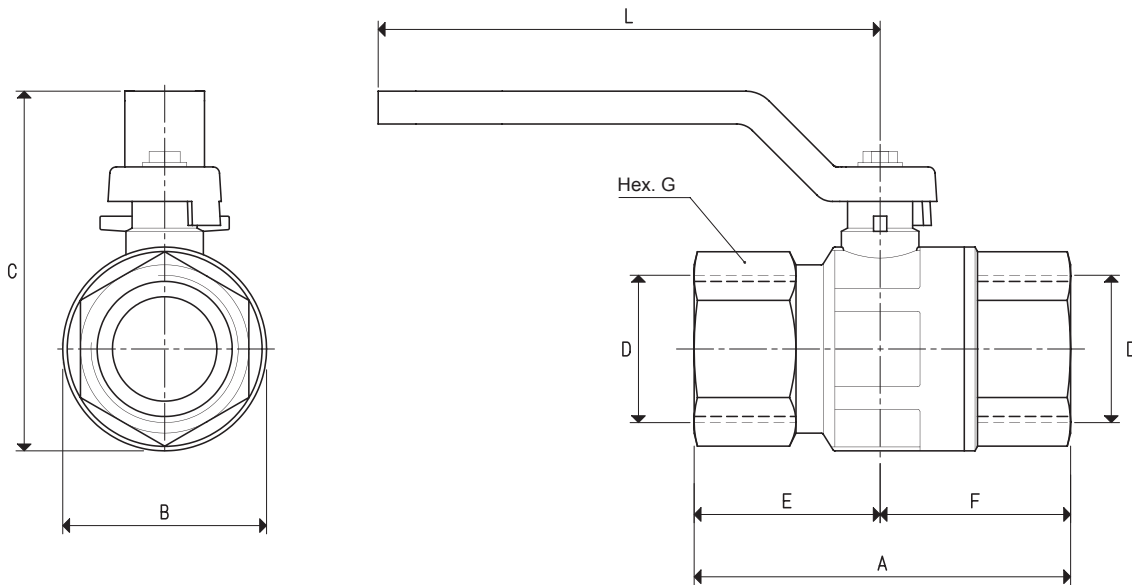


MANUAL 2-WAY VACUUM VALVES

These manual valves are used for intercepting vacuum in all those plants where solenoid valves cannot be installed.

They feature a die-cast nickel-plated brass body, a chromed brass ball shutter and teflon seals to guarantee perfect seal even at high temperatures.

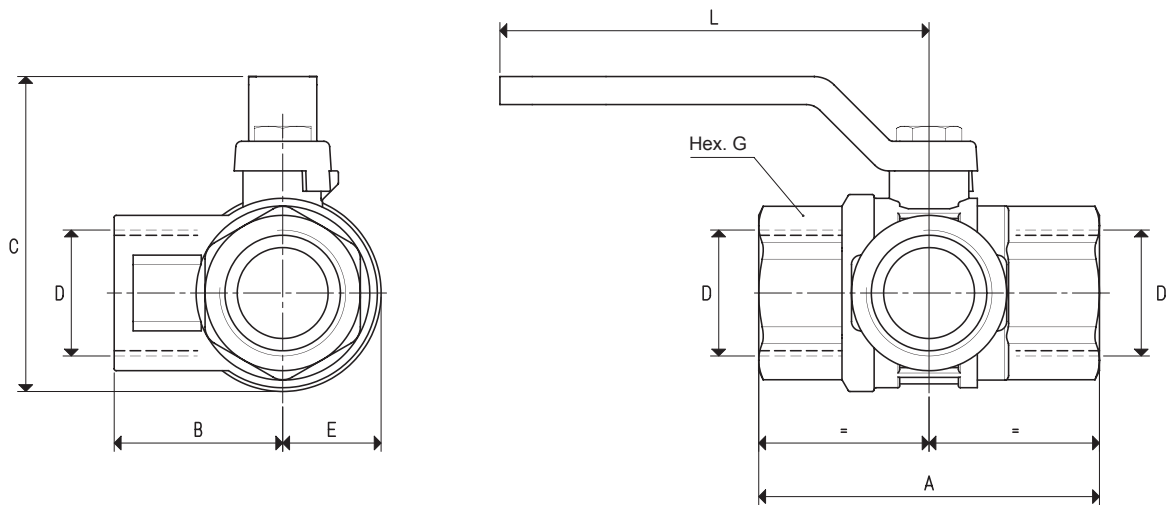
A lever on the ball shutter, rotated by 90°, allows opening or closing the valve with no effort.



3D drawings available at www.vuototecnica.net

MANUAL 2-WAY VALVES

Art.	A	B	C	D Ø	E	F	G	L	Weight Kg
13 01 10	49	23	48	G1/4"	24	25	18	80	0.13
13 02 10	52	23	56	G3/8"	23	29	20	80	0.13
13 03 10	61	30	63	G1/2"	30	31	25	88	0.21
13 04 10	68	36	72	G3/4"	33	35	31	114	0.32
13 05 10	85	44	80	G1"	42	43	38	113	0.47
13 06 10	99	57	105	G1" 1/4	50	49	47	137	0.74
13 07 10	109	70	126	G1" 1/2	55	54	54	156	1.26
13 08 10	130	83	135	G2"	62	68	66	156	1.77
13 09 10	168	140	210	G3"	84	84	99	246	7.09



MANUAL 3-WAY VALVES

Art.	A	B	C	D	E	G	L	Weight Kg
13 01 15	46	23	58	G1/4"	11	19	109	0.16
13 02 15	52	26	59	G3/8"	12	22	109	0.19
13 03 15	67	33	66	G1/2"	17	27	109	0.30
13 04 15	76	39	79	G3/4"	17	32	130	0.49
13 05 15	90	45	88	G1"	22	41	130	0.85
13 06 15	118	65	134	G1" 1/4	27	50	170	1.76
13 07 15	114	62	138	G1" 1/2	43	55	150	2.45

3D drawings available at www.vuototecnica.net

PILOT-OPERATED 3-WAY VACUUM VALVES

These 2-position, 3-way valves feature pneumatically activated conical shutters.

They can be normally used either open or closed.

They are recommended in all the cases that require a quick exchange between the vacuum pump suction and the air inlet into the circuit for a quick restoration of the atmospheric pressure.

