

POPPET VALVES AIR/VACUUM Series 700

General

Our main concern in constructing these poppet type valves and solenoid valves is reliability.

Poppet type valves, as opposed to spool type valves, offer superior resistance to adverse operating conditions, such as dust particles in the compressed air and insufficient lubrication, and provide the only alternative for use in "at risk" systems.

One of the qualities of this type of valves is its change-over speed, which, because of the quick poppet travel, is always at least twice that of the spool type. These valves are not bistable and do not operate with closed centers. Therefore, the pilot signal must remain on as long as the valve is being commutated. The air flow inlet/outlet and exhaust ports are mandatory and do not allow normally closed (N.C.) or normally open (N.O.) 3 way valve as do the spool type valves. It is possible to have a 2 way valve without exhaust by plugging port 3 of a 3 way valve.

Ordering codes are referred to solenoid valves with M2 assembled (see Series 300, section 1). (Coils are not included and have to be ordered separately).

Construction characteristics

STD	STD

C	4	/Q II	<u>.</u>	C	1/4"
G	- 1	/O	÷	La.	1/4

Body	Anodized aluminium
Actuators	Anodized aluminium
Spool	Hardened nickel plated steel
Seals	Polyrethane + Nitrile
Spacers	Brass
Springs	Stainless steel AISI 302







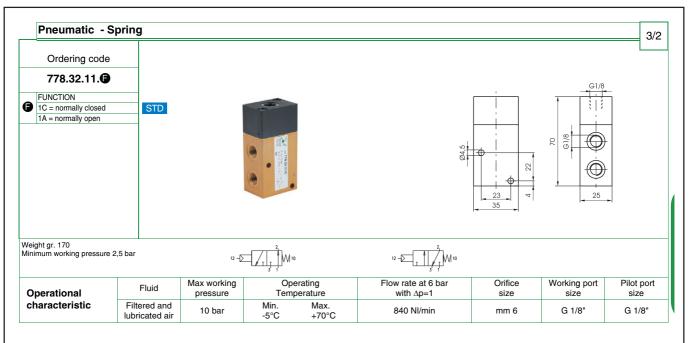
Use and maintenance

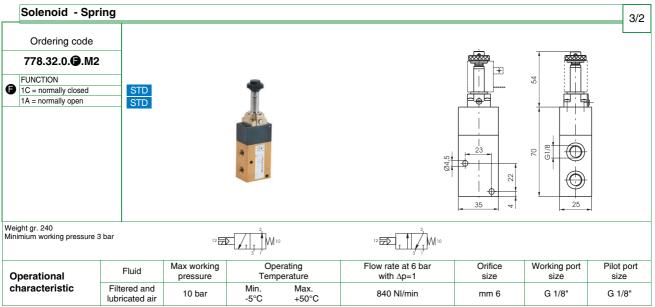
These valves are a mean life of 10 to 15 millions of cycles depending on application. Proper lubrication with specified oil reduces dramatically the wear of the seals as well as a good filtration ensures long and trouble free operating. Check that the operating conditions are according to the suggested pressure, temperature an so on. The exhaust ports of the distributor have to be protected in a dusty and dirty environment. A spare parts kit including the spool complete of with seals and actuators is available for overhauling the valve. This simple operation does not require a skilled worker. Although particular care is needed for assembling the valve.

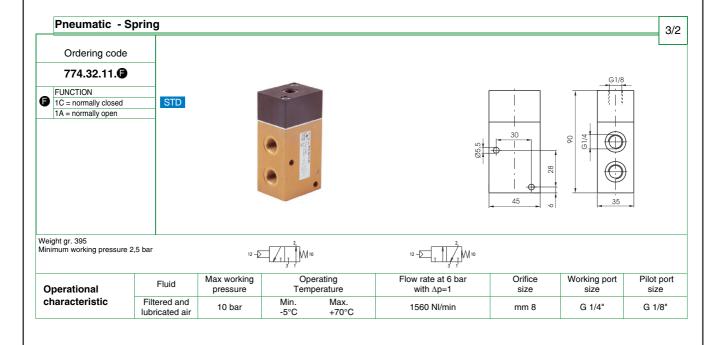
ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).



