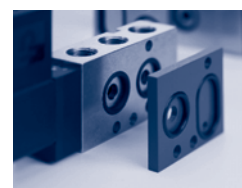


# 2.10

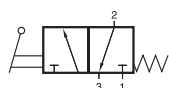
## „Heavy Metal“ Stainless Steel Valves

Selected models are available for explosion hazardous environment. They are ATEX-Ex certified. For detailed information refer to chapter 2.12.

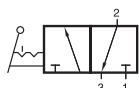


Selected models are available for low temperature application. Temperature-range: - 50° C to + 50° C. For detailed information refer to chapter 2.9.

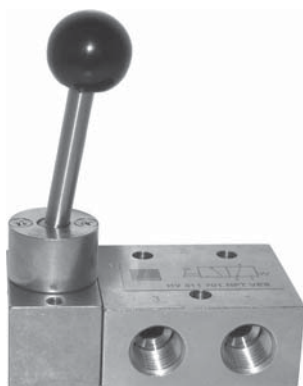
# HV 311 701 VES/HVR 320 701 VES



HV 311 701 VES



HVR 320 701 VES



Lever actuated 3/2-way spool valve.

Body parts are made from stainless steel 316L / 1.4404, seals PUR and FKM.

Type HV            spring return  
Type HVR        indexed

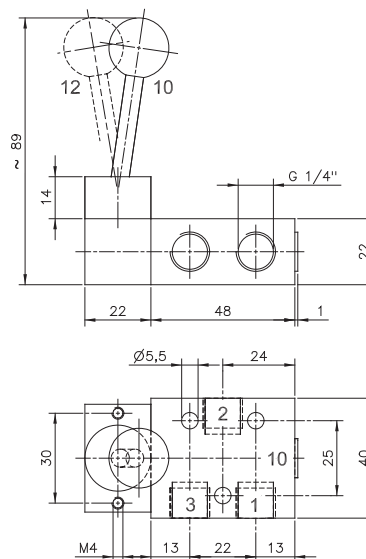
The lever is sealed by using a metal ball.

Exhaust can be throttled.

Versions with G 1/2" ports (3.000 l/min air-flow) are available on request.

NPT ported valves are available on request.

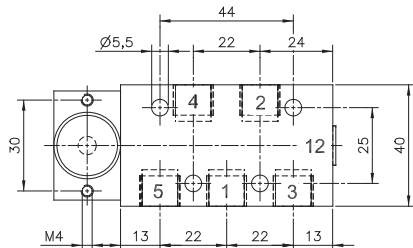
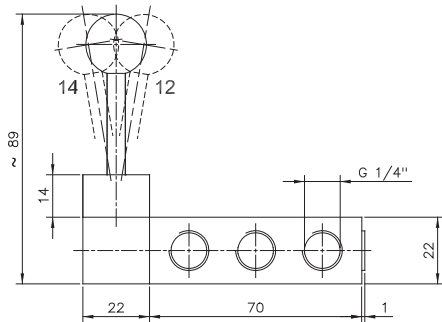
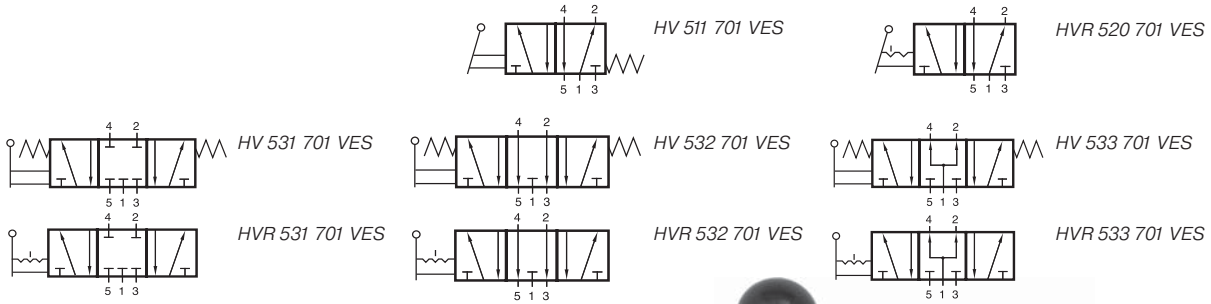
Due to the specific design of the internal parts pressure has to be applied to port 1. For other versions please contact the manufacturer.