They are composed of an anodised aluminium body, two vulkollan® shutters assembled onto a stainless steel stem, a membrane for servo-control made with special compounds and a thrust spring for the shutter return.

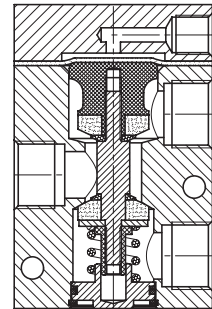
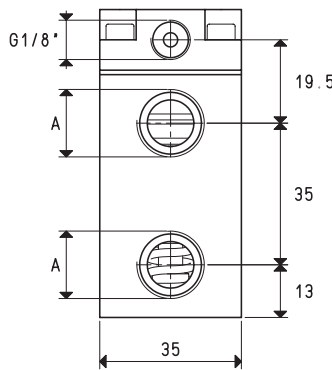
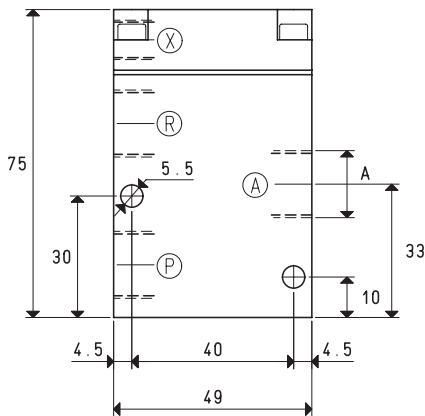
These valves allow reducing frictions and internal dynamic stresses to the minimum, the result being a high response speed and a guarantee of long lasting duration.

Technical features

Working pressure: from 0.5 to 3000 mbar abs.

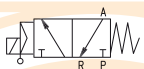
Servo-control pressure: see table

Temperature of the sucked fluid: from -5 to +60 °C



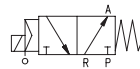
3D drawings available at www.vuototecnica.net

NC



X = Compressed air supply
P = Pump
A = Service
R = Passage

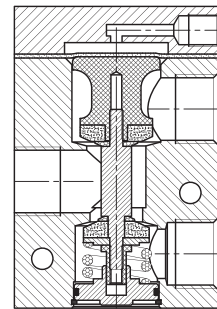
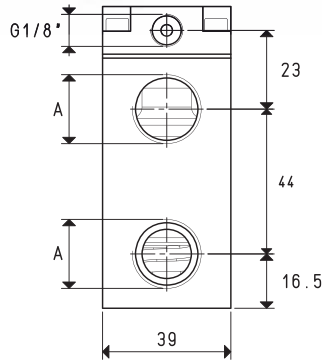
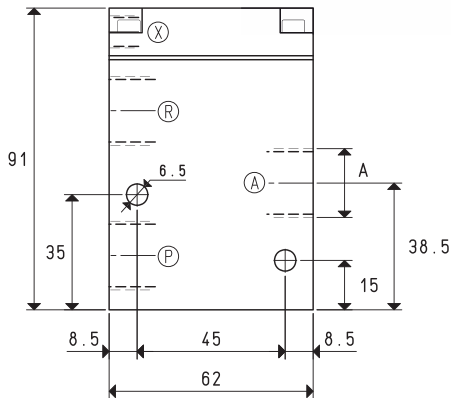
NO



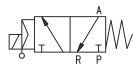
X = Compressed air supply
P = Passage
A = Service
R = Pump₁

Art.	A Ø	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	Servo-control pressure bar (g)	Weight g
			min	max	exc.	deexc.				
07 01 31	G1/4"	6	1000	0.5	5	10	8.5	56.8	4 ÷ 7	318
07 02 31	G3/8"	10	1000	0.5	5	10	11.5	103.8	4 ÷ 7	308

3-WAY VACUUM SOLENOID PILOT VALVES

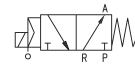


NC



X = Compressed air supply
P = Pump
A = Service
R = Passage

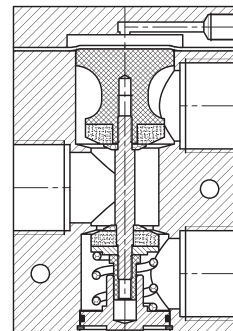
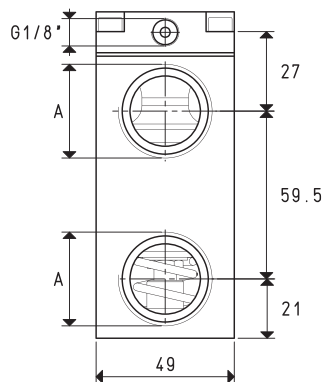
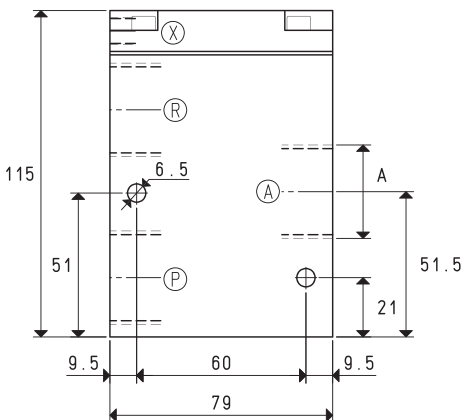
N0



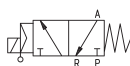
X = Compressed air supply
P = Passage
A = Service
R = Pump

Art.	A Ø	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	Servo-control pressure *bar (g)	Weight Kg
			min	max	exc.	deexc.				
07 03 31	G1/2"	20	1000	0.5	6	15	15.0	176	6 ÷ 8	0.490

* Add the letters LP to the article for servo-control pressure 4 ÷ 6 bar (g).



