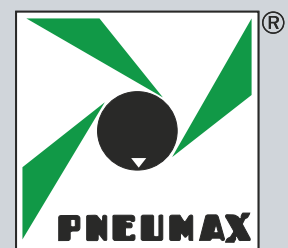


VALVES AND SOLENOID VALVES

4

PNEUMAX GREEN LINE: TECHNOLOGY & INNOVATION

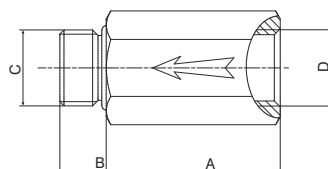


www.pneumaxspa.com

General details

They are special non-return valves that can close the suction line in the event of air leakage from the suction cup that is not located on the workpiece or fully adherent thereto. Designed to be applied to the suction cups, the shut-off valves - if there is no object to be lifted, if the suction grip is defective or in the presence of leakage - automatically closes off the suction, preventing the degree of vacuum in the still-gripping suction cups from dropping. These can shut off completely with characteristics described above or control leakage, where the principle of operation is the same as the abovementioned, differing from the sealing shutter in that, even when shut off entirely, it still allows a small air flow to the vacuum source. This feature allows a suction cup that has not gripped the object to be lifted to recreate the vacuum inside of it, and therefore carry out its gripping action without having to repeat the work cycle; if, on the other hand, the suction cup does not grip due to the fact that there is no object to lift, the valve will not stop the degree of vacuum from dropping on the remaining gripping suction cups, but the small percentage of loss is easily controllable and therefore recoverable.

Shut-off valves



A	B	C	D	Ex.
27	7	G1/8"	G1/8"	13
30	8	G1/4"	G1/4"	17
33	9	G3/8"	G3/8"	20

Ordering code

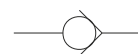
19E0.A.00.MF

THREAD DIAMETER

18 = G1/8"

14 = G1/4"

38 = G3/8"

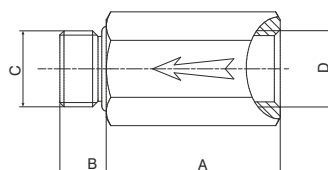


Performance characteristics

- Minimum trigger flow rate (l/min)

25

Shut-off valves with controlled leakage loss



A	B	C	D	Ex.
27	7	G1/8"	G1/8"	13
30	8	G1/4"	G1/4"	17
33	9	G3/8"	G3/8"	20

Ordering code

19E0.A.01.MF

Ø THREAD

18 = G1/8"

14 = G1/4"

38 = G3/8"

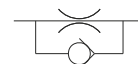
Ø NOZZLE ORIFICE

03 = orifice Ø0.3

05 = orifice Ø0.5

07 = orifice Ø0.7

10 = orifice Ø1



Performance characteristics

- Minimum trigger flow rate (l/min)

25

General details

Valves and solenoid valves with shutter for larger flow rates, for vacuum.

These are manufactured only in 3/2 and 2/2 versions, either normally closed or normally open.

Selection of the right type and connection to the pump requires some knowledge and skill.

For electrical actuation a normal M2 microsolenoid is used in the case of control via air and a special M2/V microsolenoid is used when control is via vacuum.

The ordering codes correspond to the solenoid valves with mechanisms that are "M2" or "M2/V" mounted.

The windings are not included and have to be ordered separately (see summary page for electric windings).

Certified windings are also available. 

Construction features	G 3/8"	G 1/2" - G 3/4"	G 1"	G 1 1/2"
Body	Aluminium	Die-cast Zamak	Aluminium	Aluminium
End caps			Aluminium	
Shutters			NBR	
Control piston			Aluminium	
Shutter mount			Stainless steel INOX	
Springs			Stainless steel INOX	
Piston gasket			NBR	

Wear and maintenance

These valves and solenoid valves have an average service life of approximately 10 - 15 million cycles under optimum conditions of usage. They do not need to be lubricated to operate well, but good filtration is recommended to prevent dirt accumulation and consequently likely malfunctioning. Ensure that the conditions of use are consistent with the indicated limits, pressure, temperature, etc. Take care to protect the discharge outlets of the valves in the presence of dirt and powder. For these products, due to the manner in which they are constructed and the particular use for which they are intended, maintenance by replacing valve parts does not have to be carried out. When necessary, basic internal cleaning can be performed, carefully removing any dirt accumulations. When the version of solenoid valves with self-supply is used, take care that it is never used to supply flow rate since in this case there would not be sufficient vacuum for actuation. This is normally found on shutter valves, since they do not have the closed centres position and insufficient actuation could cause the system to discharge from outlet 3. In this case, switch to the version with external actuation.

Connections of valves

NORMALLY CLOSED SELF-SUPPLIED

779/V.32.0.1AC P = 1 = DISCHARGE

773/V.32.0.1AC A = 2 = USE

771/V.32.0.1AC R = 3 = PUMP

NORMALLY CLOSED EXTERNALLY SUPPLIED

779/V.32.0.1C

773/V.32.0.1C

771/V.32.0.1C

P = 1 = PUMP

A = 2 = USE

R = 3 = DISCHARGE

779/V.32.11.1C

773/V.32.11.1C

771/V.32.11.1C

NORMALLY OPEN SELF-SUPPLIED

779/V.32.0.1A P = 1 = PUMP

773/V.32.0.1A A = 2 = USE

771/V.32.0.1A R = 3 = DISCHARGE

NORMALLY OPEN EXTERNALLY SUPPLIED

779/V.32.0.1A

773/V.32.0.1A

771/V.32.0.1A

P = 1 = DISCHARGE

A = 2 = USE

R = 3 = PUMP

779/V.32.11.1A

773/V.32.11.1A

771/V.32.11.1A

Response time (ms)

"The response time of the directional control valves or the moving parts of logic devices was measured in accordance with standard ISO 12238:2001"

Code	Type	Response time (ms)	
		energised	de-energised
779/V.32.11.1C	N.C.	12	46
779/V.32.11.1A	N.O.	13	48
779/V.32.0.1AC.M2/V	N.C.	26	9
779/V.32.0.1AA.M2/V	N.O.	16	11
779/V.32.0.1C.M2	N.C.	10	35
779/V.32.0.1A.M2	N.O.	11	36
772/V.32.11.1C	N.C.	30	105
772/V.32.11.1A	N.O.	17	150
772/V.32.0.1AC.M2/V	N.C.	80	20
772/V.32.0.1AA.M2/V	N.O.	25	20
772/V.32.0.1C.M2	N.C.	25	95
772/V.32.0.1A.M2	N.O.	15	140
773/V.32.11.1C	N.C.	30	105
773/V.32.11.1A	N.O.	17	145
773/V.32.0.1AC.M2/V	N.C.	75	13

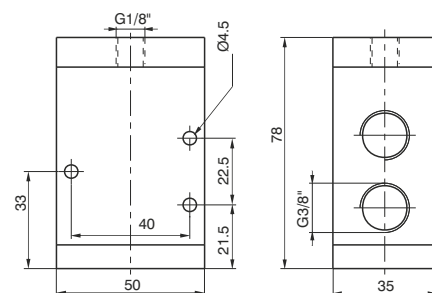
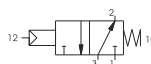
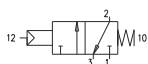
Code	Type	Response time (ms)	
		energised	de-energised
773/V.32.0.1AA.M2/V	N.O.	33	22
773/V.32.0.1C.M2	N.C.	25	95
773/V.32.0.1A.M2	N.O.	13	140
771/V.32.11.1C	N.C.	45	250
771/V.32.11.1A	N.O.	18	260
771/V.32.0.1AC.M2/V	N.C.	120	20
771/V.32.0.1AA.M2/V	N.O.	35	40
771/V.32.0.1C.M2	N.C.	45	250
771/V.32.0.1A.M2	N.O.	17	325