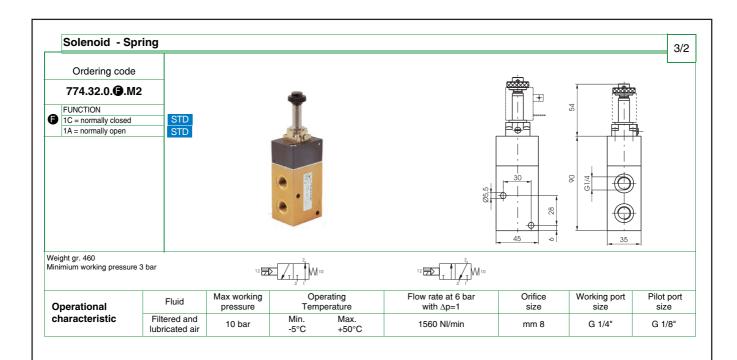
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General

The large flow valves and solenoid poppet valves for compressed air and vacuum are manufactured for 3/2 and 2/2 versions only, either normally close and normally open.

For the compressed air oparation, the application is similar to the equivalent spool valves while for the vacuum operation a particular attention should be paid to the valve selected and its connection to the pump. For the electric pilot it is used a normal miniature solenoid M2 with pneumatic actuator and the special miniature solenoid M2/V with vacuum.

The ordering code are referring to the solenoid valves with mechanics "M2" or "M2/V" assembled (see Series 300). (Coil are not included and have to be ordored separately).

Coil **c 71** us homologated are available (see 300 Series).

Construction characteristics

STD	STD	STD			
G 3/8"	G 1/2" - G 3/4"	G 1"	G 1 1/2"		
Aluminium	Zinc alloy	Aluminium	Aluminium		
Aluminium					
NBR					
Aluminium					
Stainless steel					
Stainless steel					
	NB	R			
	G 3/8"	G 3/8" G 1/2" - G 3/4" Aluminium Zinc alloy Alumir NB Alumir Stainles Stainles	G 3/8" G 1/2" - G 3/4" Aluminium Zinc alloy Aluminium NBR Aluminium Stainless steel		

Use and maintenance

These valves have a mean life of 10 to 15 million cycles under normal operating conditions.

Lubrication is not required for good operation but we recommend good filtration to avoid dirty deposit causing malfunction.

Check that the operating conditions: pressure, temperature and so on are as suggested.

The exhaust port of the distributor has to be protected in a dusty and dirty environment.

For these products, according to the construction technique and special application, is not required any maintenance with parts replacement. When necessary it is sufficient to clean the internal parts.

When it is used the solenoid valves with internal pilot, either for air or vacuum, inlet flow rate must be equal or higher that the required consumption flow rate, otherwise is better choose the external pilot version.

Vacuum valves connections

NORMALLY CLOSED INTERNAL PILOT 779/V.32.0.1AC 773/V.32.0.1AC P = 1 = EXHAUST 771/V.32.0.1AC A = 2 = OUTLET R = 3 = PUMP	NORMALLY OPEN INTERNAL PILOT 779/V.32.0.1AA 773/V.32.0.1AA $P = 1 = PUMP$ 771/V.32.0.1AA $P = 2 = OUTLET$ $P = 3 = EXHAUST$
NORMALLY CLOSED EXTERNAL PILOT 779/V.32.0.1C 773/V.32.0.1C 771/V.32.0.1C	NORMALLY OPEN EXTERNAL PILOT 779/V.32.0.1A 773/V.32.0.1A 771/V.32.0.1A P = 1 = EXHAUST
779/V.32.11.1C	779/V.32.11.1A A = 2 = OUTLET 773/V.32.11.1A R = 3 = PUMP 771/V.32.11.1A

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PNEUMAX

VALVES AND SOLENOID VALVES POPPET SYSTEM FOR COMPRESSED AIR AND VACUUM (series 700, section 2)