NC



X = Compressed air supply
P = Pump
A = Service
R = Passage

N0



X = Compressed air supply
P = Passage
A = Service
R = Pump

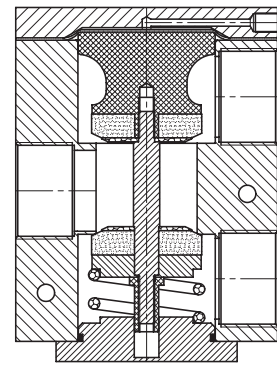
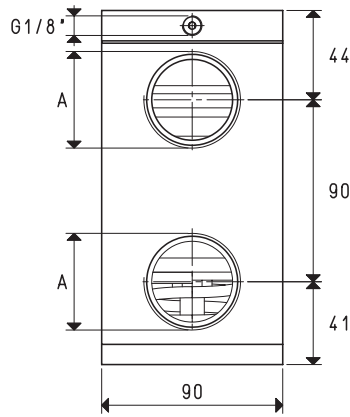
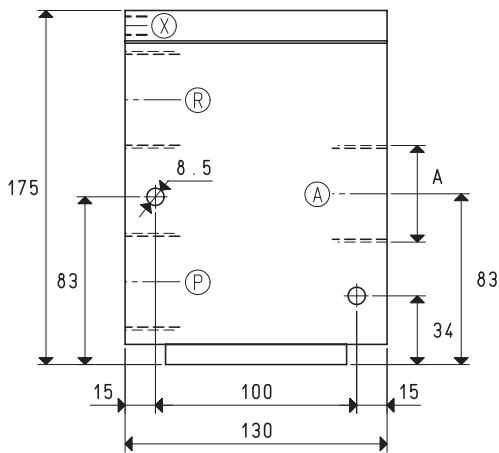
Art.	A Ø	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	Servo-control pressure *bar (g)	Weight Kg
			min	max	exc.	deexc.				
07 04 31	G3/4"	40	1000	0.5	7	16	20	314	6 ÷ 8	1.060
07 05 31	G1"	90	1000	0.5	7	16	25	490	6 ÷ 8	0.964

* Add the letters LP to the article for servo-control pressure 4 ÷ 6 bar (g).

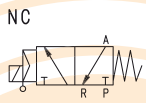
Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6} = \frac{\text{Kg}}{0.4536}$

GAS-NPT thread adapters available at page 1.117

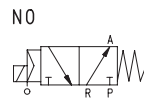
3-WAY VACUUM SOLENOID PILOT VALVES



3D drawings available at www.vuototecnica.net



X = Compressed air supply
P = Pump
A = Service
R = Passage



X = Compressed air supply
P = Pump
A = Service
R = Passage

Art.	A Ø	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	Servo-control pressure *bar (g)	Weight Kg
			min	max	exc.	deexc.				
07 06 31	G1" 1/2	320	1000	0.5	65	30	40	1256	6 ÷ 8	4.456

* Add the letters LP to the article for servo-control pressure 4 ÷ 6 bar (g).

2 AND 3-WAY VACUUM SOLENOID PILOT VALVES



These direct-drive valves have been specially designed for vacuum and are normally closed. They are composed of an anodised aluminium body, where the connections and the passage orifices are located, and of an actuator which is activated by an electric coil. The solenoid pilot valve shutter in NBR nitrile rubber or Vulkollan®, is an integral part of the actuator mobile core. Both the orifices of the 2-way solenoid pilot valves have the same size, while those of the 3-way ones have a 3mm outlet diameter, obtained through the tube. The very low reaction time allow carrying out a very high number of cycles per minute.

The standard electric coil is fully plasticised with synthetic resin, tight execution, insulation class F (up to 155 °C) compliant with VDE standards, with 6.3 mm 3-terminal electrical connections in compliance with EN 175301-803 (ex DIN 43650). Protection degree IP 54; IP 65 for inserted connector.

Allowed tolerance on the voltage nominal value: $\pm 10\%$.

Max. absorption: 16.5 V.A. with AC and 16 W with DC.

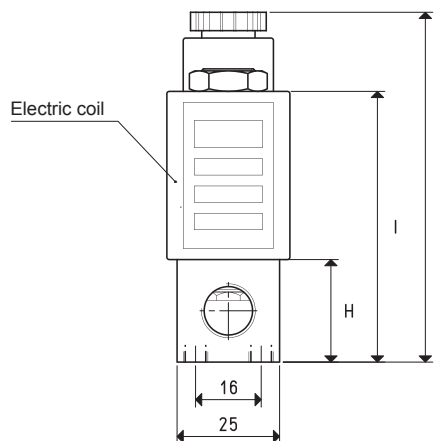
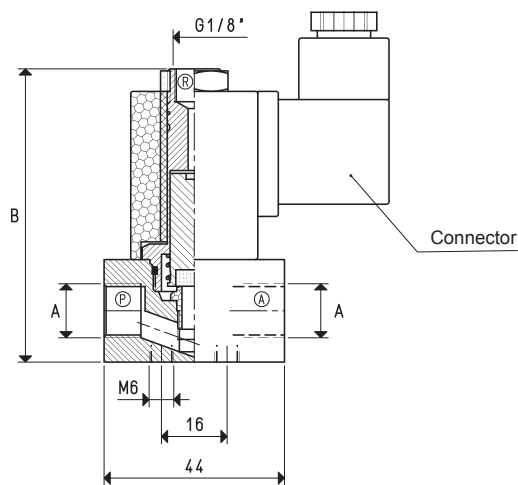
The electric coil can be rotated by 360°.

The connector can be rotated by 180° on the coil and can be supplied, upon request, with Led lights, anti-interference circuit and/or with protection devices against overvoltage and polarity reversal.

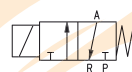
Technical features:

Working pressure: from 1 to 1500 mbar abs.