Pneumatic-Spring

Ordering code

779/V.32.11.F

FUNCTION

F
1C=Normally Closed
1A=Normally Open

Weight 360 g
Minimum actuation pressure 2 bar


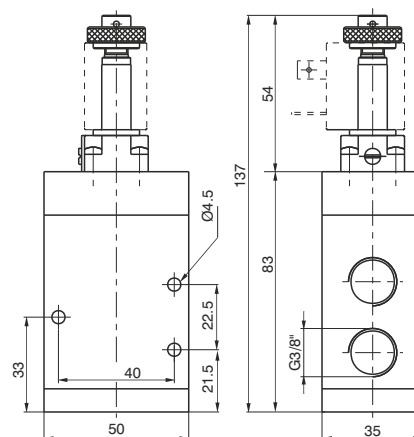
Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +70	10	G3/8"	G1/8"	167	0 ÷ 101

Solenoid-Spring-Self-supplied

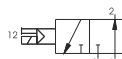
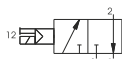
Ordering code

779/V.32.0.F.M2/V

FUNCTION

F
1AA=Normally Open
1AC=Normally Closed


Weight 420 g



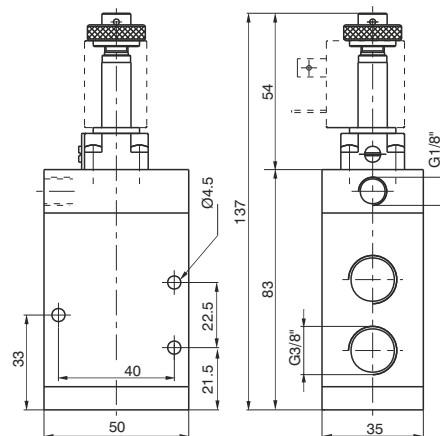
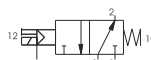
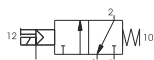
Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +70	10	G3/8"	G1/8"	167	20 ÷ 101

Solenoid-Spring-External supply

Ordering code

779/V.32.0.F.M2

FUNCTION

F
1A=Normally Open
1C=Normally Closed

Weight 420 g
Minimum actuation pressure 2 bar


Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +70	10	G3/8"	G1/8"	167	0 ÷ 101



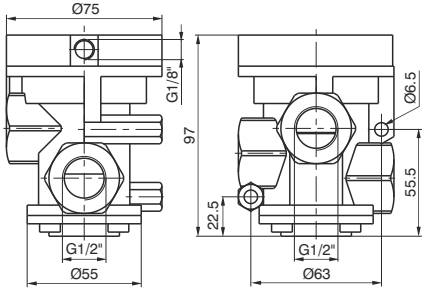
Pneumatic-Spring

Ordering code

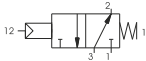
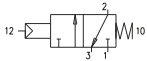
772/V.32.11.F

FUNCTION

- F 1C=Normally Closed
1A=Normally Open



Weight 1100 g
Minimum actuation pressure 2 bar



Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +70	15	G1/2"	G1/8"	334	0 ÷ 101

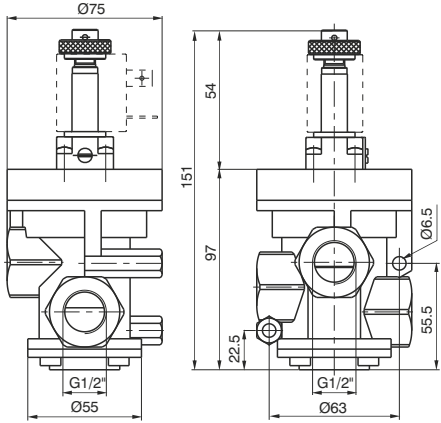
Solenoid-Spring-Self-supplied

Ordering code

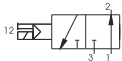
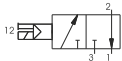
772/V.32.0.F.M2/V

FUNCTION

- F 1AA=Normally Open
1AC=Normally Closed



Weight 1160 g



Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +50	15	G1/2"	G1/8"	334	20 ÷ 101

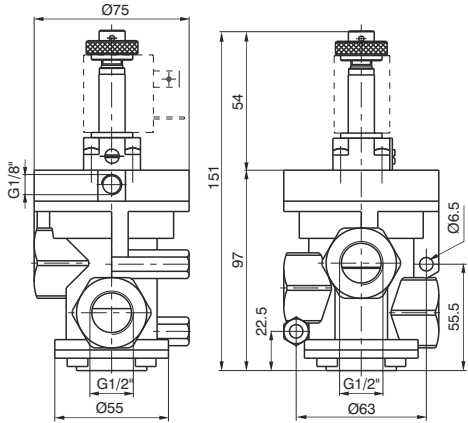
Solenoid-Spring-External supply

Ordering code

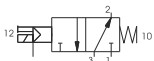
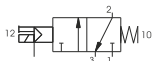
772/V.32.0.F.M2

FUNCTION

- F 1A=Normally Open
1C=Normally Closed



Weight 1160 g
Minimum actuation pressure 2 bar



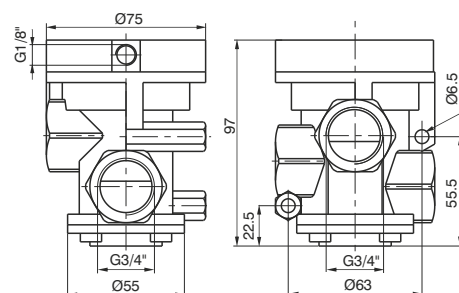
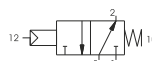
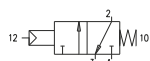
Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +50	15	G1/2"	G1/8"	334	0 ÷ 101

Pneumatic-Spring

Ordering code

773/V.32.11.F

FUNCTION

F 1C=Normally Closed
1A=Normally Open

Weight 990 g
Minimum actuation pressure 2 bar


Performance characteristics

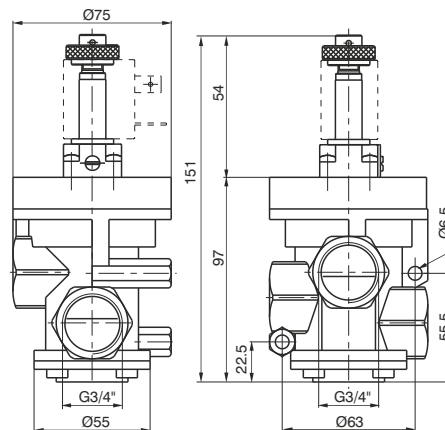
Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +70	20	G3/4"	G1/8"	667	0 ÷ 101

Solenoid-Spring-Self-supplied

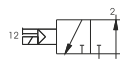
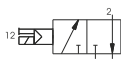
Ordering code