		Symbol	Description		Code	Max. pressure	Flow at 6 bar, ∆p=1	Orifice size
G3/8"	air	"- E [],W "	Pneumatic - Spring N.O.		779.32.11.1A	2,5-10 bar		
		⊶ ⊵ ∏Žjw∘	Pneumatic - Spring N.C.	STD	779.32.11.1C	2,5-10 bai		
A. H.		=≥ E	Solenoid - Spring, internal pilot N.C.	STD	779.32.0.1AC.M2	3-10 bar	1800NI/min	
· 1 ·		□ □	Solenoid - Spring external pilot N.C.		779.32.0.1C.M2	2,5-10 bar	1000141/111111	
		∞ ≅50. ∏	Solenoid - Spring, internal pilot N.O.	STD	779.32.0.1AA.M2	3-10 bar		
		" क्व ∭	Solenoid - Spring external pilot N.O.		779.32.0.1A.M2	2,5-10 bar		mm 10
	vacuum	□- E	Pneumatic - Spring N.O.		779/V.32.11.1A	min.2 bar	/	
Ĩ		12 - E	Pneumatic - Spring N.C.	STD	779/V.32.11.1C	min.z bai		
		* as [,]	Solenoid - Spring, internal pilot N.O.		779/V.32.0.1AA.M2/V	min.2 bar		
A - 17 -		- B	Solenoid - Spring, internal pilot N.C.	STD	779/V.32.0.1AC.M2/V	min.z bai		
9.11.		<u>₽₽</u> [_] W	Solenoid - Spring, external pilot N.O.		779/V.32.0.1A.M2	min.2 bar		
			Solenoid - Spring, external pilot N.C.	STD	779/V.32.0.1C.M2			
G 1/2"	air	E	Pneumatic - Spring N.C.	STD	772.32.11.1C	2,5-10 bar		
J. 1/2			Solenoid - Spring, internal pilot N.C.	STD	772.32.0.1AC.M2	3-10 bar		
- Carrier			Solenoid - Spring, external pilot N.C.		772.32.0.1C.M2	2,5-10 bar		
1	vacuum	12 - E M 10	Pneumatic - Spring N.O.		772/V.32.11.1A	min.2 bar		
		~- E	Pneumatic - Spring N.C.	STD	772/V.32.11.1C	min.z bai	/	mm 15
			Solenoid - Spring, internal pilot N.O. 772/	772/V.32.0.1AA.M2/V	,			
C corner tenting		■ []	Solenoid - Spring, internal pilot N.C.	STD	772/V.32.0.1AC.M2/V	/		
		" ₽₽ [,] /,	Solenoid - Spring, external pilot N.O.	STD	772/V.32.0.1A.M2	min O hor		
		∞ æ [] w ∞	Solenoid - Spring, external pilot N.C.	STD	772/V.32.0.1C.M2	min.2 bar		