Temperature of the sucked fluid: from -5 to +60 °C



3 / 2 NC



P = Pump
A = Service
R = Passage

3-WAY SOLENOID PILOT VALVE

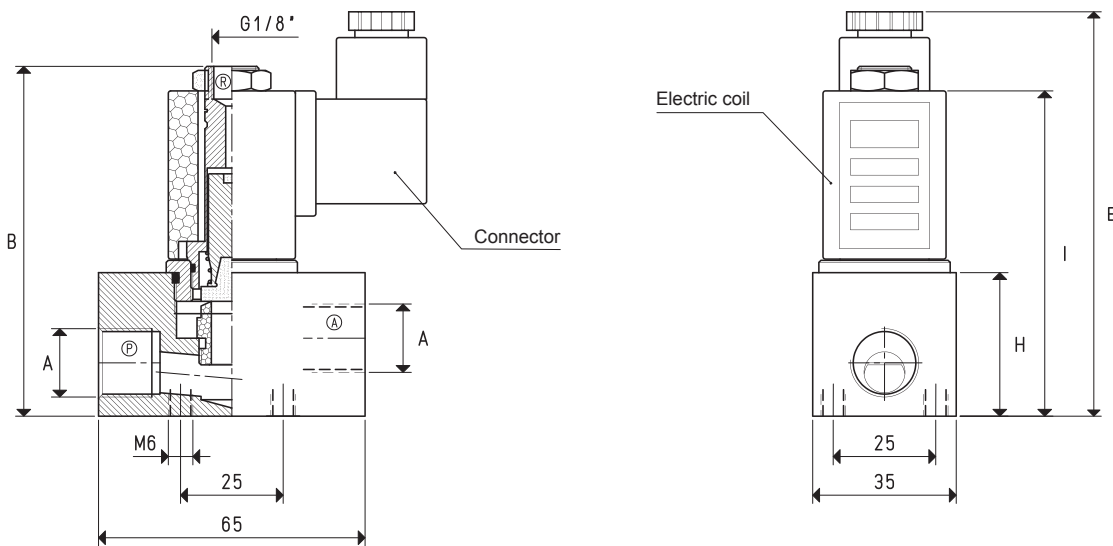
Art.	A	Max. capacity	Vacuum level		Reaction time		Ø	Passage section	B	E	H	I	Weight
			min	max	exc.	deexc.							
07 01 16	G1/4"	4 cum/h	1000	0.5	15	8	6 orifice	28.3	73	86	25	67	248

Note: The coil and the connectors are not integral part of the solenoid pilot valves, therefore, they must be ordered separately (See solenoid valve accessories).

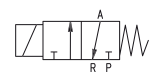
Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

GAS-NPT thread adapters available at page 1.117

3-WAY VACUUM SOLENOID PILOT VALVES



3 / 2 NC



P = Pump
A = Service
R = Passage

3-WAY SOLENOID PILOT VALVE

Art.	A Ø	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	B	E	H	I	Weight g
			min	max	exc.	deexc.							
07 02 16	G3/8"	8	1000	0.5	22	10	10	78.5	85	98	35	79	392
07 03 16	G1/2"	10	1000	0.5	28	10	12	113.0	85	98	35	79	377

Note: The coil and the connectors are not integral part of the solenoid pilot valves, therefore, they must be ordered separately (See solenoid valve accessories).

3D drawings available at www.vuototecnica.net

DIRECT DRIVE 2-WAY VACUUM SOLENOID VALVES

These state of the art solenoid valves feature minimal overall dimensions and high volumetric efficiency and high response speed at any vacuum level. They are the result of an attentive choice of materials, state of the art constructive techniques and of the in-depth knowledge of our technicians.

This series of solenoid valves is patented.

The DDN solenoid valves are direct drive, 2-way, 2-position valves with direct drive, double shutter and they are normally closed. They are composed of hot pressed brass body where the connections are located, an internal mechanism with double shutter and of an actuator activated by an electric coil. The standard electric coil is fully plasticised with synthetic resin, tight execution, insulation class F (up to 155 °C) compliant with VDE standards, with 6.3 mm 3-terminal electrical connections in compliance with EN 175301-803 (ex DIN 43650). Protection degree IP 54; IP 65 with inserted connector.

Allowed tolerance on the voltage nominal value: $\pm 10\%$.

Max. absorption: 16.5 V.A. with AC and 16 W with DC (except for DDN 25 which cannot be activated with DC).

The electric coil can be rotated by 360°. The connector can be rotated by 180° on the coil and can be supplied, upon request, with Led lights, anti-interference circuit and/or with protection devices against overvoltage and polarity reversal.

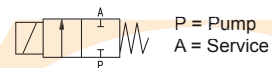
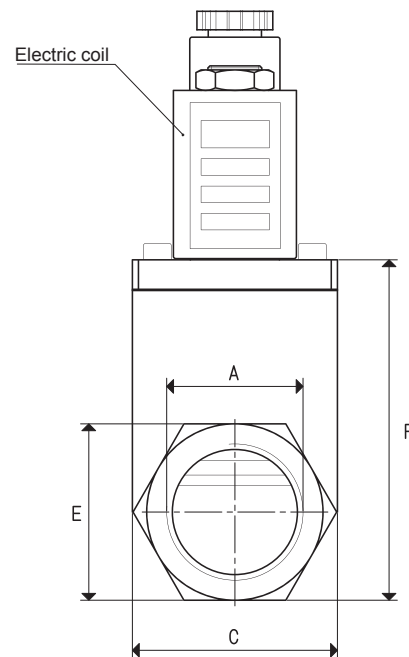
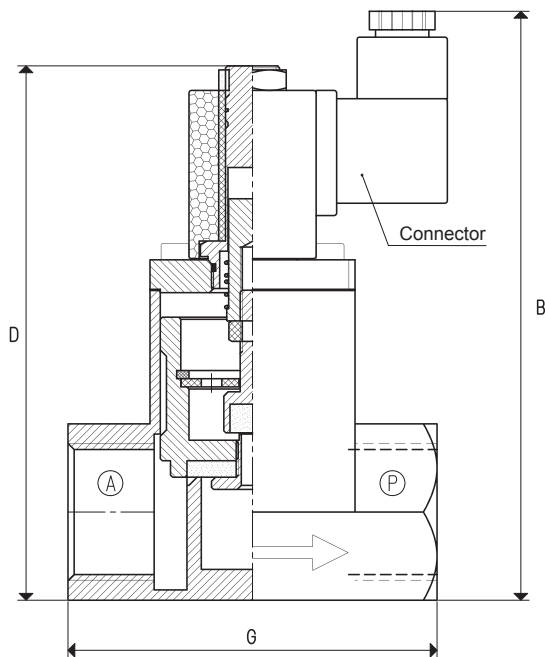
For a correct operation, we recommend installing the solenoid valve upside-down.

DDN solenoid valves are particularly indicated for degassers, autoclaves, vacuum thermo-welders and in all applications where suction has to be controlled separately from the air inlet into circuit.

Technical features

Working pressure: from 0.5 to 1500 mbar abs.

Temperature of the sucked fluid: from -5 to +60 °C



Art.	A Ø	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	B	C	D	E	F	G	Weight Kg
			min	max	exc.	deexc.									
DDN 14	G1/2"	20	1000	0.5	30	15	14	154	127	35	110	30	63	75	0.83
DDN 25	G1"	90	1000	0.5	55	33	25	490	142	50	128	43	82	90	1.56

Note: The coil and the connectors are not integral part of the solenoid valves, therefore, they must be ordered separately (See solenoid valve accessories).

