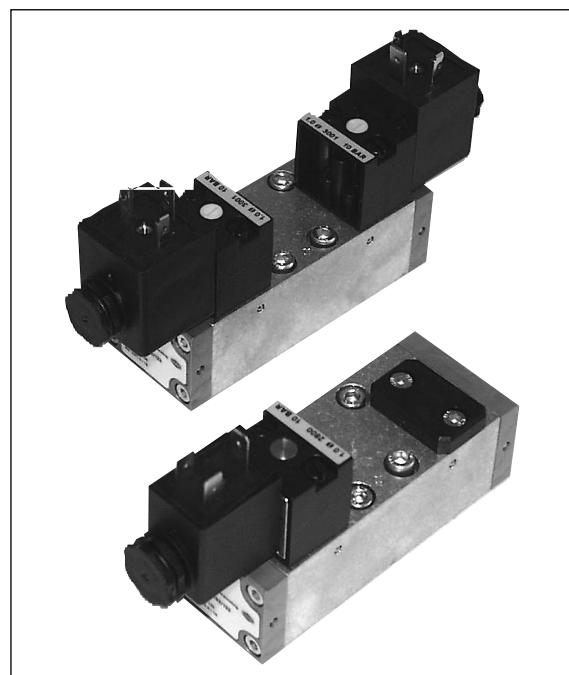


**5/2 and 5/3 Valves  
Solenoid and Pilot Actuated  
Sub-base Mounted  
ISO 5599-1 #1, #2, #3, #4**

- Steel reinforced main seals
- 16 bar and 10 bar CNOMO solenoid pilots with locking or non-locking manual override
- Low power coils (1,5W)
- Wide range of sub-bases and accessories



**Technical Data**

Medium:

Compressed air, filtered to 40µm, lubricated or non-lubricated

Operation:

Spool Valve, solenoid pilot or air pilot actuated

Mounting:

On sub-bases

Sizes:

ISO #1, #2, #3 and #4

Operating Pressure (maximum pressure):

10 bar (145 psig) solenoid pilot actuated valves

16 bar (232 psig) solenoid pilot actuated valves

16 bar (232 psig) air pilot actuated valves

Details of minimum and maximum pilot pressure see overleaf

Flow Characteristics (unregulated):

Size	Function	'C'	'b'	'A'	l/min	Cv	Kv
ISO #1	5/2	5,30	0,09	19,18	1200	1,22	1,05
ISO #1	5/3 APB	2,79	0,17	10,59	660	0,67	0,58
ISO #2	5/2	8,21	0,33	34,54	2130	2,17	1,86
ISO #2	5/3 APB	5,74	0,36	24,72	1520	1,55	1,33
ISO #3	5/2	16,57	0,27	67,02	4150	4,23	3,62
ISO #3	5/3 APB	14,27	0,35	60,94	3750	3,82	3,28
ISO #4	5/2	22,16	0,30	91,63	5660	5,77	4,94
ISO #4	5/3 APB	22,10	0,26	88,56	5490	5,59	4,79

Ambient Temperature:

-10°C\* to +50°C (14°F\* to +122°F) solenoid pilot actuated valves

-10°C\* to +80°C (14°F\* to +176°F) air pilot actuated valves

\*Consult our Technical Service for use below +2°C (36°F)

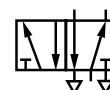
Materials:

Die cast aluminium body. Light alloy spool. Nitrile rubber seals.

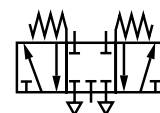
**For technical data on ISO 5599-1 sub-bases and accessories see sections 5.4.187 and 5.4.188**

**Ordering Information**

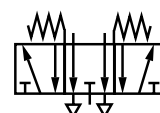
To order select model number, add solenoid pilot code and voltage code from page 5.4.171.3 e.g. UM/22152/123/61/13J for a 10 bar double solenoid pilot ISO #1 valve with internal pilot supply, push button manual override and 22 mm coil 24 V DC with Industrial Standard connector interface.