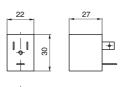
		Symbol	Description		Code	Max. pressure	Flow at 6 bar, ∆p=1	Orifice size
G3/4" @	air	E	Pneumatic - Spring N.C.	STD	773.32.11.1C	2,5-10 bar		
			Solenoid - Spring, internal pilot N.C.	STD	773.32.0.1AC.M2	3-10 bar	6100NI/min	
D respect		** =₹	Solenoid - Spring, external pilot N.C. 773		773.32.0.1C.M2	2,5-10 bar		
T O	vacuum	⊳ ∏_jw-	Pneumatic - Spring N.O.		773/V.32.11.1A	min.2 bar		
			Pneumatic - Spring N.C.	STD	773/V.32.11.1C	IIIIII.Z Dai		mm 20
		• ••	Solenoid - Spring, internal pilot N.O.		773/V.32.0.1AA.M2/V	,	,	
B. COLONIA		**	Solenoid - Spring, internal pilot N.C.	STD	773/V.32.0.1AC.M2/V	/	/	
130		₽	Solenoid - Spring, external pilot N.O.	STD	773/V.32.0.1A.M2	min.2 bar	1	
			Solenoid - Spring, external pilot N.C.	STD	773/V.32.0.1C.M2	IIIIII.Z Dai		
G1" 🚏	air	12- ⊆	Pneumatic - Spring N.C.	STD	771.32.11.1C	2,5-10 bar		
2,000		- æ.∏ ,w-	Solenoid - Spring, internal pilot N.C.	STD	771.32.0.1AC.M2	3-10 bar	12000NI/min	
TO.			Solenoid - Spring, external pilot N.C.		771.32.0.1C.M2	2,5-10 bar		
	vacuum	12 - E □□□□□ M 10	Pneumatic - Spring N.O.		771/V.32.11.1A	min 2 bar		mm 25
		"- □ □□\\	Pneumatic - Spring N.C.	STD	771/V.32.11.1C	IIIIII Z Dai		
Sample		· BD [],	Solenoid - Spring, internal pilot N.O.		771/V.32.0.1AA.M2/V	,	,	
Side.		* =	Solenoid - Spring, internal pilot N.C.		771/V.32.0.1AC.M2/V	/	·	
			Solenoid - Spring, external pilot N.O.	oid - Spring, external pilot N.O. STD 771/V.32.0.1A.M2	min 2 bar			
		= 	Solenoid - Spring, external pilot N.C.	STD	771/V.32.0.1.C.M2	IIIIII Z Dai		
O 41/II	air	Pneumatic - Spring N.C.		776.22.11C	2,5-10 bar			
G 1½"	411	13 550 M 10	Solenoid - Spring, internal pilot N.C.		776.22.0.1AC.S*	3-10 bar		
d.		12 Exp M 10	Solenoid - Spring, external pilot N.C.		776.22.0.1C.S*	2,5-10 bar	33500NI/min	
		-	Pneumatic - Spring N.C.		776.32.11.1C	2,5-10 bar	33300101/111111	
		æ.∵ ,jw	Solenoid - Spring, internal pilot N.C.		776.32.0.1AC.S*	3-10 bar		
		™ ₹	Solenoid - Spring, external pilot N.C.		776.32.0.1C.S*	2,5-10 bar		mm 38
_	vacuum	12 - D	Pneumatic - Spring N.C.		776/V.22.11.1C			111111 00
		13 ≥≥	Solenoid - Spring, external pilot N.C.		776/V.22.0.1C.S*			
10			Pneumatic - Spring N.O.		776/V.32.11.1A	min 2 bar		
		12 -E	Pneumatic - Spring N.C.		776/V.32.11.1C	2 541	'	
1 ()		∘ æ[.∐∕ jw∘	Solenoid - Spring, external pilot N.O.		776/V.32.0.1A.S*			
-			Solenoid - Spring, external pilot N.C.		776/V.32.0.1C.S*			

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Coil

Coil type U1







Weight 54 gr.

* Use only with M2/9

Connector for coil (DIN 43650)

Ordering		Available voltages				
code	Coils					
MB 4	12 D.C.	STD				
MB 5	24 D.C.	STD	Direct current			
MB 6	48 D.C.	STD				
MB 9*	24 D.C. (2 \	Natt) (D	Direct current, low consumption)			
MB 17	24/50	STD				
MB 21	48/50	STD	Alternating current 50 Hz			
MB 22	110/50	STD	Alternating current 50 Hz			
MB 24	230/50	STD				
MB 37	24/60					
MB 39	110/60		Alternating current 60 Hz			
MB 41	230/60		_			
MB 56	24/50-60					
MB 57	110/50-60		Alternating current 50/60 Hz			
MB 58	230/50-60					
MB 66	24/50-60		Alternating current			
MB 67	110/50-60		(low consumption)			
MB 68	230/50-60		50/60 Hz			

Ordering	Supply	Coil	Protection	Remarks
code	voltage	type	class	
	until			
MP1	0-250V~/300V=	U1	IP 65	CONNECTOR
MP1-LED-24V	24V	U1	IP 65	+LED
MP1-LED-24V-5M	24V	U1	IP 65	+LED+CABLE
MP1-LED-230V	230V	U1	IP 65	+LED

31,5

Electronic circuit for MP-LED

Input	Connector	Coil
V ac-dc		1

Bipolar LED and VDR to protect supply and switch.

