

# MULTIFUNCTION SPOOL VALVES



5/2-5/3

Series

544

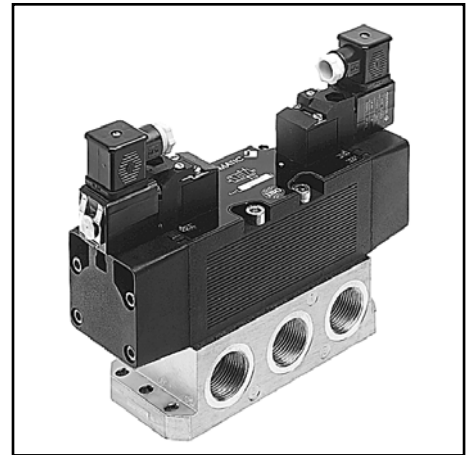
Type

ISO size 4

**JOUCOMATIC**

air operated  
and solenoid air operated

G3/4-G1 - ISO 5599/1 subbase-mounted body



## MULTIFUNCTION

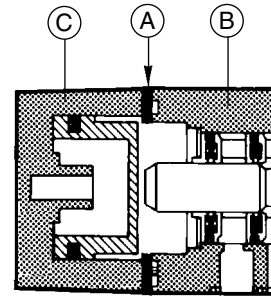
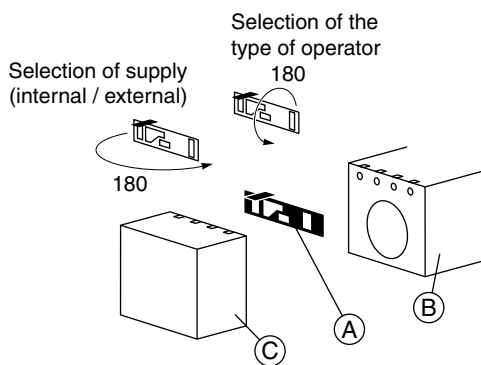
### • Multifunction selector

The multifunction selector is equipped with 2 pilot selector seals (A) located between the body (B) and the covers (C), on both sides : pilot and return. Each selector can be set on 3 or 4 positions. Rotating or turning it upside-down allows the following functions :

- internal or external supply to pilot or return operators.
- selection of the type of operator : air operated or solenoid-air pilot or return.

For this, it is only necessary to position one of the arrows of the selector into the notch matching the diagram of the required function (see below). Functions can be modified at will. The valves are delivered with the selector pre-set on the position corresponding to the function requested on order (see table CHOICE OF EQUIPMENT).

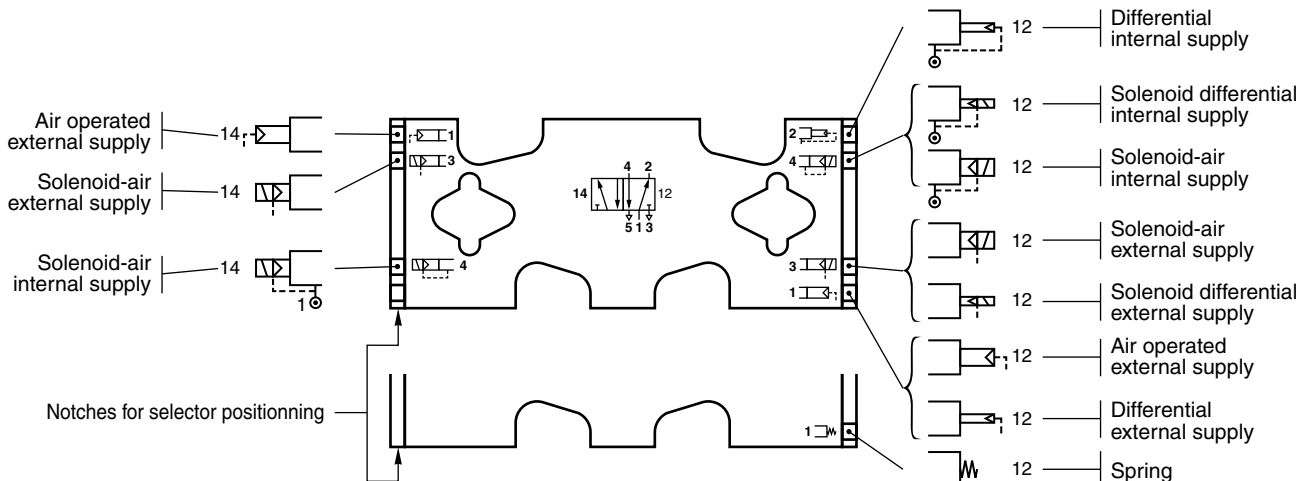
External supply enables the valves to be used with a fluid pressure ranging from 0 to 12 bar and with vacuum.