773/V.32.0.F.M2/V

FUNCTION

F 1AA=Normally Open
1AC=Normally Closed


Weight 1050 g



Performance characteristics

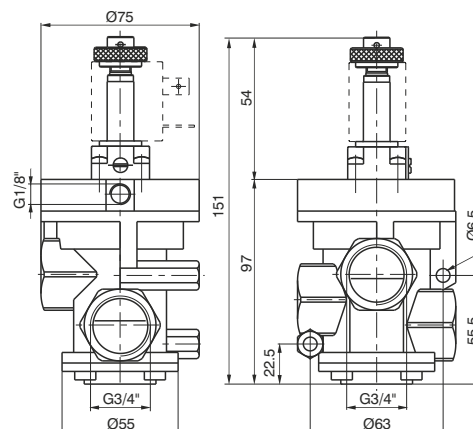
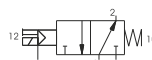
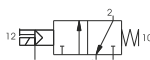
Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +50	20	G3/4"	G1/8"	667	20 ÷ 101

Solenoid-Spring-External supply

Ordering code

773/V.32.0.F.M2

FUNCTION

F 1A=Normally Open
1C=Normally Closed

Weight 1160 g
Minimum actuation pressure 2 bar


Performance characteristics

Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +50	20	G3/4"	G1/8"	667	0 ÷ 101



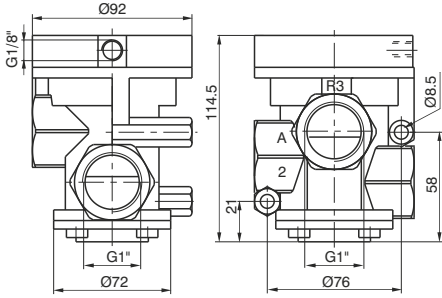
Pneumatic-Spring

Ordering code

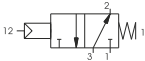
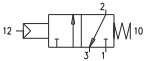
771/V.32.11.Ⓕ

FUNCTION

- Ⓕ 1C=Normally Closed
1A=Normally Open



Weight 1060 g
Minimum actuation pressure 2 bar



Performance characteristics

Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +70	25	G1"	G1/8"	1500	0 ÷ 101

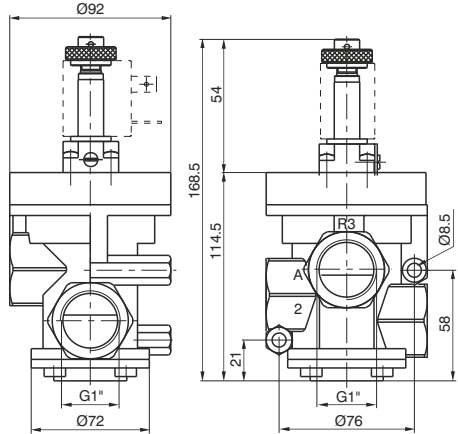
Solenoid-Spring-Self-supplied

Ordering code

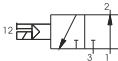
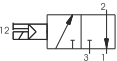
771/V.32.0.ⒻM2/V

FUNCTION

- Ⓕ 1AA=Normally Open
1AC=Normally Closed



Weight 1120 g



Performance characteristics

Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +50	25	G1"	G1/8"	1500	20 ÷ 101

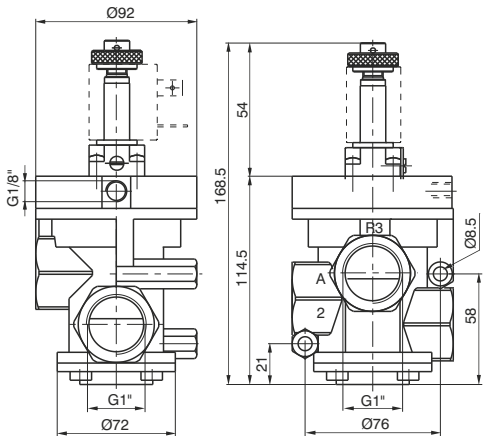
Solenoid-Spring-External supply

Ordering code

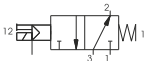
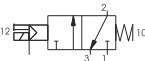
771/V.32.0.ⒻM2

FUNCTION

- Ⓕ 1A=Normally Open
1C=Normally Closed



Weight 1120 g
Minimum actuation pressure 2 bar

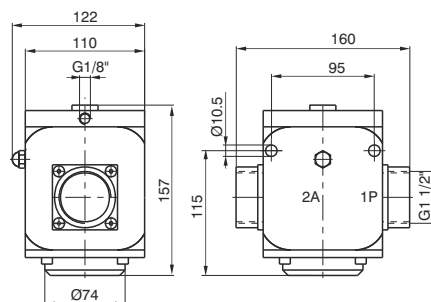


Performance characteristics

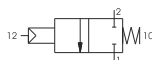
Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +50	25	G1"	G1/8"	1500	0 ÷ 101

Pneumatic-Spring

Ordering code

776/V.22.11.1C


Weight 3950 g
Normally closed
Minimum actuation pressure 2 bar



Performance characteristics

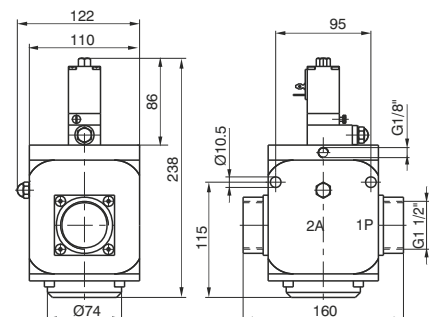
Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +70	38	G1 1/2"	G1/8"	3000	0 ÷ 101

Solenoid-Spring

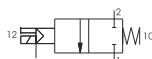
Ordering code

776/V.22.0.1C.S

Code SOLENOIDE
Vedi pagina riepilogo avvolgimenti



Weight 4450 g
External supply Normally closed
Minimum actuation pressure 2 bar



Performance characteristics

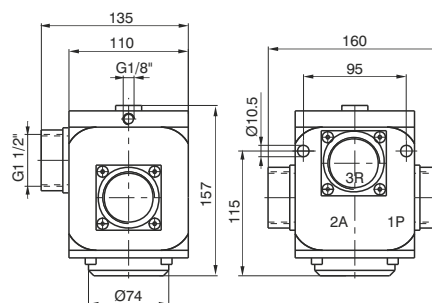
Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +50	38	G1 1/2"	G1/8"	3000	0 ÷ 101

Pneumatic-Spring

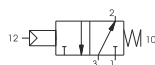
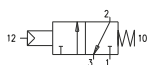
Ordering code

776/V.32.11.F

FUNCTION
1C=Normally Closed
1A=Normally Open



Weight 3900 g
Minimum actuation pressure 2 bar



Performance characteristics

Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +70	38	G1 1/2"	G1/8"	3000	0 ÷ 101

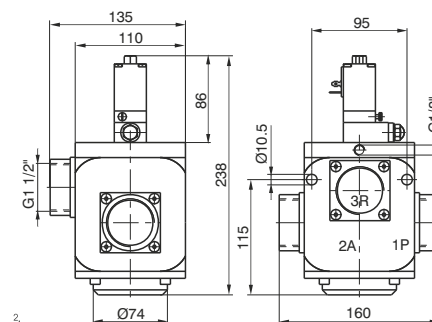
Solenoid-Spring

Ordering code

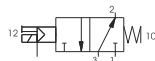
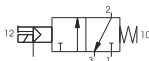
776/V.32.0.F.S

FUNCTION
1C=External supply
Normally closed
1A=External supply
Normally open

Code SOLENOIDE
Vedi pagina riepilogo avvolgimenti



Weight 4500 g
Minimum actuation pressure 2 bar



Performance characteristics

Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +50	38	G1 1/2"	G1/8"	3000	0 ÷ 101

General details

The new series of valves and solenoid valves with shutter G1/2" and G3/4" is a new version of the already-tested zamak version. The main feature of this version is the high-resistance thermoplastic material from which the components are moulded. This made it possible to obtain an aesthetically pleasing product with a considerably reduced weight compared to the standard version, and, most importantly, a reduction in price. There are also changes of a technical and functional nature, however, starting with the use of a rolling diaphragm in place of the traditional piston, thus eliminating friction and wear on the gasket.