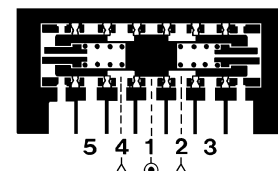
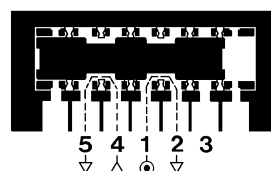
5/2



5/3 All ports blocked mid position



5/3 Centre open exhaust mid position





General Information

5/2 Solenoid Pilot Actuated Valves – 10 bar models

Symbol	Model	ISO Size	Pilot Supply	Operator 14	Return 12	Operating Pressure bar (psig)	Pilot Pressure bar (psig)	Weight kg (lb.)
	UM/22152/122/6x/****	#1	Internal	Solenoid	Spring	2–10 (29–145)	–	0,45 (0,99)
	UM/22253/172/6x/****	#2			Spring and Air	2.5–10 (36.2–145)		0,70 (1,54)
	UM/22354/172/6x/****	#3						1,00 (2,20)
	UM/22456/172/6x/****	#4			1,27 (2,80)			
	UM/22152/22/6x/****	#1	External	Solenoid	Spring	-0.9–16 (-13.1–232)	2.3 (33.3) + [0.1 x supply pressure] – 10 (145)	0,45 (0,99)
	UM/22253/22/6x/****	#2					1,8 (26.1) + [0.1 x supply pressure] – 10 (145)	0,70 (1,54)
	UM/22354/22/6x/****	#3					1,00 (2,20)	
	UM/22456/22/6x/****	#4					1,27 (2,80)	
	UM/22152/123/6x/****	#1	Internal	Solenoid	Solenoid	2–10 (29–145)	–	0,59 (1,30)
	UM/22253/123/6x/****	#2						0,84 (1,85)
	UM/22354/123/6x/****	#3						1,14 (2,51)
	UM/22456/123/6x/****	#4						1,41 (3,10)
	UM/22152/23/6x/****	#1	External	Solenoid	Solenoid	-0.9–16 (-13.1–232)	2.3 (33.3) + [0.1 x supply pressure] – 10 (145)	0,59 (1,85)
	UM/22253/23/6x/****	#2					0,84 (1,85)	
	UM/22354/23/6x/****	#3					1,14 (2,51)	
	UM/22456/23/6x/****	#4					1,41 (3,10)	

5/3 Solenoid Pilot Actuated Valves – 10 bar models

Symbol	Model	ISO Size	Valve Function	Pilot Supply	Operator 14	Return 12	Operating Pressure bar (psig)	Pilot Pressure bar (psig)	Weight kg (lb.)
	UM/22152/6123/6x/****	#1	APB	Internal	Solenoid	Solenoid	2.5–10 (36.2–145)	–	0,59 (1,30)
	UM/22253/6123/6x/****	#2					2.8–10 (40.6–145)		0,84 (1,85)
	UM/22354/6123/6x/****	#3							1,11 (2,51)
	UM/22456/6123/6x/****	#4					1,41 (3,10)		
	UM/22162/6123/6x/****	#1	COE	Internal	Solenoid	Solenoid	2.5–10 (36.2–145)	–	0,59 (1,30)
	UM/22263/6123/6x/****	#2					2.8–10 (40.6–145)		0,84 (1,85)
	UM/22364/6123/6x/****	#3							1,14 (2,51)
	UM/22466/6123/6x/****	#4					1,41 (3,10)		

Valve Function Designations: APB = All Ports Blocked      xx = Insert Manual override (coil retention) from table below  
 COE = Centre Open Exhaust      \*\*\* = Insert Voltage Code from table below

Electrical Details for 10 bar Solenoid Operators

Voltage Tolerance	± 10%
Rating	100% Continuous Duty
Inlet orifice	1,0 mm
Electrical Connection (corresponding to chosen coil)	DIN 43 650 table 'A' DIN 43 650 table 'B' Industrial Standard 22 mm width
Solenoid Coil	May be rotated at 90° intervals
Manual Override (coil retention)	Screwdriver memory type (with threaded diffuser)      x = 0 Push to operate spring return (with threaded diffuser)      x = 1
Protection Class	IP 65 with sealed plug

For technical data on CNOMO solenoid pilot see section 5.4.020 or consult our Technical Department