(The energy in the coil is limited by the VDR).

Voltage: 24 or 230V.

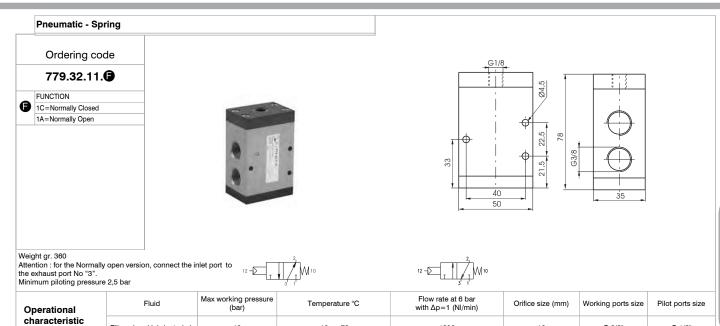


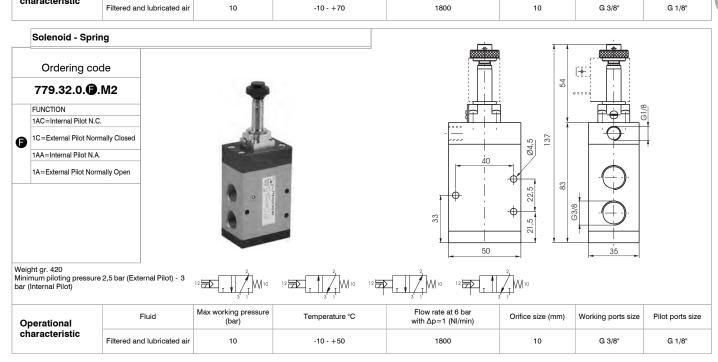
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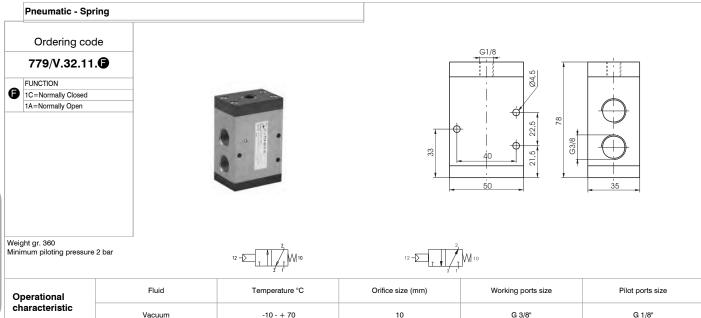
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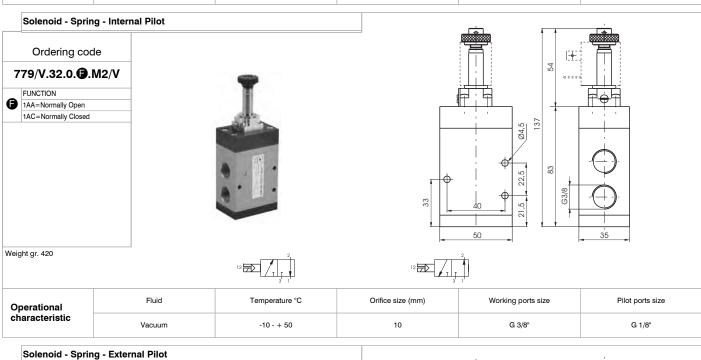