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6} = \frac{\text{Kg}}{0.4536}$

GAS-NPT thread adapters available at page 1.117

SERVO-CONTROLLED 3-WAY VACUUM SOLENOID VALVES WITH 2 ELECTRIC COILS

These solenoid valves have the same function and the same structure as the previous ones. Their distinctive features are the two coils that with a simple electric impulse, exchange the shutter positions and keep them in this position till the next impulse even in absence of compressed air at the servo control and of electric current.

For this feature, they are especially indicated in all those cases which require a safe connection to the vacuum source, even in absence of electric or pneumatic supply. The standard electric coils are fully plasticised with synthetic resin, tight execution, insulation class F (up to 155 °C) compliant with VDE standards, with 6.3 mm 3-terminal electrical connections in compliance with EN 175301-803 (ex DIN 43650). Protection degree IP 54; IP 65 for inserted connector.

Allowed tolerance on the voltage nominal value: ±10%.

Max. absorption: 8 ÷ 16.5 V.A. with AC and 6.5 ÷ 16 W with DC.

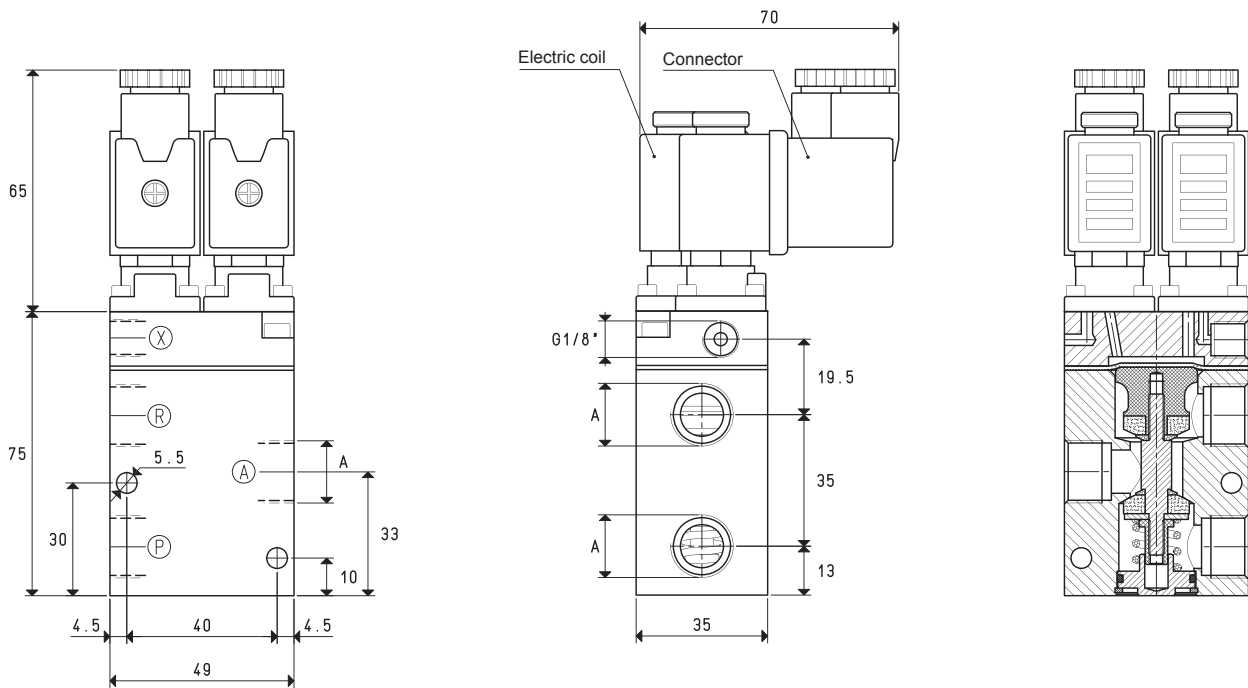
The electric coils can be rotated by 360°. The connector can be rotated by 180° on the coils and can be supplied, upon request, with Led lights, anti-interference circuit and/or with protection devices against overvoltage and polarity reversal.

Technical features

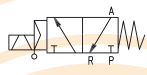
Working pressure: from 0.5 to 3000 mbar abs.