For versions with microsolenoid and internal or external supply, there is a fast discharge system incorporated in the operator, which reduces the response time for repositioning the valve by 60%. The mechanisms of the actuation solenoid valve are the MP with external supply and MV for self-supplied versions (they differ from the M2 and M2/V, used on zamak valves, for self-tapping fixation screws in plastic).

There are also double versions either for air or for vacuum on which, in place of the standard actuation mechanisms, there is a solenoid valve 3/2 Solenoid-Solenoid complete with 15mm 24V DC microactuators (code N331.0A).

The ordering codes correspond to the solenoid valves with mechanisms that are "MP" or "MV" mounted. The windings are not included and have to be ordered separately (see summary page for electric windings) with the exception of the dual versions which already have windings 24V DC (N331.0A).

Certified windings are also available. 

Construction features

Body, operator and bottom	High resistance thermoplastic material
Gaskets and shutters	Nitrile rubber (NBR), oilproof
Piston and guide pin	Acetal resin
Springs	Stainless steel AISI 302
Diaphragm	Rubberised fabric in nitrile (NBR) compound, oilproof

Wear and maintenance

These valves and solenoid valves have an average service life of approximately 10 - 15 million cycles under optimum conditions of usage. They do not need to be lubricated to operate well, but good filtration is recommended to prevent dirt accumulation inside. Ensure that the conditions of use are consistent with the indicated limits, pressure, temperature, etc. Take care to protect the discharge outlets of the valves in the presence of dirt and powder. For these products, due to the manner in which they are constructed and the particular use for which they are intended, maintenance by replacing valve parts does not have to be carried out. When necessary, basic internal cleaning can be performed, carefully removing any dirt accumulations. When the self-supply version is used in the solenoid valves, take care that the use is never, as air flow, the same as the supply, because in this case there would not be sufficient vacuum for actuation.

This is normally found on shutter valves since they do not have the closed centres position and insufficient actuation could cause the system to discharge from outlet 3. In this case switch to the version with external actuation.

Connections of valves

Normally closed Self-supplied	1 = DISCHARGE
Normally open External supply	2 = USE
	3 = PUMP
Normally open Self-supplied	1 = PUMP
Normally closed External supply	2 = USE
	3 = DISCHARGE

Response time (ms)

"The response time of the directional control valves or the moving parts of logic devices was measured in accordance with the standard ISO 12238:2001"

Code	Type	Response time (ms)	
		energised	de-energised
T772/V.32.11.1	N.C.	50	150
T772/V.32.11.1	N.O.	27	195
T772/V.32.0.1.MP	N.C.	42	135
T772/V.32.0.1.MP	N.O.	22	175
T772/VS.32.0.1.MP	N.C.	43	37
T772/VS.32.0.1.MP	N.O.	25	42
T772/V.32.0.1AA.MV	N.C.	55	30
T772/V.32.0.1AA.MV	N.O.	33	38

Code	Type	Response time (ms)	
		energised	de-energised
T773/V.32.11.1	N.C.	28	190
T773/V.32.11.1	N.O.	50	150
T773/V.32.0.1.MP	N.C.	25	175
T773/V.32.0.1.MP	N.O.	40	145
T773/VS.32.0.1.MP	N.C.	25	40
T773/VS.32.0.1.MP	N.O.	42	38
T773/V.32.0.1AA.MV	N.C.	35	30
T773/V.32.0.1AA.MV	N.O.	32	80

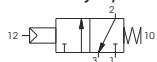
Pneumatic spring valve

3/2

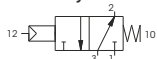
Ordering code

T772/V.32.11.1

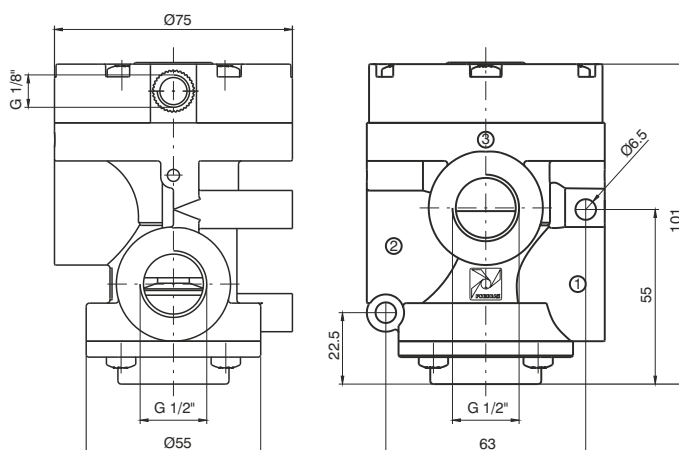
Normally open



Normally closed



Weight 350 g



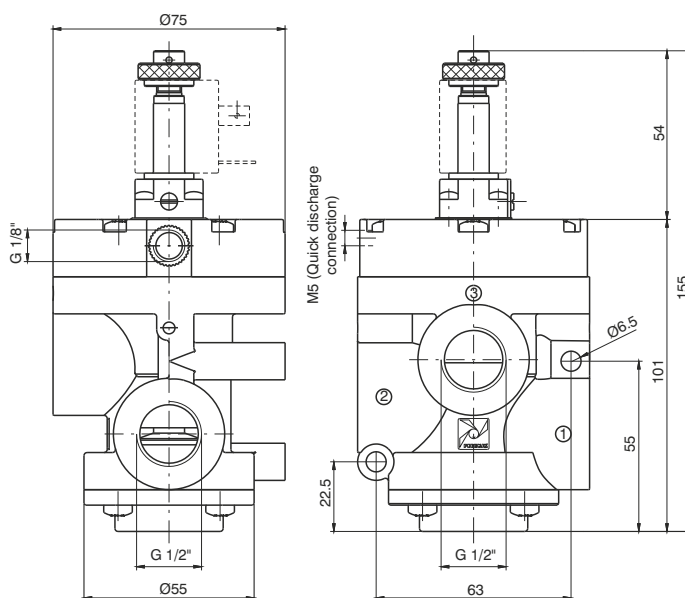
Minimum actuation pressure: 2,5 bar

Spring Solenoid valve

3/2



Weight 390 g



Ordering code

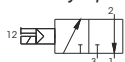
Self-supplied

External supply

External supply with quick discharge

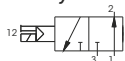
T772/V.32.0.1AA.MV

Normally open



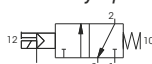
T772/V.32.0.1AC.MV

Normally closed

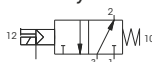


T772/V.32.0.1.MP

Normally open

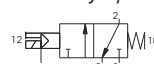


Normally closed

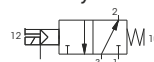


T772/VS.32.0.1.MP

Normally open



Normally closed



Minimum actuation pressure: 2,5 bar

Performance characteristics

Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +50	15	G1/2"	G1/8"	334	0 ÷ 101