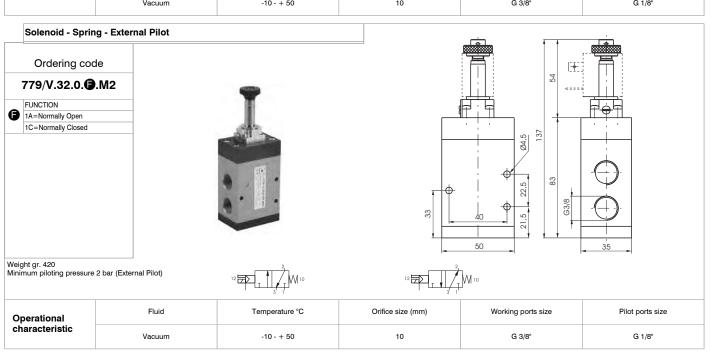












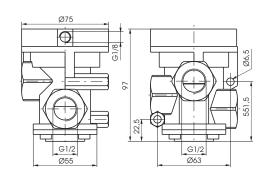
Series 700



Ordering code

772.32.11.1C

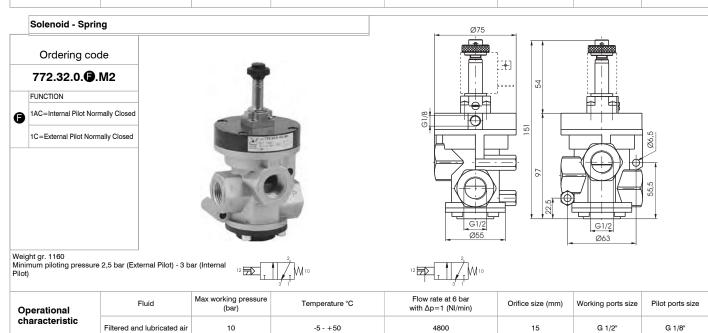




Weight gr. 1100 Normally Closed Minimum piloting pressure 2,5 bar

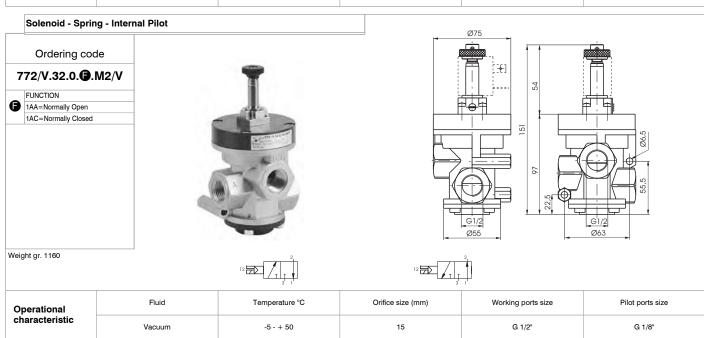


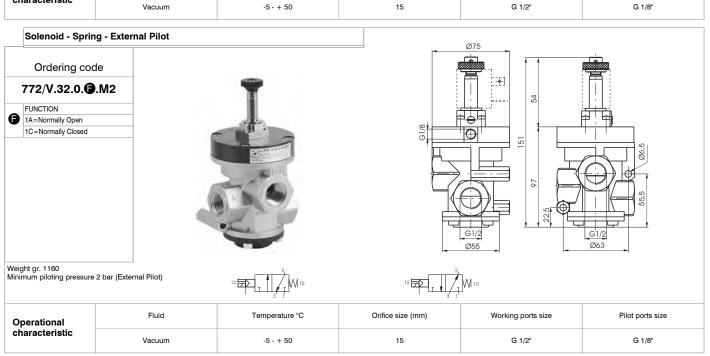
Operational	Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size	ı
characteristic	Filtered and lubricated air	10	-5 - +70	4800	15	G 1/2"	G 1/8"	











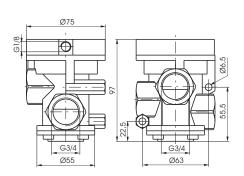
Series 700



Ordering code

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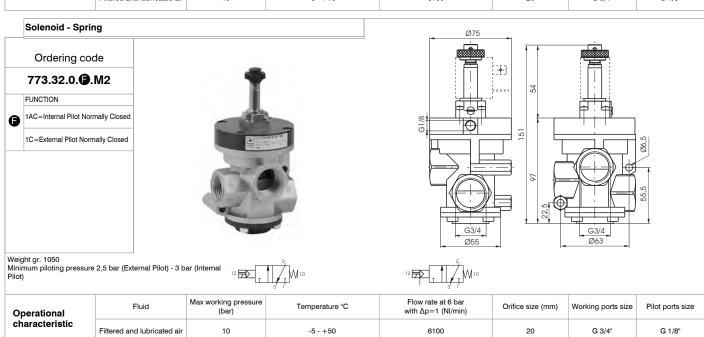