Servo-control pressure: see table

Temperature of the sucked fluid: from -5 to +60 °C

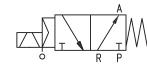


NC



X = Compressed air supply
P = Pump
A = Service
R = Passage

N0

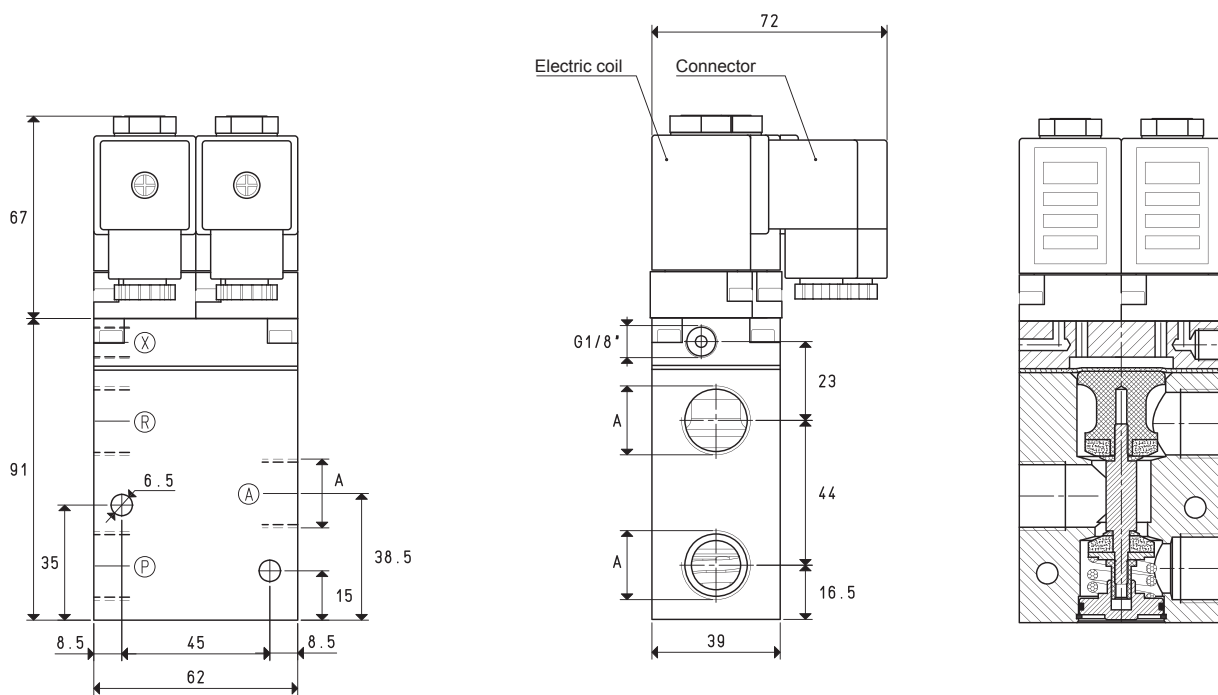


X = Compressed air supply
P = Passage
A = Service
R = Pump

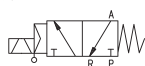
Art.	A Ø	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm²	Servo-control pressure bar (g)	Weight Kg
			min	max	exc.	deexc.				
07 01 51	G1/4"	6	1000	0.5	16	27	8.5	56.8	4 ÷ 7	0.59
07 02 51	G3/8"	10	1000	0.5	16	27	11.5	103.8	4 ÷ 7	0.58

Note: Coils and connectors are not integral part of the solenoid valves, therefore, they must be ordered separately (See solenoid valve accessories).

SERVO-CONTROLLED 3-WAY VACUUM SOLENOID VALVES WITH 2 ELECTRIC COILS



NC



X = Compressed air supply
P = Pump
A = Service
R = Passage

N0



X = Compressed air supply
P = Passage
A = Service
R = Pump

Art.	A Ø	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	Servo-control pressure *bar (g)	Weight Kg
			min	max	exc.	deexc.				
07 03 51	G1/2"	20	1000	0.5	16	40	15.0	176	6 ÷ 8	0.97

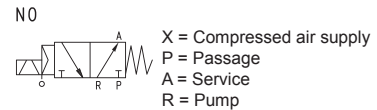
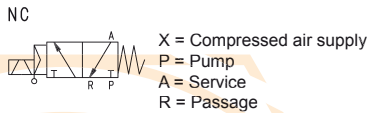
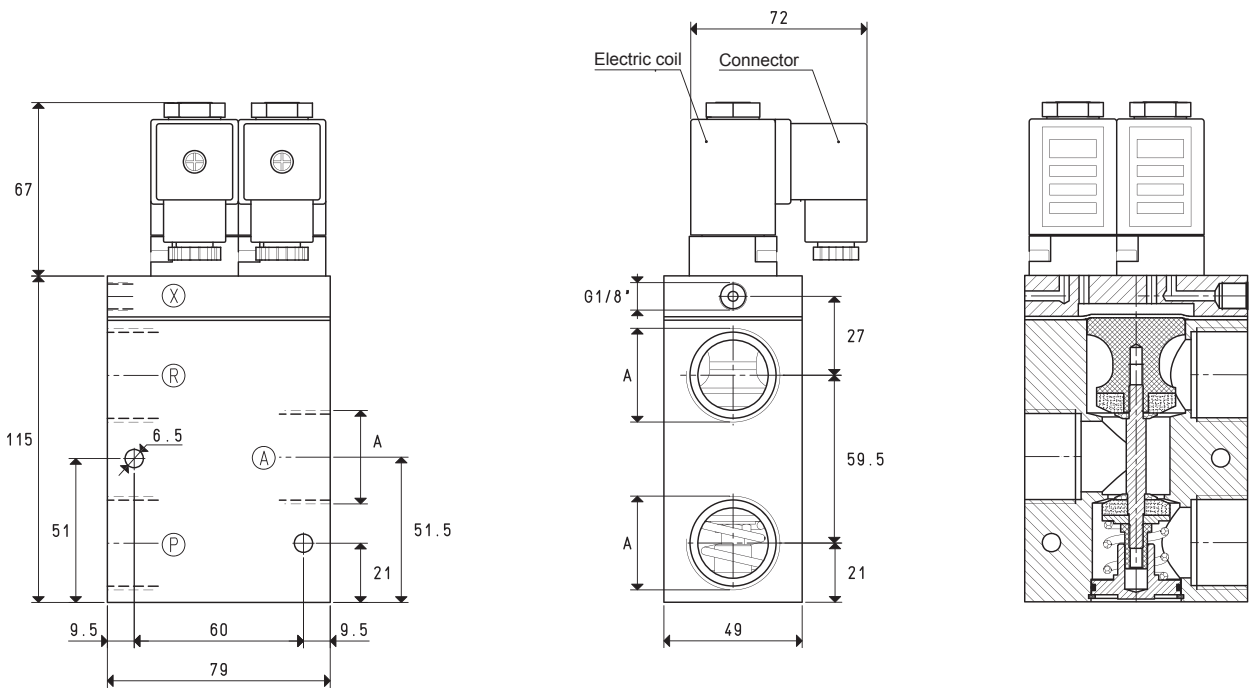
* Add the letters LP to the article for servo-control pressure 4 ÷ 6 bar (g).

Note: Coils and connectors are not integral part of the solenoid valves, therefore, they must be ordered separately (See solenoid valve accessories).