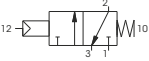
Pneumatic
spring valve

3/2

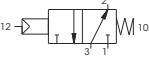
Ordering code

T773/V.32.11.1

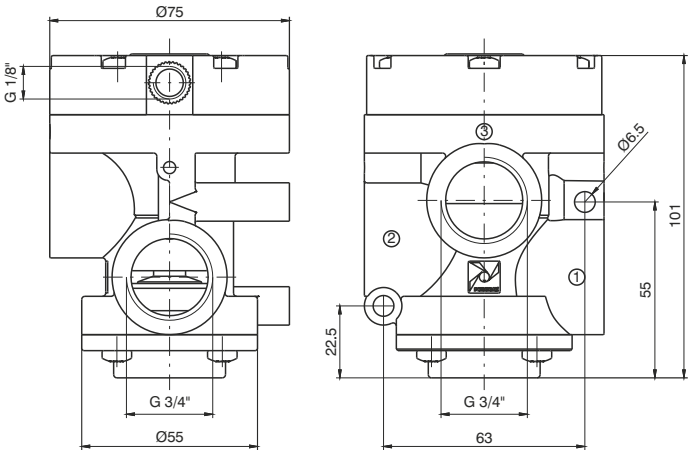
Normally open



Normally closed



Weight 330 g



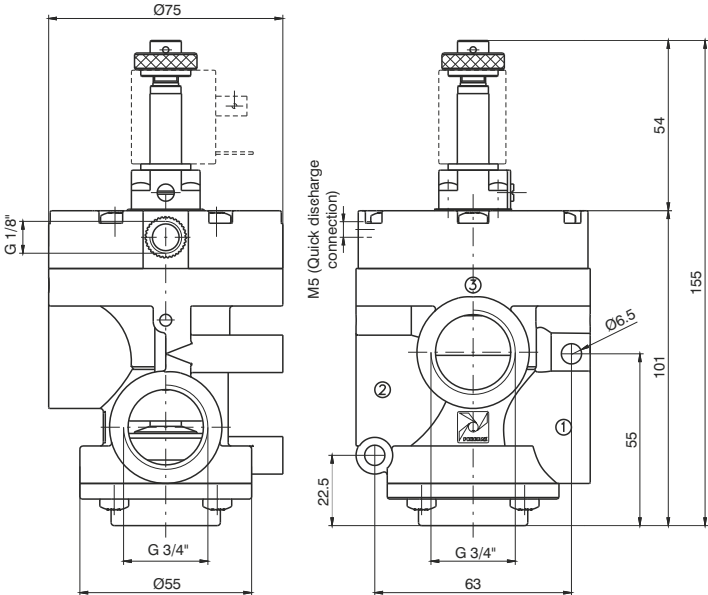
Minimum actuation pressure: 2,5 bar

Spring Solenoid valve

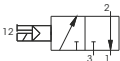
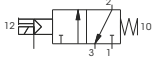
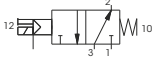
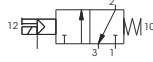
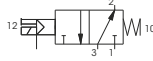
3/2



Weight 370 g



Ordering code

Self-supplied	External supply	External supply with quick discharge
T773/V.32.0.1AA.MV Normally open 	T773/V.32.0.1.MP Normally open  Normally closed 	T773/VS.32.0.1.MP Normally open  Normally closed 

Minimum actuation pressure: 2,5 bar

Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +50	20	G3/4"	G1/8"	667	0 ÷ 101

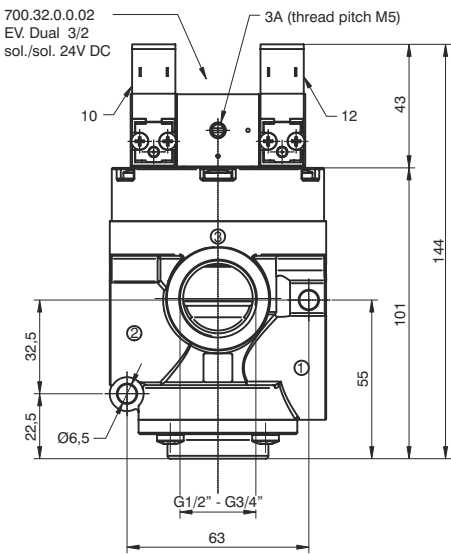
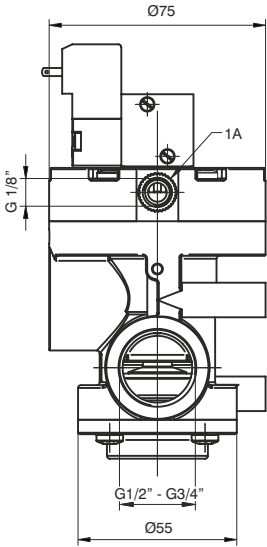
Bistable version

3/2



N.O.
Pump in 3
Use in 2
Discharge in 1

N.C.
Pump in 1
Use in 2
Discharge in 3



Weight 550 g

Ordering code

G 1/2"			G 3/4"			G 1/2" (with quick discharge)		G 3/4" (with quick discharge)		
T772/V.32.0.1BP <i>Normally closed</i> <i>Normally open</i>			T773/V.32.0.1BP <i>Normally closed</i> <i>Normally open</i>			T772/VS.32.0.1BP <i>Normally closed</i> <i>Normally open</i>		T773/VS.32.0.1BP <i>Normally closed</i> <i>Normally open</i>		
Performance characteristics	Fluid	Min. actuation pressure (bar)	Temperature °C	Nominal flow passage diameter (mm)		Supply connection	Actuation connection	Flow rate (l/min)		Degree of Vacuum (-kPa)
	Vacuum	2,5	-5 ÷ +50	G1/2"	G3/4"	G1/2" - G3/4"	G1/8"	G1/2"	G3/4"	0 ÷ 101

General details

The new series of valves and solenoid valves with shutter G1" is a new version of the already-proven zamak version and of the version G1/2" - 3/4" series T772 and T773 made of technopolymer. For this version too, the main feature is the high-resistance thermoplastic material from which the components are moulded.

This made it possible to obtain an aesthetically pleasing product with a considerably reduced weight compared to the standard version, and, most importantly, a reduction in price.

As for the versions of 1/2" and 3/4" there were also technical and functional changes made, starting with the use of a rolling diaphragm in place of the traditional piston, thus eliminating friction and wear on the gasket.

For the versions with microsolenoids that are internally or externally supplied, a quick discharge system is available, incorporated in the operator, which reduces the valve's repositioning response times by a further 80%. The actuation solenoid valve mechanisms are the MP with external supply and MV for the self-supplied vacuum versions (they differ from the M2 and M2/V, used on zamak valves, in that there are self-tapping fixation screws in plastic). There are also double versions either for air or for vacuum on which, in place of the standard actuation mechanisms, there is mounted a solenoid valve 3/2 Solenoid-Solenoid complete with 15mm 24V DC microactuators (code N331.0A).

The ordering codes correspond to the solenoid valves with mechanisms "MP" or "MV" mounted. The windings are not included and have to be ordered separately (see summary page for electric windings) with the exception of the dual versions which already have windings 24V DC (N331.0A).