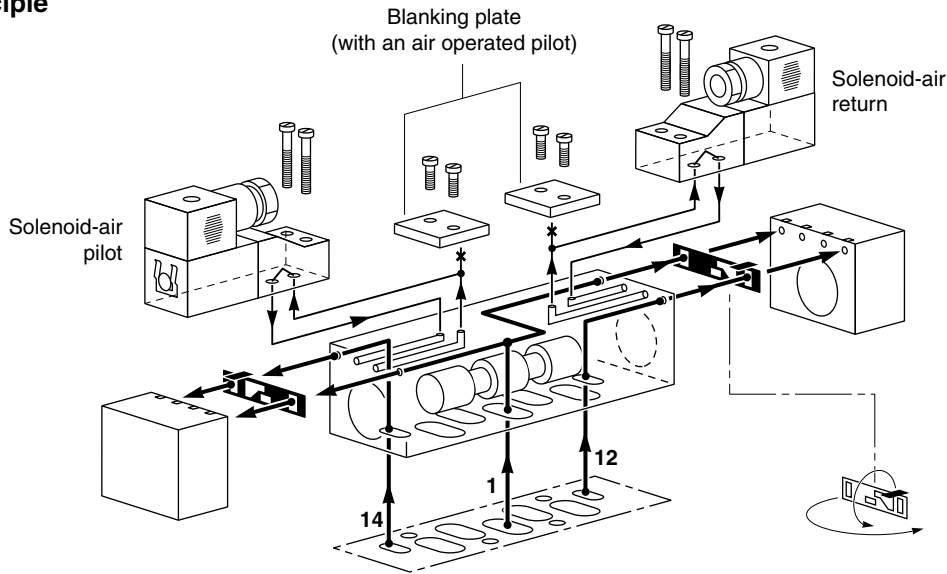
### • Pilot function

#### Pilot operators

#### Return operators

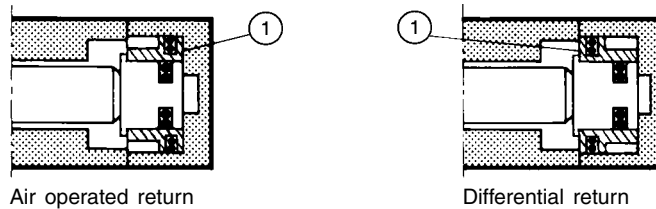


• **Operating principle**



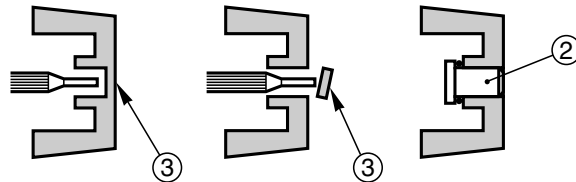
• **Changing from an air operated return valve to a differential return valve**

An air operated return valve can be changed into a differential return valve by turning over the outside piston ring as shown in the diagram below (1).



• **Manual operator using a tester (option)**

A manual operator can be equipped with a tester (2) by knocking the knock-out plug (3) out of the end cover.



• **An air operated valve can be changed into a solenoid air valve by :**

- re-positioning the selector seal,
- removing the upper blanking plate (side 12 or 14),
- fitting a selector seal if lacking,
- adding a solenoid pilot valve on the upper part.

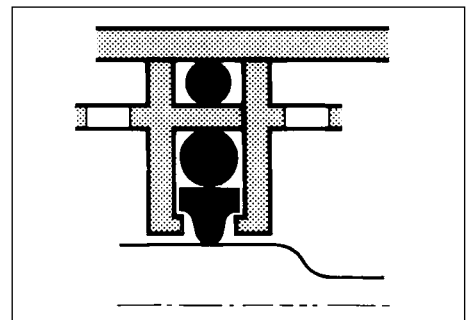
• **A solenoid air valve can be changed into an air operated valve by :**

- removing the solenoid pilot valve,
- fitting a blanking plate on the pilot base (plate code : **88100073**),
- re-positioning the selector seal.