Voltage Codes and Spare Coils for 10 bar models

Voltage	22 mm Coil with connector interface acc. to Industrial Standard		Coil Part.-no.	22 mm Coil with connector interface acc. to DIN 43650 table "B"		Coil Part.-no.	30 mm Coil with connector interface acc. to DIN 43650 table "A"		Coil Part.-no.
	Code	Power Inrush/Hold		Code	Power Inrush/Hold		Code	Power Inrush/Hold	
12 V d.c.	12J	2 W	QM/48/12J/21	12L	2 W	V10626-A12L	22N	1,5 W	V10633-A22N
24 V d.c.	13J	2 W	QM/48/13J/21	13L	2 W	V10626-A13L	23N	1,5 W	V10633-A23N
24 V 50/60 Hz	14J	4/2,5 VA	QM/48/14J/21	14L	4/2,5 VA	V10626-A14L	24N	3/2 VA	V10633-A24N
48 V 50/60 Hz	16J	4/2,5 VA	QM/48/16J/21	16L	4/2,5 VA	V10626-A16L	26N	3/2 VA	V10633-A26N
110/120 V 50/60 Hz	18J	4/2,5 VA	QM/48/18J/21	18L	4/2,5 VA	V10626-A18L	28N	3/2 VA	V10633-A28N
220/240 V 50/60 Hz	19J	9/5,0 VA	QM/48/19J/21	19L	9/5,0 VA	V10626-A19L	29N	3/2VA	V10633-A29N

Other Voltages available on request.

For further technical data on coils see section 5.4.023 or consult our Technical Department.

Connector plugs to be ordered separately. For technical data see section 7.7.001.



### 5/2 Solenoid Pilot Actuated Valves – 16 bar models

Symbol	Model	ISO Size	Pilot Supply	Operator 14	Return 12	Operating Pressure bar (psig)	Pilot Pressure bar (psig)	Weight kg (lb.)
	UM/22152/122/8x/****	#1	Internal	Solenoid	Spring	2–16 (29–232)	–	0,45 (0,99)
	UM/22253/172/8x/****	#2				0,70 (1,54)		
	UM/22354/172/8x/****	#3				1,00 (2,20)		
	UM/22456/172/8x/****	#4				1,27 (2,80)		
	UM/22152/22/8x/****	#1	External	Solenoid	Spring	-0.9–16 (-13.1–232)	2.3 (33.3) + [0.1 x supply pressure] – 16 (232)	0,45 (0,99)
	UM/22253/22/8x/****	#2					1,00 (2,20)	
	UM/22354/22/8x/****	#3					1,27 (2,80)	
	UM/22456/22/8x/****	#4					1,41 (3,10)	
	UM/22152/123/8x/****	#1	Internal	Solenoid	Solenoid	2–16 (29–232)	–	0,59 (1,30)
	UM/22253/123/8x/****	#2						0,84 (1,85)
	UM/22354/123/8x/****	#3						1,14 (2,51)
	UM/22456/123/8x/****	#4						1,41 (3,10)
	UM/22152/23/8x/****	#1	External	Solenoid	Solenoid	-0.9–16 (-13.1–232)	2.3 (33.3) + [0.1 x supply pressure] – 16 (232)	0,59 (1,85)
	UM/22253/23/8x/****	#2					0,84 (1,85)	
	UM/22354/23/8x/****	#3					1,14 (2,51)	
	UM/22456/23/8x/****	#4					1,41 (3,10)	

### 5/3 Solenoid Pilot Actuated Valves – 16 bar models

Symbol	Model	ISO Size	Valve Function	Pilot Supply	Operator 14	Return 12	Operating Pressure bar (psig)	Pilot Pressure bar (psig)	Weight kg (lb.)
	UM/22152/6123/8x/****	#1	APB	Internal	Solenoid	Solenoid	2.5–16 (36.2–232)	–	0,59 (1,30)
	UM/22253/6123/8x/****	#2					0,84 (1,85)		
	UM/22354/6123/8x/****	#3					1,14 (2,51)		
	UM/22456/6123/8x/****	#4					1,41 (3,10)		
	UM/22162/6123/8x/****	#1	COE	Internal	Solenoid	Solenoid	2.5–16 (36.2–232)	–	0,59 (1,30)
	UM/22263/6123/8x/****	#2					0,84 (1,85)		
	UM/22364/6123/8x/****	#3					1,14 (2,51)		
	UM/22466/6123/8x/****	#4					1,41 (3,10)		