Weight gr. 990

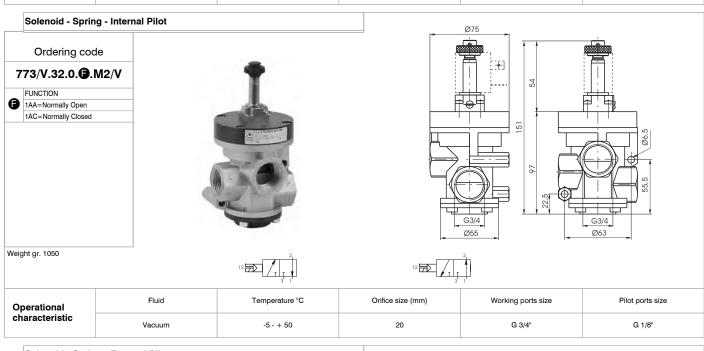
Normally Closed Minimum piloting pressure 2,5 bar

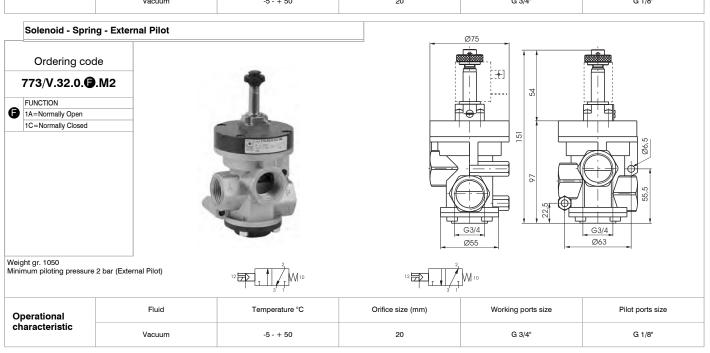
	Operational	Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size	
	characteristic	Filtered and lubricated air	10	-5 - +70	6100	20	G 3/4"	G 1/8"	







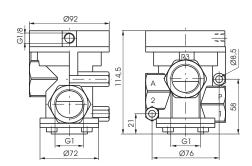






Ordering code **771.32.11.1C**

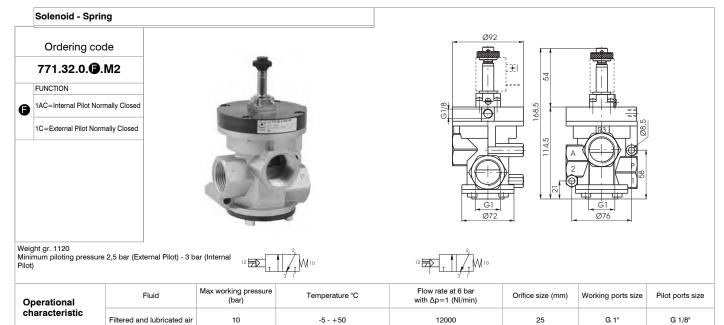




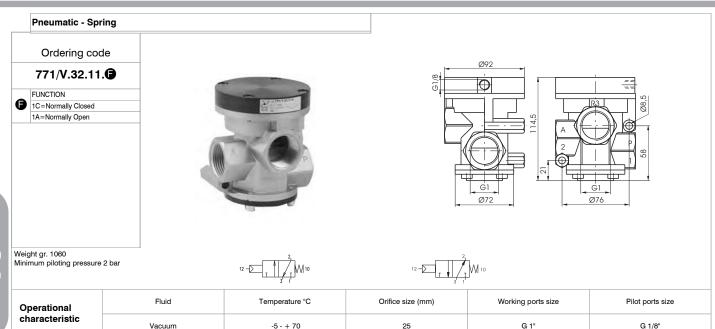
Weight gr. 1060 Normally Closed Minimum piloting pressure 2 ,5 bar