**USE WITH UNLUBRICATED AIR**

This range of JOUCOMATIC valves will operate satisfactorily with lubricated air or unlubricated air and even with dry air, due to a sealing device which has been patented. Essentially, a "T" seal backed up by a cushioning or compensation seal.

This arrangement of seals assures a minimum pilot pressure which will remain constant even after the valve has been stopped for a long period of time. When re-starting, the performance of the valve will be the same as during continuous operation. This important "non-stiction" characteristic assures satisfactory performance under all conditions.



**JOUCOMATIC**

**MULTIFUNCTION SPOOL VALVES**

**solenoid air operated**

G3/4-G1 - ISO 5599/1 subbase-mounted body



**5/2-5/3**

Series

**544**

Type

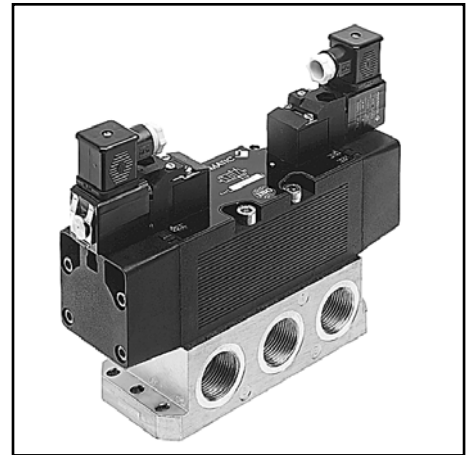
ISO size 4

**FEATURES**

- Choice of internal/external supply with selector seals (vacuum use to -0,950 bar)

**GENERAL**

<b>Fluid</b>	Air or neutral gas, filtered, lubricated or not
<b>Operating pressure</b>	- 0.950 to +12 bar (with external supply to pilot) +2.5 to +10/12 bar (with internal supply to pilot) See specifications tables
<b>Pilot pressure</b>	See specifications tables
<b>Ambient temperature</b>	-10°C to +40°C
<b>Flow (Qv at 6 bar)</b>	6300 l/min (ANR) (with subbase G 3/4) 7000 l/min (ANR) (with subbase G 1)
<b>Flow coefficient</b>	Kv = 90 (with subbase G 3/4) Kv = 100 (with subbase G 1)
<b>Life</b>	5 millions of cycles (in normal operating conditions)
<b>Base</b>	ISO 5599/1 - Size 4
<b>Subbase</b>	Single subbase ISO/AFNOR NF E49085



**CONSTRUCTION**

<b>Body and cover</b>	Die-cast zinc alloy
<b>Seals</b>	NBR (nitrile)
<b>Internal parts</b>	Light alloy and POM (polyacetal), die-cast zinc alloy

**ELECTRICAL CHARACTERISTICS**

type of coil	voltage		consumption		insulation class	protection degree	electrical connection
	~	=	inrush	hold			
series 192	~	24V-48V-115V-230V-50 Hz	12 VA	6 VA (4 W)	F	IP 65	spade plug size 30 connector, ISO4400/EN175301-803, form A, rotatable by 90°
	=	24V-48V	5 W				

**E**

**SPECIFICATIONS 5/2**

function 5/2 symbol	operators pilot (14) solenoid air operated return (12)	response time (ms)		pilot pressure (bar)		2 catalogue numbers		
		ener-gized	de-ener-gized	min.	max.	valve	+ solenoid pilot quantity & catalogue number with standard connector	(M)
	spring return	60	220	2,5	12	54490017	+ 1x { 19200001 19200002 19200003	× ● ▼
	differential return	90	170	2	12	54490018		
	air return	40	-	1,5	12	54490019		
	solenoid differential return	40	-	2	12	54490020	+ 2x { 19200001 19200002 19200003	× ● ▼
	solenoid air operated return	40	-	1,5	12	54490021		

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

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**SPECIFICATIONS 5/3**

function <b>5/3</b>  symbol	operators pilot (14) solenoid air operated return (12)	response time (ms)		pilot pressure (bar)		2 catalogue numbers		
		ener- gized	de-ener- gized	min.	max.	valve	+ solenoid pilot quantity & catalogue number	(M)
	Pressure held <b>W1</b>	70	250	3	12	<b>54490022</b>	+ 2x { 19200001 19200002 19200003	× ● ▼
	Pressure release <b>W3</b>	70	250	3	12	<b>54490023</b>		