Certified windings are also available. 

Construction features

Body, operator and bottom	High resistance thermoplastic material
Gaskets and shutters	Nitrile rubber (NBR), oilproof
Piston and guide pin	Acetal resin
Springs	Stainless steel AISI 302
Diaphragm	Rubberised fabric in nitrile (NBR) compound, oilproof

Wear and maintenance

These valves and solenoid valves have an average service life of approximately 10 - 15 million cycles under optimum conditions of usage. They do not need to be lubricated to operate well, but good filtration is recommended to prevent dirt accumulation inside. Ensure that the conditions of use are consistent with the indicated limits, pressure, temperature, etc. Take care to protect the discharge outlets of the valves in the presence of dirt and powder. For these products, due to the manner in which they are constructed and the particular use for which they are intended, maintenance with replacement of valve parts does not have to be carried out. When necessary, basic internal cleaning can be performed, carefully removing any dirt accumulations. When the self-supply version is used in the solenoid valves, take care that the use is never, as air flow, the same as the supply, because in this case there would not be sufficient vacuum for actuation. This is normally found on shutter valves since they do not have the closed centres position and insufficient actuation could cause the system to discharge from outlet 3. In this case switch to the version with external actuation.

Connections of valves:

Normally closed self-supplied	1 = DISCHARGE
Normally open externally supplied	2 = USE
	3 = PUMP
Normally open self-supplied	1 = PUMP
Normally closed externally supplied	2 = USE
	3 = DISCHARGE

Response time (ms)

"The response time of the directional control valves or the moving parts of logic devices was measured in accordance with the standard ISO 12238:2001"

Code	Type	Response time (ms)	
		energised	de-energised
T771/V.32.11.1	N.C.	55	320
T771/V.32.11.1	N.O.	19	450
T771/V.32.0.1.MP	N.C.	50	315
T771/V.32.0.1.MP	N.O.	19	450
T771/VS.32.0.1.MP	N.C.	50	50
T771/VS.32.0.1.MP	N.O.	19	70
T771/V.32.0.1AA.MV	N.C.	100	60
T771/V.32.0.1AA.MV	N.O.	80	60

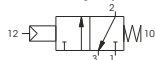
Pneumatic spring valve

3/2

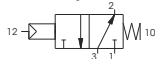
Ordering code

T771/V.32.11.1

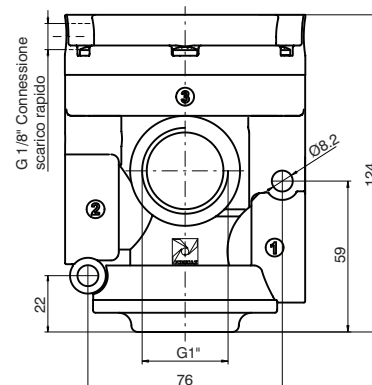
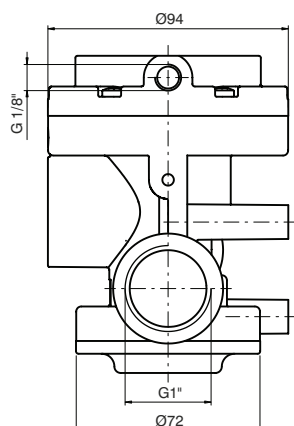
Normally open



Normally closed



Weight 480 g



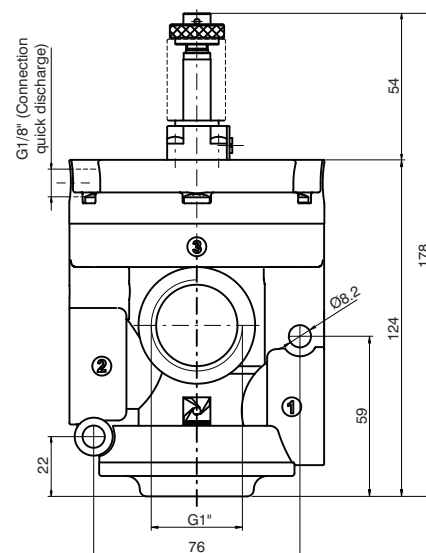
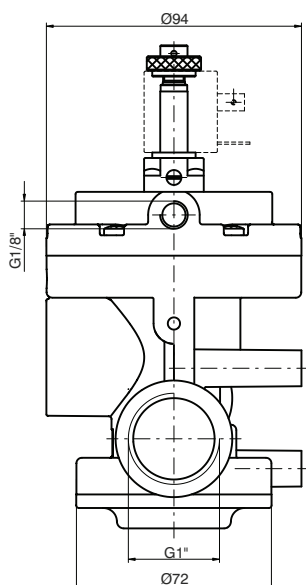
Minimum actuation pressure: 2 bar

Spring Solenoid valve

3/2



Weight 520 g



Ordering code

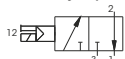
Self-supplied

External supply

External supply with quick discharge

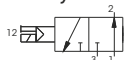
T771/V.32.0.1AA.MV

Normally open



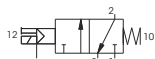
T771/V.32.0.1AC.MV

Normally closed

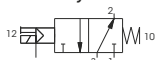


T771/V.32.0.1.MP

Normally open

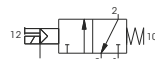


Normally closed

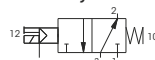


T771/VS.32.0.1.MP

Normally open



Normally closed



Minimum actuation pressure: 2 bar

Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +50	25	G1"	G1/8"	1500	0 ÷ 101

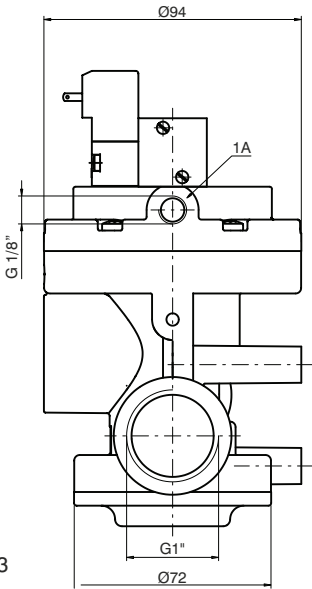
Bistable version

3/2

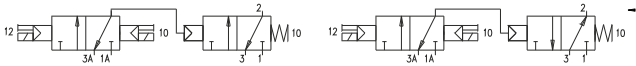
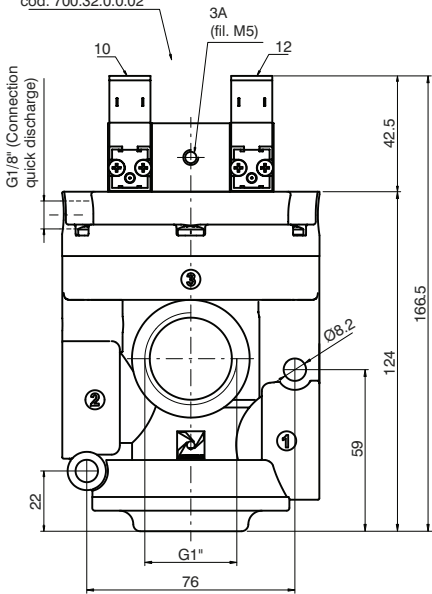


N.O.
Pump in 3
Use in 2
Discharge in 1

N.C.
Pump in 1
Use in 2
Discharge in 3



EV. Dual 3/2 sol./sol. 24V DC
cod. 700.32.0.0.02



Weight 680 g

Ordering code

(with quick discharge)

T771/V.32.0.1BP
Normally closed / Normally open

T771/VS.32.0.1.BP
Normally closed / Normally open

Performance characteristics	Fluid	Min. actuation pressure (bar)	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	2.5	-5 ÷ +50	25	G1"	G1/8"	1500	0 ÷ 101

General details

The series of valves and solenoid valves N776 of G1 1/2", developed technically and functionally out of series 776. A rolling diaphragm was introduced in place of the traditional piston, thus eliminating friction and wear on the gasket.