Valve Function Designations: APB = All Ports Blocked      xx = Insert Manual override (coil retention) from table below  
 COE = Centre Open Exhaust      \*\*\* = Insert Voltage Code from table below

### Electrical Details for 16 bar Solenoid Operators

Voltage Tolerance	± 10%
Rating	100% Continuous Duty
Inlet orifice	1,0 mm
Electrical Connection (corresponding to chosen coil)	DIN 43 650 table 'A'
Solenoid Coil	May be rotated at 90° intervals
Manual Override (coil retention)	Screwdriver memory type (with threaded diffuser)      x = 0 Push to operate spring return (with threaded diffuser)      x = 1
Protection Class	IP 65 with sealed plug

For technical data on CNOMO solenoid pilot see section 5.4.020 or consult our Technical Department

### Voltage Codes and Spare Coils for 16 bar models

Voltage	30 mm Coil with connector interface acc. to DIN 43 650 table "A"		Coil Part.-no
	Code	Power Inrush/Hold	
24 V DC.	33N	4 W	V10633-A33N
110/120 V 50/60 Hz	88N	10/8 VA	V10633-A88N
220/240 V 50/60 Hz	89N	10/8 VA	V10633-A89N

Other Voltages available on request.

For further technical data on coils see section 5.4.023 or consult our Technical Department.

Connector plugs to be ordered separately. For technical data see section 7.7.001.



### 5/2 Air Pilot Actuated Valves

Symbol	Model	ISO Size	Operator 14	Return 12	Operating Pressure bar (psig)	Pilot Pressure bar (psig)	Weight kg (lb.)
	UM/22152/40	#1	Air	Spring	-0.9–16 (-13.1–232)	2.3 (33.3) + [0.1 x supply pressure] – 16 (232)	0,34 (0,74)
	UM/22253/40	#2				1.8 (26.1) + [0.1 x supply pressure] – 16 (232)	0,60 (1,32)
	UM/22354/40	#3				2.8 (40.6) + [0.1 x supply pressure] – 16 (232)	1,00 (2,20)
	UM/22456/40	#4				1.8 (26.1) + [0.1 x supply pressure] – 16 (232)	1,30 (2,86)
	UM/22152/3	#1	Air	Air	-0.9–16 (-13.1–232)	1.0 (14.5) + [0.1 x supply pressure] – 16 (232)	0,34 (0,74)
	UM/22253/3	#2					0,50 (1,10)
	UM/22354/3	#3				1.5 (21.75) + [0.1 x supply pressure] – 16 (232)	0,90 (1,98)
	UM/22456/3	#4					1,20 (2,64)

### 5/3 Air Pilot Actuated Valves

Symbol	Model	ISO Size	Pilot Supply	Operator 14	Return 12	Operating Pressure bar (psig)	Pilot Pressure bar (psig)	Weight kg (lb.)
	UM/22152/63	#1	APB	Air	Air	-0.9–16 (-13.1–232)	2.3 (33.3) + [0.1 x supply pressure] – 16 (232)	0,34 (0,74)
	UM/22253/63	#2						0,50 (1,10)
	UM/22354/63	#3					2.8 (40.6) + [0.1 x supply pressure] – 16 (232)	0,90 (1,98)
	UM/22456/63	#4						1,20 (2,64)
	UM/22162/63	#1	COE	Air	Air	-0.9–16 (-13.1–232)	2.3 (33.3) + [0.1 x supply pressure] – 16 (232)	0,34 (0,74)
	UM/22263/63	#2						0,50 (1,10)
	UM/22364/63	#3					2.8 (40.6) + [0.1 x supply pressure] – 16 (232)	0,90 (1,98)
	UM/22466/63	#4						1,20 (2,64)

Valve Function Designations: APB = All Ports Blocked  
COE = Centre Open Exhaust

### Spares Kits

Model	Description
QM/22152/3/00	Spares Kit for ISO #1 Valves (UM/22152)
QM/22253/3/00	Spares Kit for ISO #2 Valves (UM/22253)
QM/22354/3/00	Spares Kit for ISO #3 Valves (UM/22354)
QM/22456/3/00	Spares Kit for ISO #4 Valves (UM/22456)