**HV 311 701 VES/HVR 320 701 VES**

Type	Function	Port size	Air flow	Operating press.	Act. force	Weight
HV 311 701 VES	Spring ret.	G 1/4"	1250 l/min	1 - 10 bar	20 N	0,35 kg
HVR 320 701 VES	Indexed	G 1/4"	1250 l/min	1 - 10 bar	20 N	0,35 kg

# HV 511 701 VES/HVR 520 701 VES HV 53\_ 701 VES/HVR 53\_ 701 VES



**HV 511 701 VES/HVR 520 701 VES/  
HV\_ 53\_ 701 VES**



Lever actuated 5/2-way and 5/3-way spool valves.

Body parts are made from stainless steel 316L / 1.4404, seals PUR and FKM.

Type HV                    spring return  
Type HVR                 indexed

Type 511 and 520		5/2-way
Type 531	centre closed	5/3-way
Type 532	centre exhausted	5/3-way
Type 533	centre pressurized	5/3-way

The lever is sealed by using a metal ball.

Exhaust can be throttled.

Versions with G 1/2" ports (3.000 l/min air-flow) are available on request.

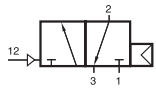
NPT ported valves are available on request.

Due to the specific design of the internal parts pressure has to be applied to port 1. For other versions please contact the manufacturer.

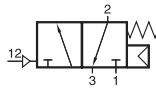
Please notice: for type 531: pressure at port 1 has to be  $\geq$  pressure at 2 and 4. If pressure supply is lost, 2 or 4 can exhaust and actuator might move.

Type	Function	Port size	Air flow	Operating press.	Act. force	Weight
HV 511 701 VES	Spring ret.	G 1/4"	1250 l/min	1- 10 bar	20 N	0,50 kg
HVR 520 701 VES	Indexed	G 1/4"	1250 l/min	1- 10 bar	20 N	0,50 kg
HV 53_ 701 VES	Spring ret.	G 1/4"	1250 l/min	1- 10 bar	20 N	0,50 kg
HVR 53_ 701 VES	Indexed	G 1/4"	1250 l/min	1- 10 bar	20 N	0,50 kg

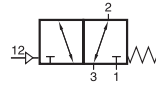
# P 310 701 VES/P 311 701 VES P 310 121 VES/P 311 121 VES



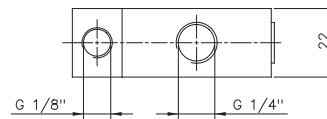
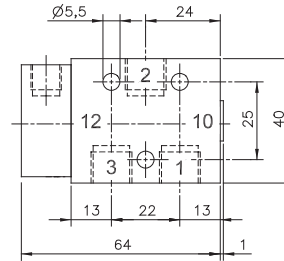
P 310 701 VES  
P 310 701 VES NPT  
P 310 121 VES  
P 310 121 VES NPT



P 311 701 VES  
P 311 701 VES NPT



P 311 121 VES  
P 311 121 VES NPT



Pneumatically actuated 3/2-way spool valve.

Body parts are made from stainless steel 316L / 1.4404, seals in FKM / PUR (series 701).

Type P 310 \_\_\_ VES single pilot valve with air-spring-return.

Operating pressure and actuating pressure should be at the same level.

Type P 311 701 VES single pilot valve with combined spring return.

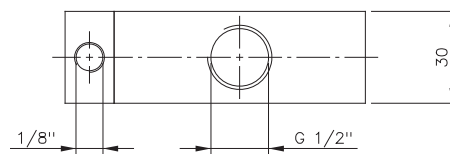
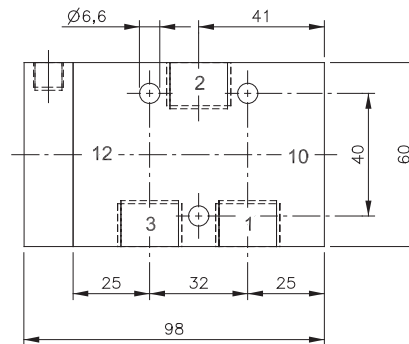
Type P 311 121 VES single pilot valve with mechanic spring return.