There is an additional gasket on the piston that insulates connection 3, making it possible to have normally open versions and self-supplied versions with vacuum (not available in the previous series 776). The actuation mechanisms are the M3R (Mechanism CNOMO) with two-position manual control.

The windings are not included and have to be ordered separately (see summary page for electric windings).

Certified windings are also available. 

Construction features

Body, operator and bottom:	Die-cast aluminium
Gaskets and shutters:	Nitrile rubber (NBR), oilproof,
Piston:	Acetal resin
Guide pin:	Nickel-plated steel
Springs:	Steel
Diaphragm:	Rubberised nitrile fabric (NBR), oilproof

Wear and maintenance

These valves and solenoid valves have an average service life of approximately 10 - 15 million cycles under optimum conditions of usage. They do not need to be lubricated to operate well, but good filtration is recommended to prevent dirt accumulation and consequently likely malfunctioning.

Check to make sure that the conditions of use are consistent with the indicated limits, pressure, temperature, etc. Take care to protect the discharge outlets of the valves in the presence of dirt and powder. For these products, due to the manner in which they are constructed, maintenance by replacing valve parts does not have to be carried out. When necessary, basic internal cleaning can be performed, carefully removing any dirt accumulations. When the self-supply version is used in the solenoid valves, take care that the use is never, as air flow, the same as the supply, because in this case there would not be sufficient vacuum for actuation.

This is normally found on shutter valves since they do not have the closed centres position and insufficient actuation could cause the system to discharge from outlet 3. In this case switch to the version with external actuation.

Connections of valves:

Normally closed Self-supplied	1 = DISCHARGE
Normally open External supply	2 = USE
	3 = PUMP
Normally open Self-supplied	1 = PUMP
Normally closed External supply	2 = USE
	3 = DISCHARGE



Pneumatic-Spring

Ordering code

N776/V.22.11.1C

Weight 3178 g

Normally closed

Minimum actuation pressure 2 bar

Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +70	38	G1 1/2"	G1/8"	3000	0 ÷ 101

Solenoid-Spring

Ordering code

N776/V.22.0.F.M3R

FUNCTION

1AC=Self-supplied

F Normally closed

1C=External supply

Normally closed

Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +50	38	G1 1/2"	G1/8"	3000	0 ÷ 101

Pneumatic-Spring

Ordering code

N776/V.32.11.1

Weight 3168 g

Normally closed / Normally open

Minimum actuation pressure 2 bar

Performance characteristics	Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
	Vacuum	-5 ÷ +70	38	G1 1/2"	G1/8"	3000	0 ÷ 101

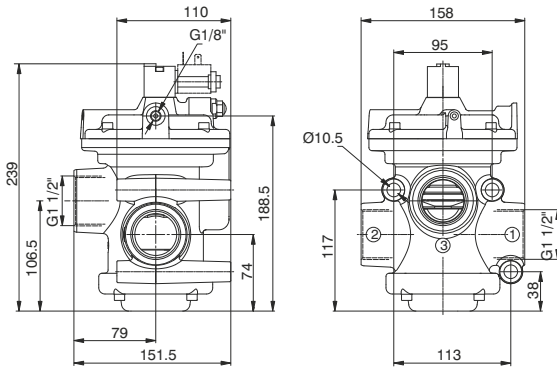
Solenoid-Spring

Ordering code

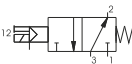
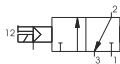
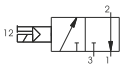
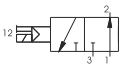
N776/V.32.0.0.M3R

FUNCTION

1AC=Self-supplied
Normally closed
1AA=Self-supplied
Normally open
1=External supply
Normally closed-
Normally open



Weight 3228 g
Minimum actuation pressure 2 bar



Performance characteristics

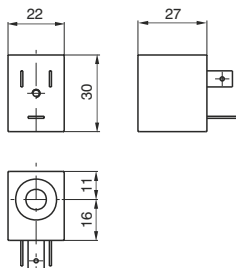
Fluid	Temperature °C	Nominal flow passage diameter (mm)	Supply connection	Actuation connection	Flow rate (l/min)	Degree of Vacuum (-kPa)
Vacuum	-5 ÷ +50	38	G1 1/2"	G1/8"	3000	0 ÷ 101

Winding

(for Series 771, 772, 773, 779, T772, T773, T771 e N776)



Weight 52 g



Standard version

Codes for ordering	Available voltages
MB 4	12 D.C. Direct current
MB 5	24 D.C. Direct current
MB 6	48 D.C. Direct current
MB 9 *	24 D.C. (2 Watt) (Direct current, low consumption)
MB 17	24/50 alternating current 50 Hz
MB 21	48/50 alternating current 50 Hz
MB 22	110/50 alternating current 50 Hz
MB 24	220/50 alternating current 50 Hz
MB 37	24/60 alternating current 60 Hz
MB 39	110/60 alternating current 60 Hz
MB 41	220/60 alternating current 60 Hz
MB 56	24/50-60 alternating current 50/60 Hz
MB 57	110/50-60 alternating current 50/60 Hz
MB 58	220/50-60 alternating current 50/60 Hz
MB 66 **	24/50-60 alternating current 50/60 Hz
MB 67 **	110/50-60 alternating current 50/60 Hz
MB 68 **	220/50-60 alternating current 50/60 Hz

* Can be used only with mechanism M2/9

** low consumption

Version c US

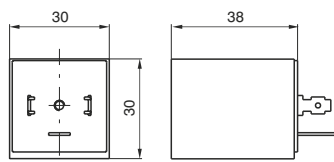
Codes for ordering	Available voltages
UMB 4	12 D.C. Direct current
UMB 5	24 D.C. Direct current
UMB 56	24/50-60 alternating current 50/60 Hz
UMB 57	110 ÷ 120/50-60 alternating current 50/60 Hz
UMB 58	230/50-60 alternating current 50/60 Hz

Winding

(for Serie N776)



Weight 110 g



Version Standard

Codes for ordering	Available voltages
MC 5	24 D.C. Direct current
MC 9	24 D.C. (2 Watt) Direct current
MC 56	24/50-60 alternating current 50/60 Hz
MC 57	110/50-60 alternating current 50/60 Hz
MC 58	230/50-60 alternating current 50/60 Hz

Version c US

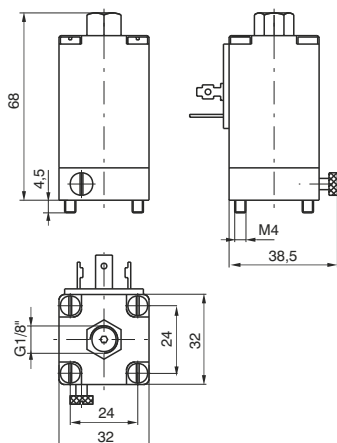
Codes for ordering	Available voltages
UMC 5	24 D.C. Direct current
UMC 56	24/50-60 alternating current 50/60 Hz
UMC 57	110 ÷ 120/50-60 alternating current 50/60 Hz
UMC 58	230/50-60 alternating current 50/60 Hz