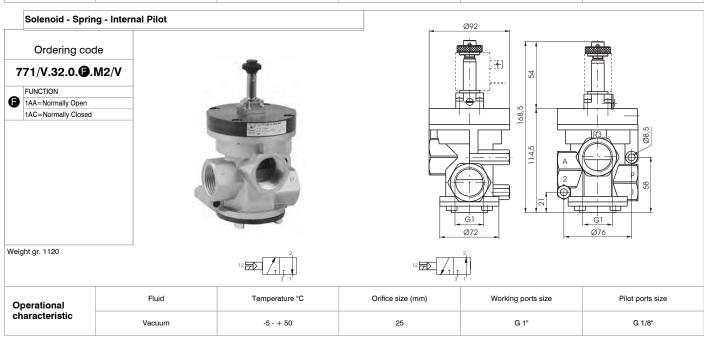
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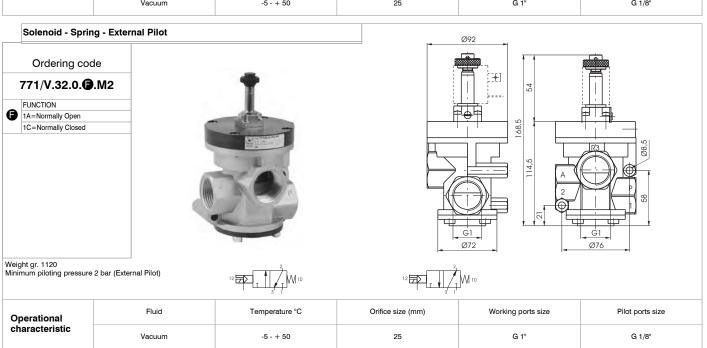
Operational	Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size	
characteristic	Filtered and lubricated air	10	-5 - +70	12000	25	G 1"	G 1/8"	



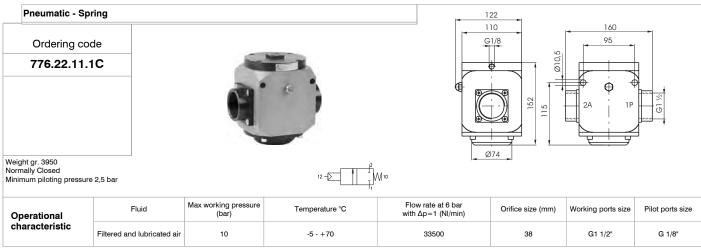


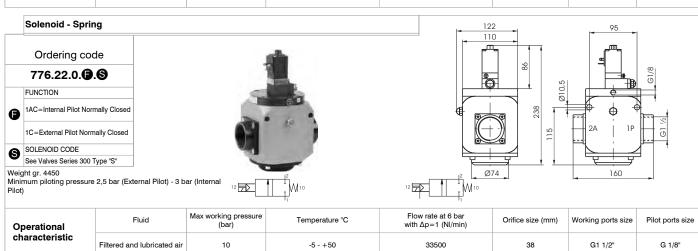


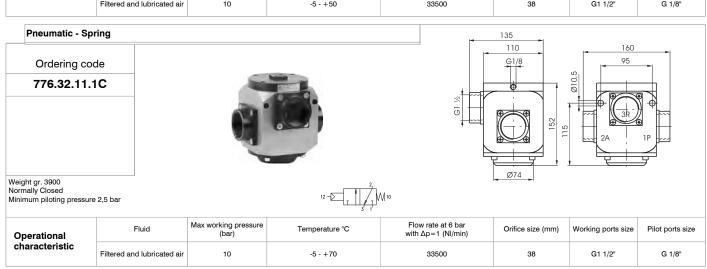












	Operational	Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size	
	characteristic	Filtered and lubricated air	10	-5 - +70	33500	38	G1 1/2"	G 1/8"	
	Solenoid - Spring				-	135 95			
Ordering code		de				110]	