Double pilot valves are available on request.

Exhaust can be throttled.

For 1/4"-size: Due to the specific design of the internal parts pressure has to be applied to port 1. For other versions (e.g. normally open) please contact the manufacturer.

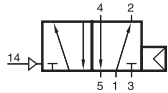
**P 310 701 VES/ P 311 701 VES  
P 310 701 VES NPT/ P 311 701 VES NPT**



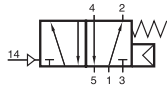
**P 310 121 VES/ P 311 121 VES  
P 310 121 VES NPT/ P 311 121 VES NPT**

Type	Port size	Air flow	Operating press.	Actuating press.	Weight
P 310 701 VES	G 1/4"	1250 l/min	2 - 10 bar	the same	0,35 kg
P 311 701 VES	G 1/4"	1250 l/min	2 - 10 bar	3 - 10 bar	0,35 kg
P 310 701 VES NPT	G 1/4"	1250 l/min	2 - 10 bar	the same	0,35 kg
P 311 701 VES NPT	G 1/4"	1250 l/min	2 - 10 bar	3 - 10 bar	0,35 kg
P 310 121 VES	G 1/2"	3000 l/min	2 - 10 bar	the same	1,20 kg
P 311 121 VES	G 1/2"	3000 l/min	2 - 10 bar	3 - 10 bar	1,20 kg
P 310 121 VES NPT	G 1/2"	3000 l/min	2 - 10 bar	the same	1,20 kg
P 311 121 VES NPT	G 1/2"	3000 l/min	2 - 10 bar	3 - 10 bar	1,20 kg

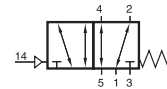
# P 510 701 VES/P 511 701 VES P 510 121 VES/P 511 121 VES



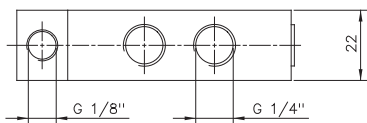
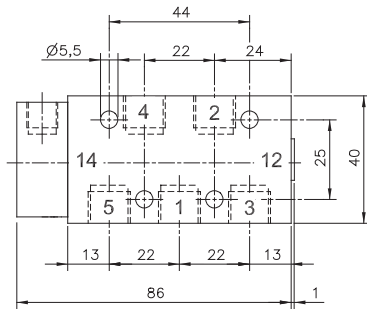
P 510 701 VES  
P 510 701 VES NPT



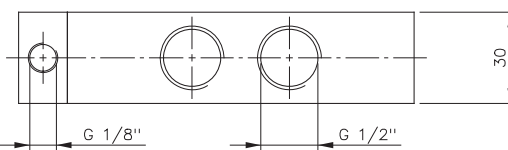
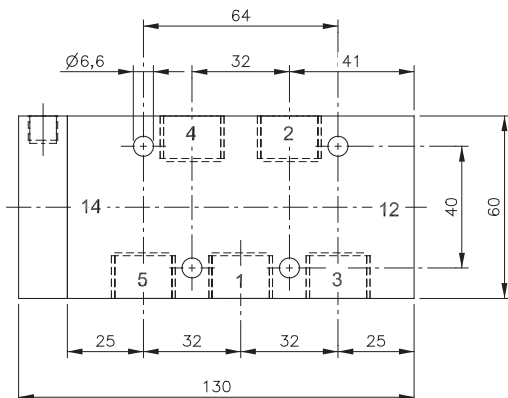
P 511 701 VES  
P 511 701 VES NPT



P 511 121 VES  
P 511 121 VES NPT



**P 510 701 VES/P 511 701 VES  
P 510 701 VES NPT/P 511 701 VES NPT**



**P 510 121 VES/P 511 121 VES  
P 510 121 VES NPT/P 511 121 VES NPT**



Pneumatically actuated 5/2-way spool valve.

Body parts are made from stainless steel 316L / 1.4404, rubber parts FKM, PUR (series 701).

Type P 510 \_\_\_ VES single pilot valve with air-spring-return.

Operating pressure and actuating pressure should be at the same level.