### 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 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 NORGREN.

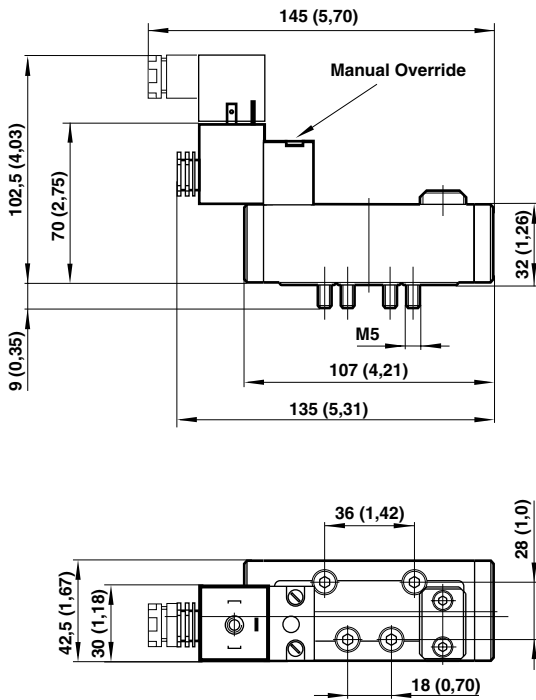
Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in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

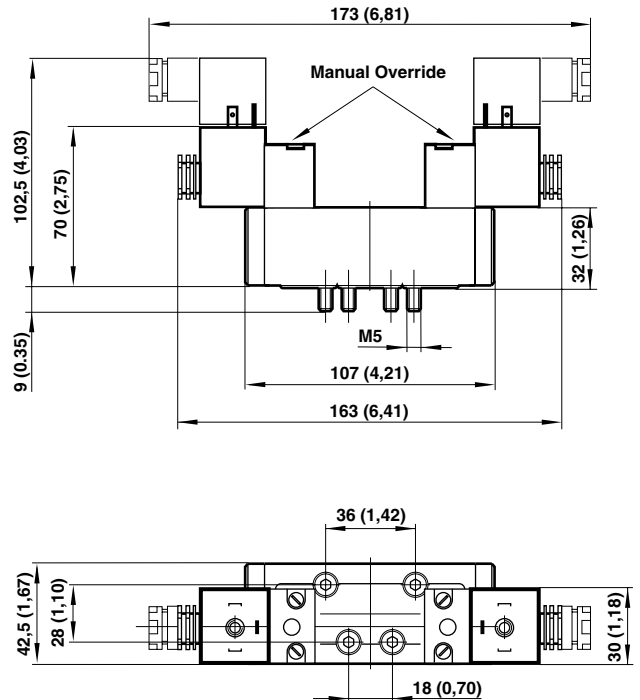
System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products where applicable.



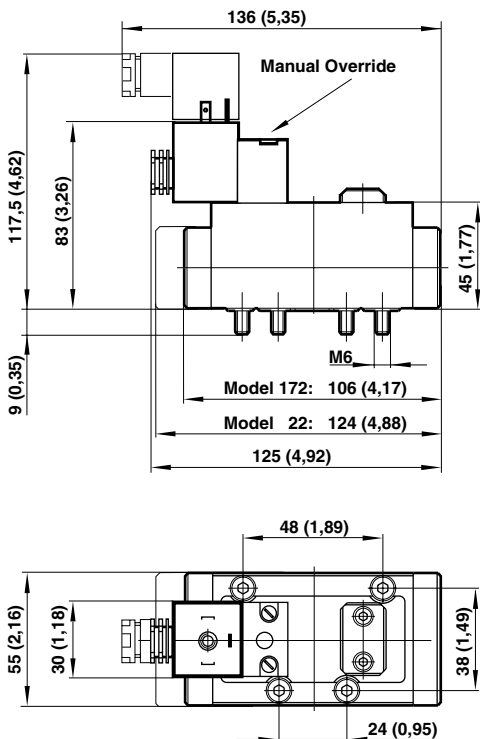
**UM/22152/\*22/60 or 61 models**  
**UM/22152/\*22/80 or 81 models**  
**5/2 Single Solenoid Valve – ISO #1**