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

GAS-NPT thread adapters available at page 1.117

SERVO-CONTROLLED 3-WAY VACUUM SOLENOID VALVES WITH 2 ELECTRIC COILS

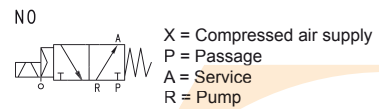
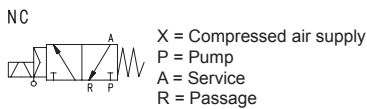
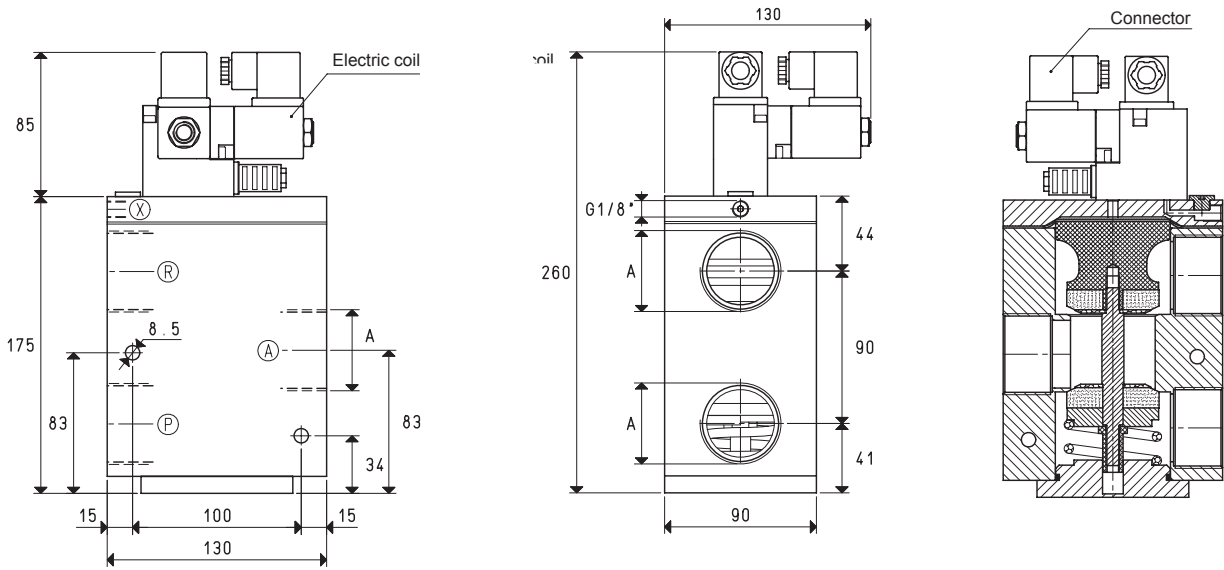


Art.	A	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	Servo-control pressure *bar (g)	Weight Kg
			min	max	exc.	deexc.				
07 04 51	G3/4"	40	1000	0.5	16	40	20	314	6 ÷ 8	1.51
07 05 51	G1"	90	1000	0.5	18	42	25	490	6 ÷ 8	1.41

* Add the letters LP to the article for servo-control pressure 4 ÷ 6 bar (g).

Note: Coils and connectors are not integral part of the solenoid valves, therefore, they must be ordered separately (See solenoid valve accessories).

SERVO-CONTROLLED 3-WAY VACUUM SOLENOID VALVES WITH 2 ELECTRIC COILS



Art.	A	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	Servo-control pressure *bar (g)	Weight Kg
	Ø		min	max	exc.	deexc.				
07 06 51	G1" 1/2	320	1000	0.5	60	38	40	1256	6 ÷ 8	5.24

* Add the letters LP to the article for servo-control pressure 4 ÷ 6 bar (g).

Note: Coils and connectors are not integral part of the solenoid valves, therefore, they must be ordered separately (See solenoid valve accessories).

DIRECT DRIVE 3-WAY VACUUM SOLENOID VALVES

These direct drive 3-way, 2-position vacuum solenoid valves feature conical shutters servo-controlled by the vacuum.

As a standard they are normally closed, but they can be supplied normally open upon request. They are composed of an anodised aluminium body where the connections are located, two silicon shutters assembled onto a stainless steel stem and a membrane in special reinforced compound. An actuator activated by an electric coil manages the vacuum at the servo-control. The operating principle of these solenoid valves is based on the pressure differential between the vacuum pump or generator and the pressure of the sucked air.

By addressing this "differential pressure" to the servo-control via the actuator, the shutters can be controlled without compressed air or springs.

Due to their operating principle, they are not recommended on plants with low vacuum levels (below 850 mbar abs., equal to 15 % of vacuum).

The lack of springs, frictions and internal dynamic stresses favours a high response speed and guarantees long lasting operation.

The standard electric coil is fully plasticised with synthetic resin, tight execution, insulation class F (up to 155 °C) compliant with VDE standards, with 6.3 mm 3-terminal electrical connections in compliance with EN 175301-803 (ex DIN 43650). Protection degree IP 54; IP 65 for inserted connector.

Allowed tolerance on the voltage nominal value: ±10%.

Max. absorption: 16.5 V.A. with AC and 16 W with DC.

The electric coil can be rotated by 360°. The connector can be rotated by 180° on the coil and can be supplied, upon request, with Led lights, anti-interference circuit and/or with protection devices against overvoltage and polarity reversal.

The solenoid valves in this series, along with the uses described for the 07 .. 11 series can be used on plants with no compressed air.

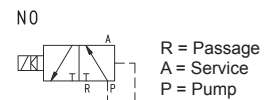
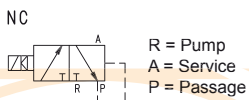
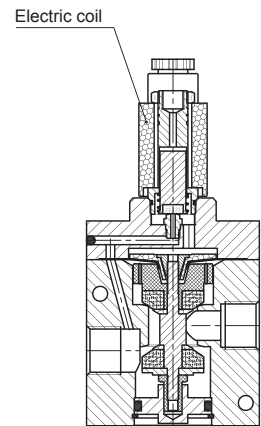
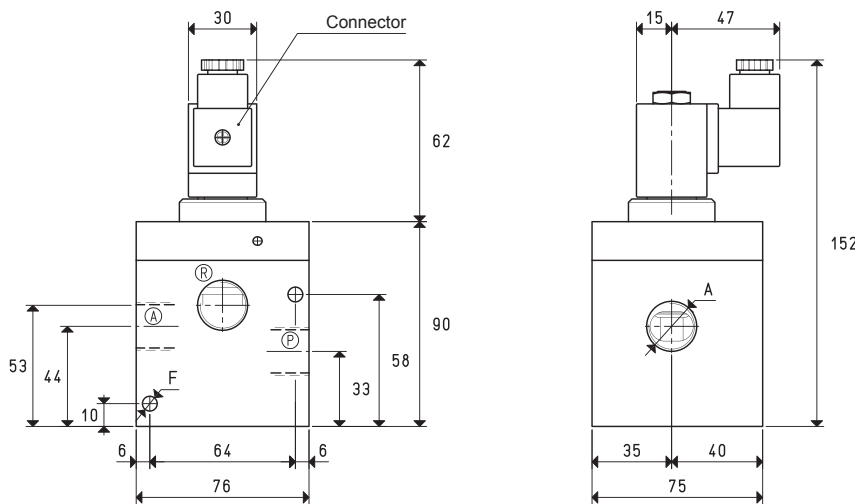
They can be provided, upon request, with SM device for manually opening or closing the solenoid valve already installed.