Type P 511 701 VES single pilot valve with combined spring return.

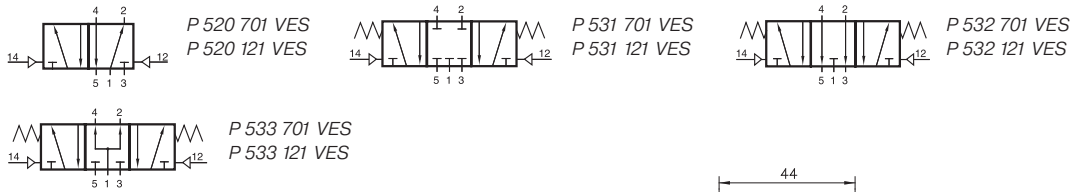
Type P 511 121 VES single pilot valve with mechanic spring return.

Exhaust can be throttled.

For 1/4"-size: Due to the specific design of the internal parts pressure has to be applied to port 1. For other versions (e.g. normally open) please contact the manufacturer.

Type	Port size	Air flow	Operating press.	Actuating press.	Weight
P 510 701 VES	G 1/4"	1250 l/min	2 - 10 bar	the same	0,40 kg
P 511 701 VES	G 1/4"	1250 l/min	3 - 10 bar	3 - 10 bar	0,40 kg
P 510 701 VES NPT	1/4" NPT	1250 l/min	2 - 10 bar	the same	0,40 kg
P 511 701 VES NPT	1/4" NPT	1250 l/min	2 - 10 bar	3 - 10 bar	0,40 kg
P 510 121 VES	G 1/2"	3000 l/min	3 - 10 bar	the same	1,50 kg
P 511 121 VES	G 1/2"	3000 l/min	2 - 10 bar	3 - 10 bar	1,50 kg
P 510 121 VES NPT	1/2" NPT	3000 l/min	3 - 10 bar	the same	1,50 kg
P 511 121 VES NPT	1/2" NPT	3000 l/min	2 - 10 bar	3 - 10 bar	1,50 kg

# P 520 701 VES/P 531 701 VES/P 532 701 VES P 520 121 VES/P 531 121 VES/P 532 121 VES P 533 701 VES/P 533 121 VES



Pneumatically actuated 5/2-way and 5/3-way spool valves, actuated by impulse.

Body parts are made from stainless steel 316L / 1.4404, seals FKM / PUR (series 701).

Type P 520 \_\_ \_ VES  
5/2-way double pilot. Position is kept until next pneumatic signal is applied.  
Operating pressure and actuating pressure should be at the same level.

Type P 53\_ 701 and 121 VES  
5/3-way valves.

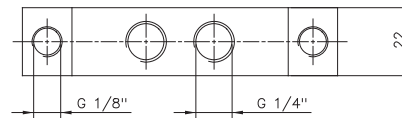
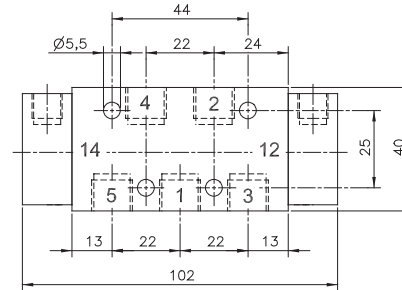
Type 531           centre closed  
Type 532           centre exhausted  
Type 533           centre pressurized

When ordering please complete the type number by 1, 2 or 3 according to the type required.

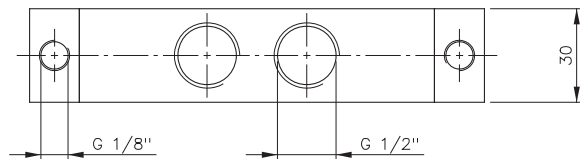
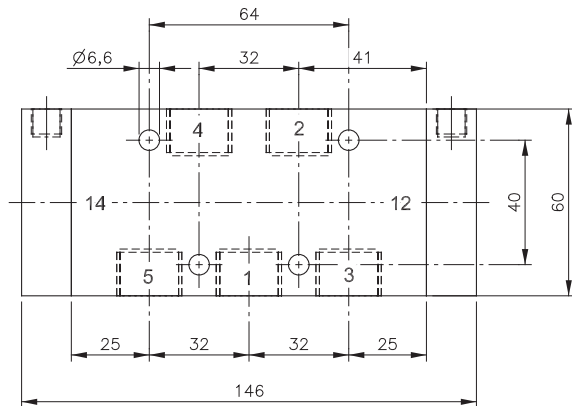
For 1/4"-size: Due to the specific design of the internal parts pressure has to be applied to port 1. For other versions please contact the manufacturer.