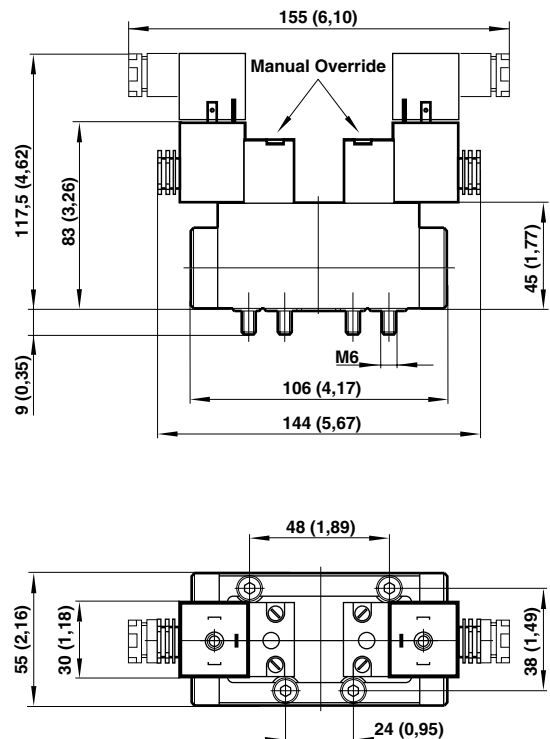
**UM/221\*2/\*123/60 or 61 models**  
**UM/221\*2/\*123/80 or 81 models**  
**5/2 & 5/3 Double Solenoid Valves – ISO #1**



**UM/22253/\*\*2/60 or 61 models**  
**UM/22253/\*\*2/80 or 81 models**  
**5/2 Single Solenoid Valve – ISO #2**

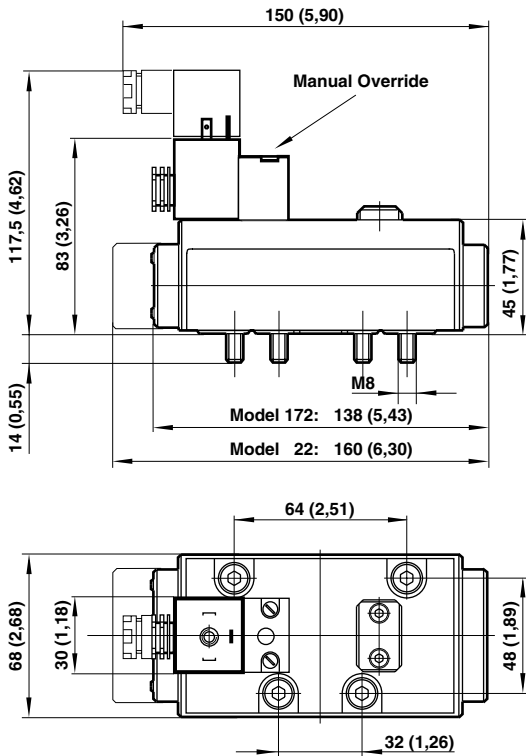


**UM/222\*3/\*123/60 or 61 models**  
**UM/222\*3/\*123/80 or 81 models**  
**5/2 & 5/3 Double Solenoid Valves – ISO #2**