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

**OPTIONS**

- Equipment with manual testers so that the spool position can be checked
- Solenoid valve pilot 3/2 series 192 with solenoid head and waterproof metal enclosure (see page P512-6) complying with European standards EEx "d", "m" or "me" for use in explosive atmospheres
- Solenoid valve intrinsically safe series 195/ia certified EEx «ia»
- Connector with cable 2m long - code : **88122612**
- Connector with transil protection (see "Coils and accessories" section)
- Solenoid valve with plug and built-in visual control and protection :

Solenoid valve **without** connector ——— + ——— Connector with built-in visual control and VDR/RC protection

type of valve	(M)	solenoid valve without connector catalogue number	catalogue number (~ / =)			
			24V	48V	115V	230V
192 NC (1)	×	<b>19200022</b>	<b>88122603</b>	<b>88122604</b>	<b>88122605</b>	<b>88122608</b>
	●	<b>19200023</b>				
	▼	<b>19200024</b>				

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

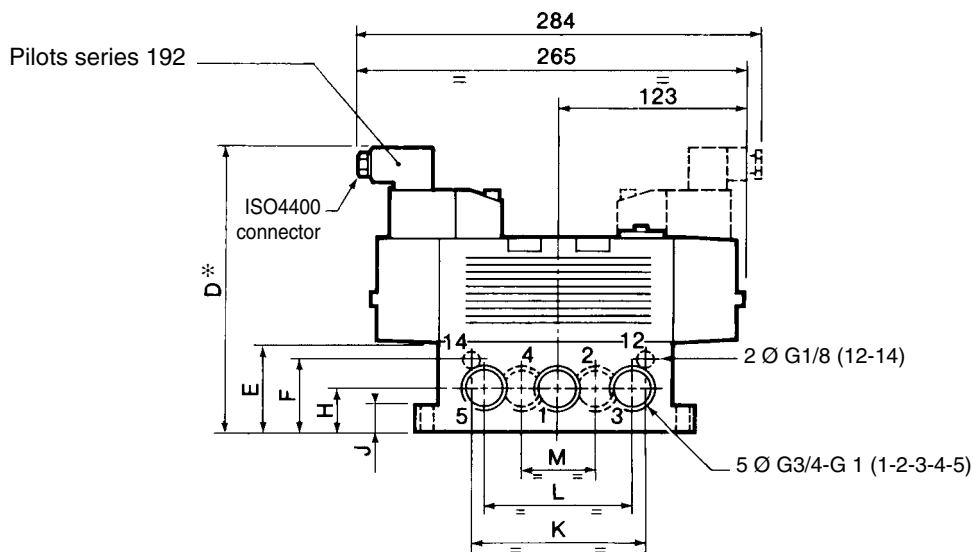
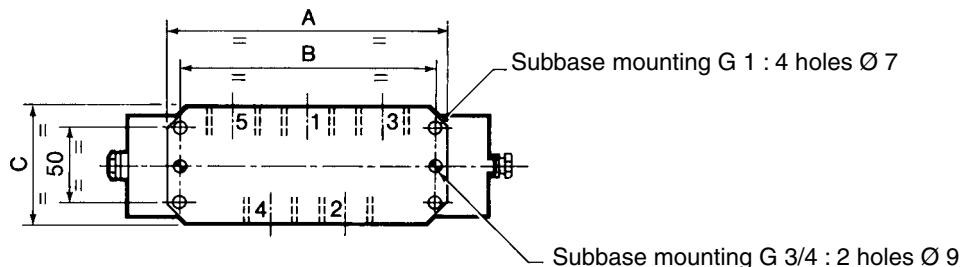
(1) Solenoid valve series 192 - 3/2 NC - Ø 2,1mm with exhaust in base

**SUBBASES**

type of subbases	subbase catalogue number	port orifices		
		12-14	1-2-4	3-5
single subbases with side port	<b>35500144</b>	G 1/8	G 3/4	G 3/4
	<b>35500082</b>	G 1/8	G 1	G 1

**DIMENSIONS (mm), WEIGHT (kg)**

**VALVE ON SINGLE SUBBASE WITH SIDE PORT**



code subbase	port orifices			dimension											weight	
	12-14	1-2-4	3-5	A	B	C	D	E	F	H	J	K	L	M	with 1 pilot 192	with 2 pilots 192
<b>35500144</b>	G 1/8	G 3/4	G 3/4	195	177	85,5	189	42	32	22	19	116	88	40	4,860	5,120
<b>35500082</b>	G 1/8	G 1	G 1	186	172	80	207	60	47	30	18	116	106	50	4,960	5,220

\* + 15 mm for plug removal

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