Solenoid valve

(for Series 776)



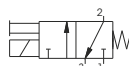
Weight 220 g



Version Standard

Codes for ordering	Available voltages
S 2	6 D.C. Direct current
S 4	12 D.C. Direct current
S 5	24 D.C. Direct current
S 6	48 D.C. Direct current
S 16	12/50 alternating current 50 Hz
S 17	24/50 alternating current 50 Hz
S 19	32/50 alternating current 50 Hz
S 20	42/50 alternating current 50 Hz
S 21	48/50 alternating current 50 Hz
S 22	110/50 alternating current 50 Hz
S 23	115/50 alternating current 50 Hz
S 24	220/50 alternating current 50 Hz
S 25	240/50 alternating current 50 Hz
S 36	12/60 alternating current 60 Hz
S 37	24/60 alternating current 60 Hz
S 38	48/60 alternating current 60 Hz
S 39	110/60 alternating current 60 Hz
S 40	115/60 alternating current 60 Hz
S 41	220/60 alternating current 60 Hz
S 42	240/60 alternating current 60 Hz
S 56	24/50-60 alternating current 50/60 Hz
S 57	110/50-60 alternating current 50/60 Hz
S 58	220/50-60 alternating current 50/60 Hz

Normally closed (N.C.)



Version c US

Codes for ordering	Available voltages
US 4	12 D.C. Direct current
US 5	24 D.C. Direct current
US 56	24/50-60 alternating current 50/60 Hz
US 57	110 ÷ 120/50-60 alternating current 50/60 Hz
US 58	230/50-60 alternating current 50/60 Hz

General details

Pad valves are one of the more functional and economic solutions, given the lower costs, for intercepting fluids. The valves are composed of a bronze body, 2-way, with pneumatic control, with a compact single or double acting cylinder with connections which can be turned 360°.

Versions are available that have the gaskets in contact with the fluid, and are made of NBR, FPM or PTFE.

The liner profile allows use of magnetic sensors with codes "1500._", "RS._", "HS._", for type "A" slot

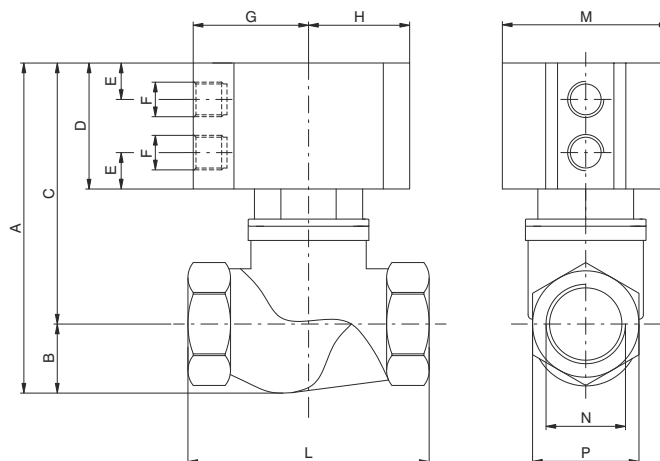
Construction features

Bottom, Piston and guide	Anodised aluminium
Head Cylinder	Anodised aluminium alloy
Spring	Galvanised harmonic steel
Pneumatic cylinder gaskets	NBR (FPM for the models that have gaskets in contact with fluid and made of FPM or PTFE)
Guarnizioni a contatto con il fluido	NBR, FPM, PTFE
Stelo	Chrome-plated stainless steel
Bush, Plug sleeve, Buffer nut	Brass

Functional characteristics

Pneumatic cylinder fluid	Air filtered and lubricated or unlubricated
Valve fluid	Fluid compatible with the compounds from which the available gaskets are made
Max. cylinder operating pressure (bar)	10
Max. valve operating pressure (-kPa)	101.3
Temperature °C, Nonmagnetic piston, gaskets NBR	-5 / + 70
Nonmagnetic piston, gaskets	-5 / + 150
FPM Nonmagnetic piston, gaskets PTFE	-5 / + 150
Magnetic piston, gaskets NBR, FPM, PTFE	-5 / + 70

Multistage vacuum generator G3/8"



Ordering code

PVA.B.A.P.T.C.M

	ACTUATION
A	DE=Double acting
	SC=Normally closed
	SA=Normally Open
	PISTON
P	N=Nonmagnetic
	M= Magnetic
	CONNECTIONS
	A=G1/4"
	B=G3/8"
	C=G1/2"
C	D=G3/4"
	E=G1"
	F=G1 1/4"
	G=G1 1/2"
	H=G2"
	SHUTTER COMPOSITION
M	N=NBR
	V=FPM
	F=PTFE

TABLE OF DIMENSIONS

Attachments (N)	Non-magnetic piston			Magnetic piston													TECHNICAL DATA		
	A	C	D	A	C	D	B	E	F	G	H	L	M	P	Actuator Ø	Valve Ø	Weight (g)		
G1/4"	93.5	77.5	41	97.5	81.5	45	16	10.25	G1/8"	32.5	28.5	64	47	25	Ø40	Ø13.5	350		
G3/8"	93.5	77.5	41	97.5	81.5	45	16	10.25	G1/8"	32.5	28.5	64	47	25	Ø40	Ø13.5	350		
G1/2"	93.5	78	41	99.5	82	45	17.5	10.25	G1/8"	32.5	28.5	68	47	30	Ø40	Ø15	400		
G 3/4"	105	83	41	113	90	48	22	11.25	G1/8"	44	40	79	70	36	Ø63	Ø20.5	850		
G1"	117	89	41	125	101	53	28	11.25	G1/8"	44	40	94	70	44	Ø63	Ø25	1100		
G1 1/4"	131	103	48	136	108	53	28	11.25	G1/8"	44	40	110	70	55	Ø63	Ø30	1400		
G1 1/2"	154	118	57	166	130	69	36	13.75	G1/8"	56	49	120	90	60	Ø80	Ø38	2100		
G2"	169	124	57	181	136	69	45	13.75	G1/8"	56	49	140	90	73	Ø80	Ø49.5	3000		

2-way valves to intercept fluids, pneumatic control with a compact double or single acting cylinder with connections that can turn 360°, gaskets in contact with fluid are made of NBR, FPM or PTFE. The liner profile allows use of PNEUMAX series 1500 magnetic sensors.

Construction features

- Bottom, Piston and guide Head = oxidised aluminium
- Cylinder = anodised aluminium alloy
- Spring = galvanised harmonic steel
- Gaskets = NBR, FPM, PTFE
- Valve stem = chrome-plated stainless steel
- Bush, plug sleeve, buffer nut = Brass

Fluid	Air filtered and lubricated or unlubricated
Max. operating pressure (-kPa)	101
Min. operating pressure single action (cylinder)	5 bar
Min. operating pressure double action (cylinder)	5 bar
Temperature °C (Non-magnetic piston, NBR gaskets)	-5 / + 70
Temperature °C (Non-magnetic piston, FPM gaskets)	-5 / + 150
Temperature °C (Non-magnetic piston, PTFE gaskets)	-5 / + 150
Temperature °C (Magnetic piston, NBR, FPM or PTFE gaskets)	-5 / + 70