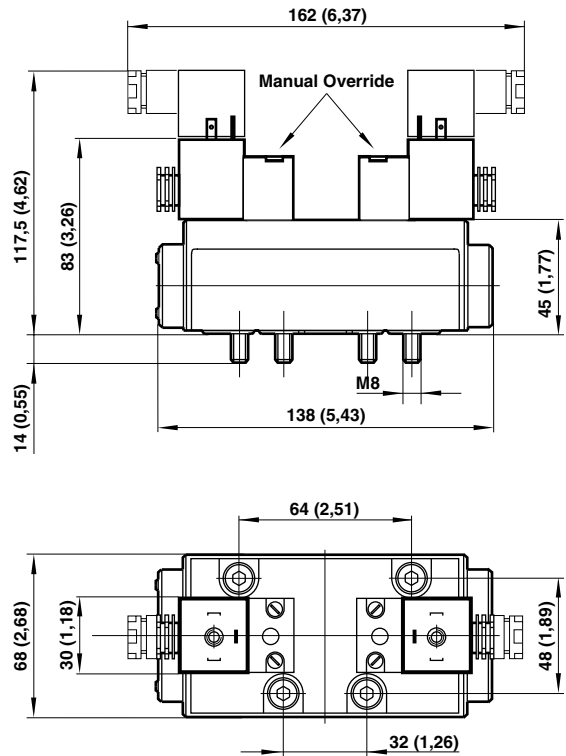




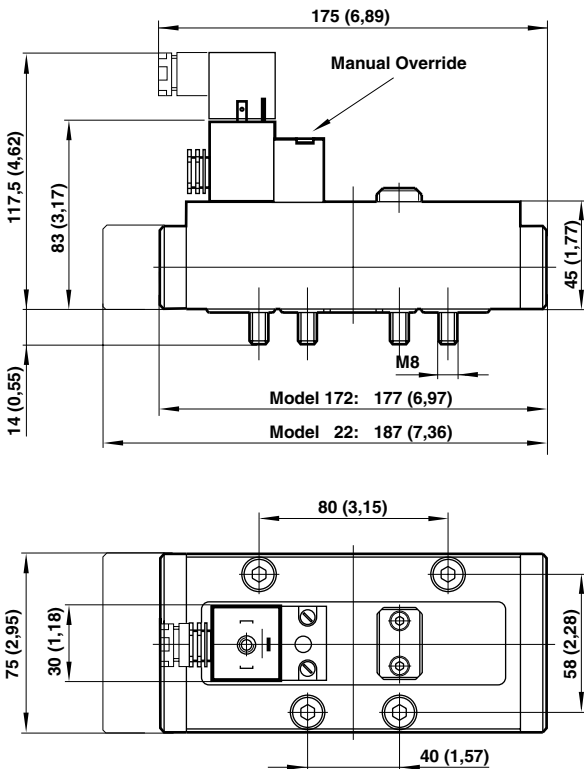
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UM/22354/\*\*2/80 or 81 models  
5/2 Single Solenoid Valve – ISO #3**



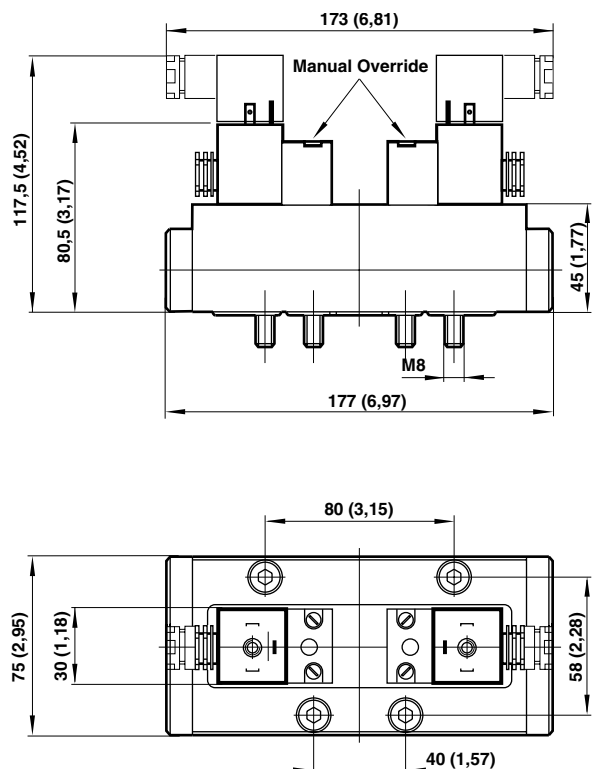
**UM/223\*4/\*123/60 or 61 models  
UM/223\*4/\*123/80 or 81 models  
5/2 & 5/3 Double Solenoid Valves – ISO #3**



