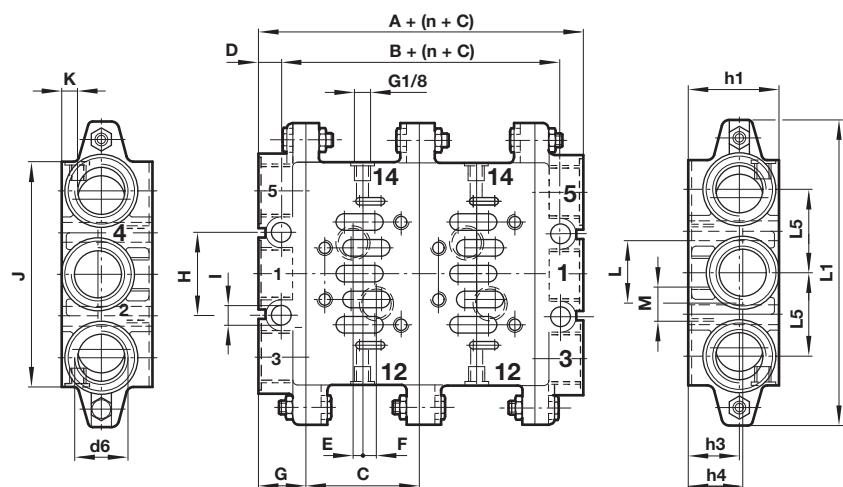


ISO size	b	b1	b2	d1	d2	d3	d4	h1	Model
1	46	7	23	5,5	1/4"	1/8"	5,5	30	#/P19125
3	71	10	34	6,6	1/2"	1/8"	6,69	32	#/P19137

(*) Dimension for ports 3 and 5.

Insert 'M' for ISO G parallel or 'C' for NPT threads

Modular sub-bases (Form C) and end plates (Form D) for ISO G and NPT threads



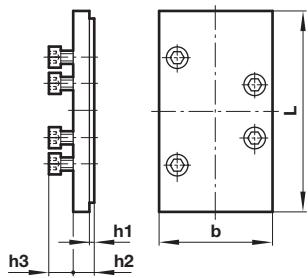
ISO size	A	B	C	D	E	F	G	H	I	kg	Model ISO G thread	Model NPT thread
1	44	22	43	11	1,5	7,5	22	28	7	0,24	CQM/22152/3/21	239-238B
3	60	30	71	15	6	8	30	52	12	0,72	CQM/22354/3/21	239-246B

ISO size	J	K	L	M	h1	h3	h4	L1	L5	d6	kg	Model ISO G thread	Model NPT thread
1	85	8,5	26	G1/4	46	21	24	110	28	3/8"	0,22	CQM/22152/3/22	239-289B
3	140	10	38	G1/2	56	31	34	190	52	1"	0,66	CQM/22354/3/22	239-293B