The solenoid valve must be always chosen according to the capacity and, therefore, to the vacuum pump or generator suction connection.

Technical features

Working pressure: from 0.5 to 850 mbar abs.

Temperature of the sucked fluid: from -5 to +60 °C



Art.	A	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	F	Weight Kg
			min	max	exc.	deexc.				
07 03 40 NC	G1/2"	20	850	0.5	30	15	15	176	6.5	1.53
07 03 40 NO					20	18				
07 04 40 NC	G3/4"	40	850	0.5	30	15	20	314	6.5	1.50
07 04 40 NO					20	18				

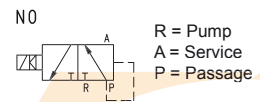
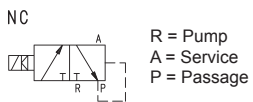
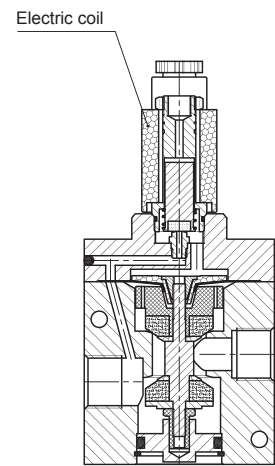
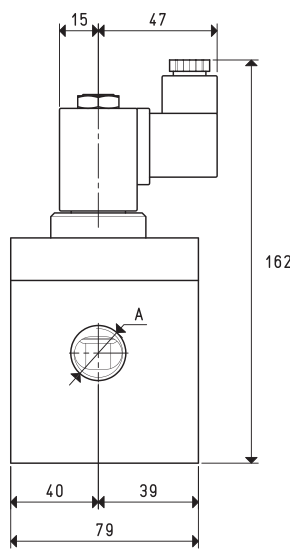
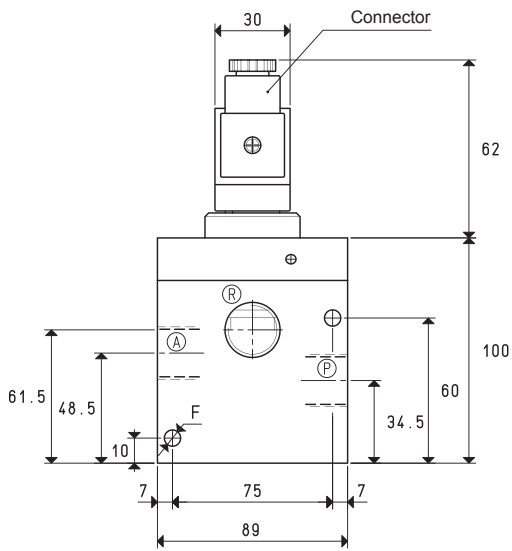
Note: The coil and the connectors are not integral part of the solenoid valves, therefore, they must be ordered separately (See solenoid valve accessories).

3D drawings available at www.vuototecnica.net

DIRECT DRIVE 3-WAY VACUUM SOLENOID VALVES



4



Art.	A	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Ø orifice	Passage section mm ²	F Ø	Weight Kg
			min	max	exc.	deexc.				
07 05 40 NC	G1"	90	850	0.5	38	18	25	490	6.5	1.91
07 05 40 NO					25	20				

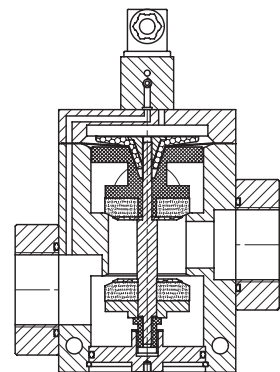
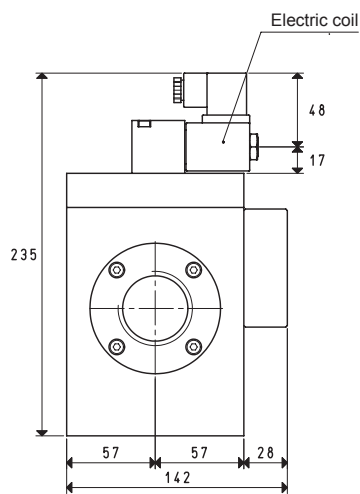
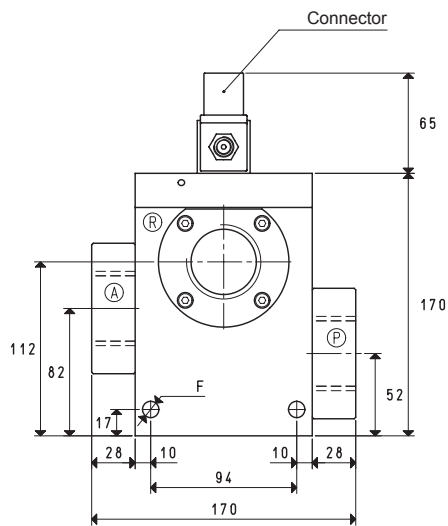
Note: The coil and the connectors are not integral part of the solenoid valves, therefore, they must be ordered separately (See solenoid valve accessories).

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$, pounds = $\frac{\text{g}}{453.6} = \frac{\text{Kg}}{0.4536}$

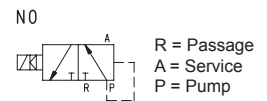
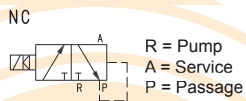
GAS-NPT thread adapters available at page 1.117

3D drawings available at www.vuototecnica.net

DIRECT DRIVE 3-WAY VACUUM SOLENOID VALVES



3D drawings available at www.vuototecnica.net



Art.	A	Max. capacity cum/h	Vacuum level mbar abs.		Reaction time msec		Passage section mm ²	Ø orifice	F Ø	Weight Kg
			min	max	exc.	deexc.				
07 06 40 NC	G1" 1/2	320	850	0.5	75	50	1256	40	10.5	5.90
07 06 40 NO					70	60				

Note: The coil and the connectors are not integral part of the solenoid valves, therefore, they must be ordered separately (See solenoid valve accessories).