**UM/22456/\*\*2/60 or 61 models  
UM/22456/\*\*2/80 or 81 models  
5/2 Single Solenoid Valve – ISO #4**

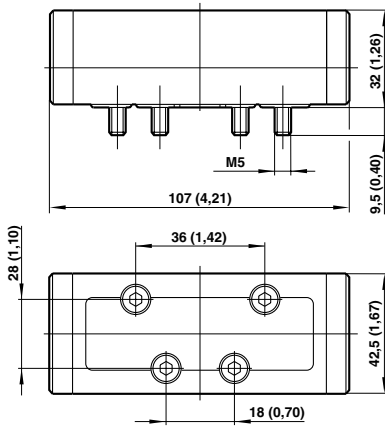


**UM/224\*6/\*123/60 or 61 models  
UM/224\*6/\*123/80 or 81 models  
5/2 & 5/3 Double Solenoid Valves – ISO #4**



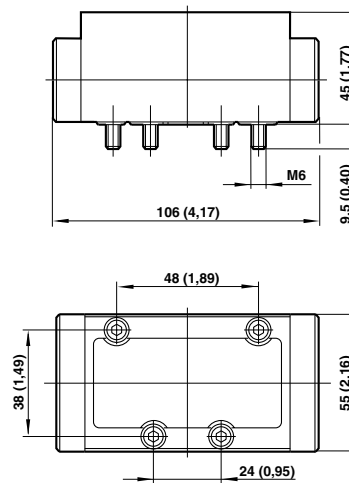
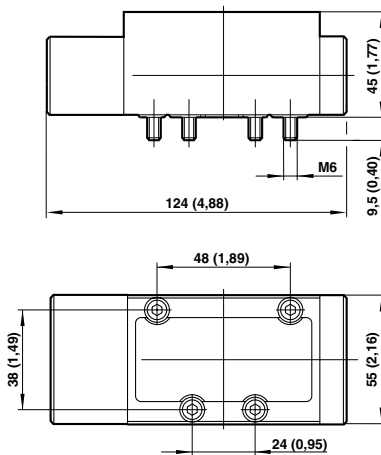


**UM/22152 & UM/22162 models**  
**5/2 & 5/3 Single & Double Air Pilot Valves -**  
**ISO #1**



**UM/22253/40**  
**5/2 Single Air Pilot Valve - ISO #2**

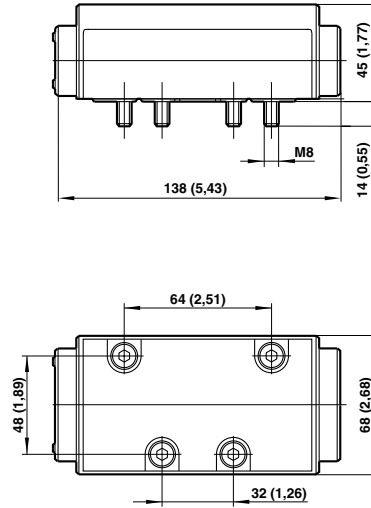
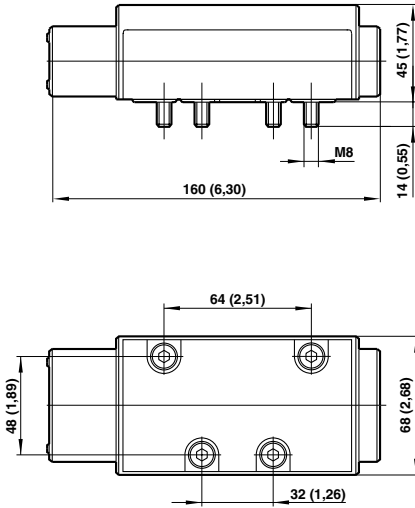
**UM/22253/3 & UM/222\*3/63 models**  
**5/2 & 5/3 Double Air Pilot Valves - ISO #2**





**UM/22354/40**  
**5/2 Single Air Pilot Valve - ISO #3**

**UM/22354/3 & UM/223\*4/63 models**  
**5/2 & 5/3 Double Air Pilot Valves - ISO #3**



**UM/22456/40**  
**5/2 Single Air Pilot Valve - ISO #4**

**UM/22456/3 & UM/224\*6/63 models**  
**5/2 & 5/3 Double Air Pilot Valves - ISO #4**