Dimensions in mm
Projection/First angle

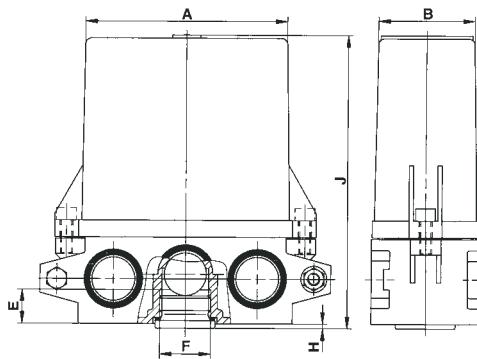


Blanking plate for VDMA & universal sub-bases with ISO G and NPT threads



Silencer for VDMA & universal sub-bases with ISO G and NPT threads

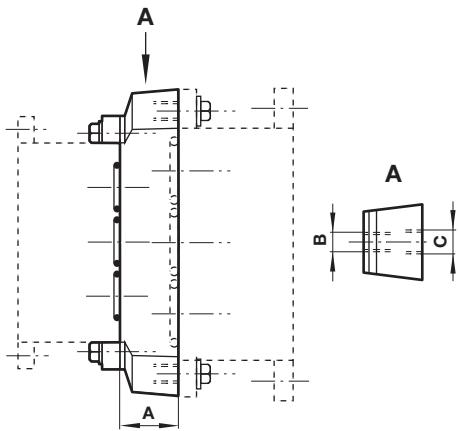
Dimensions in mm
Projection/First angle



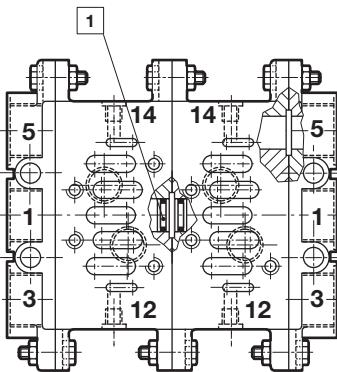
ISO size	b	L	h1	h2	h3	kg	Model
1	42	80	2	14	11	0,05	CQM/22152/3/23
3	70	106	2,5	12,5	15,5	0,26	CQM/22354/3/23

ISO size	A	B	E	F	H	J	Model
1	77	38	15	G3/8	2	122	0015510

Transition plate from ISO 1 » ISO 2, ISO 2 » ISO 3 and ISO1 » ISO 3 for VDMA sub-bases for ISO G



Blanking disc FP8582 for ISO G thread



ISO size	A	B	C	kg	Model
1 » 2	25	M5	M6	0,35	CQM/22152/3/24
2 » 3	40	M6	M8	0,65	CQM/22253/3/24
1 » 3	34	M5	M8	0,90	FP8570

1 Blanking disc; FP8*82

Sandwich plate with check valves

Symbol	ISO size	Design	Flow (l/min)	(Cv)	Operating pressure (bar)	(psi)	Weight (kg)	Model
	1	Poppet valves	500		3 ... 8		0,45	FP7050
	3	Poppet valves	3400	34	3 ... 8	43,5 ... 116	2,05	FP7070

Application:

With this type of intermediate plate together with a 5/3-way valve, center position open, a piston movement can be stopped in any desired position. This position will be kept during a long period.

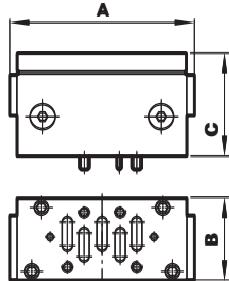
Note:

Metal to metal sealed spool and sleeve valves have always a small amount of leak because of its design. Therefore 5/3-way valves, center position closed, are only applicable for short stops.

Caution: Not suitable for safety applications!

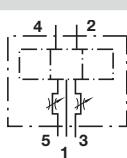
Dimensions

Dimensions in mm
Projection/First angle



ISO	A	B	C	Model
1	96	42	52	FP7050
3	165	62	95	FP7070

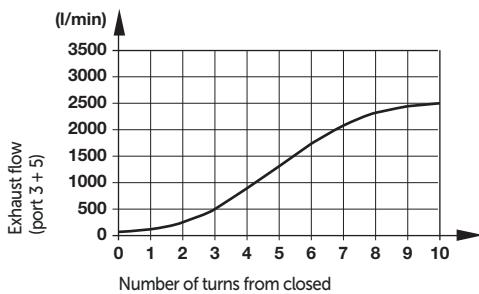
Flow regulator plate

Symbol	ISO size	Regulated port	Operation	Inlet pressure max. (bar)	Inlet pressure max. (psi)	Weight (kg)	Model
	3	3 and 5	Piston regulator	-0,9 ... 16	-13,1 ... 232	0,86	CQM/22354/3/26

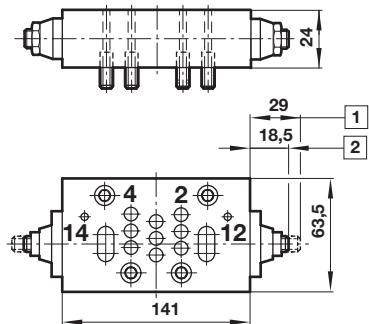
Application:
Regulation of exhaust ports 3 and 5 allows easy cylinder speed control

Note:
The regulator screw can be locked with the lock nut.

Flow characteristics (inlet pressure: 8 bar)



Dimensions



1 Fully open
2 Fully closed

Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult

IMI Precision Engineering, IMI International s.r.o.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.