For type P 531 701 VES: pressure at port 1 has to be  $\geq$  pressure at 2 and 4. If pressure supply is lost, 2 or 4 can exhaust and actuator might move.

1/2" NPT on request.

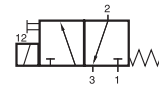


**P 520 701 VES/ P 53\_ 701 VES  
P 520 701 VES NPT/ P 53\_ 701 VES NPT**

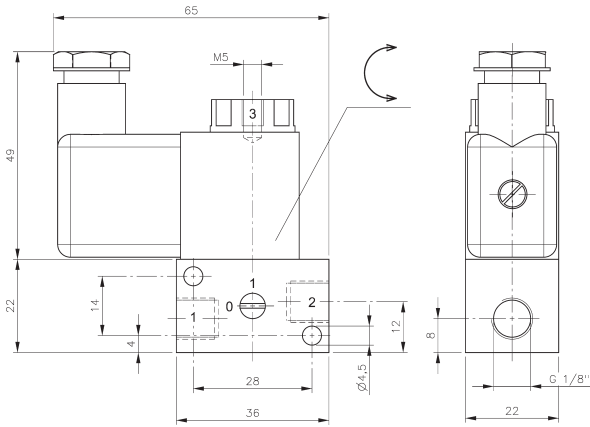


**P 520 121 VES/ P 53\_ 121 VES**

Type	Port size	Function	Air flow	Oper. press.	Act. press.	Weight	
P 520 701 VES	G 1/4"	double pilot	1250 l/min	1,5 - 10 bar	the same	0,50 kg	☃️⊕
P 520 701 VES NPT	1/4" NPT	double pilot	1250 l/min	1,5 - 10 bar	the same	0,50 kg	☃️⊕
P 520 121 VES	G 1/2"	double pilot	3000 l/min	1,5 - 10 bar	the same	1,70 kg	⊕
P 53_ 701 VES	G 1/4"	5/3-way	1250 l/min	1,5 - 10 bar	3,0 - 10 bar	0,50 kg	☃️⊕
P 53_ 701 VES NPT	G 1/4"	5/3-way	1250 l/min	1,5 - 10 bar	3,0 - 10 bar	0,50 kg	☃️⊕
P 53_ 121 VES	G 1/2"	5/3-way	3000 l/min	1,5 - 10 bar	3,0 - 10 bar	1,70 kg	⊕



MH 311 015 VES



MH 311 015 VES



Direct acting 3/2-way solenoid valve equipped with mechanical spring return.

Valve body is made from stainless steel, material: 1.4404.  
Plunger-seals are made of FKM.

Normally closed, port 1 and 2 in the valve, port 3 at the top of the solenoid.

By closing port 3 valve can be converted into a 2/2-way valve.

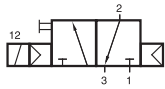
Available with solenoid operators:  
230V/50Hz, 110V/50Hz, 24V/50Hz, 48V=, 24V=, 12V=.

Valves are generally equipped with manual override.

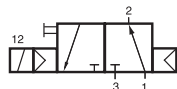
Type	Function	Port size			Air flow	Operating pressure	Power consumption	Weight
		1	2	3				
MH 311 015 VES	n.c.	G 1/8"	G 1/8"	M5	50 l/min	0 - 10 bar	3 W = / 5 VA ~	0,14 kg



# MH 310 701 VES/MH 310 701 KES MOH 310 701 VES/MOH 310 701 KES



MH 310 701 VES  
MH 310 701 KES  
MH 310 701 VES NPT  
MH 310 701 KES NPT



MOH 310 701 VES  
MOH 310 701 KES  
MOH 310 701 VES NPT  
MOH 310 701 KES NPT

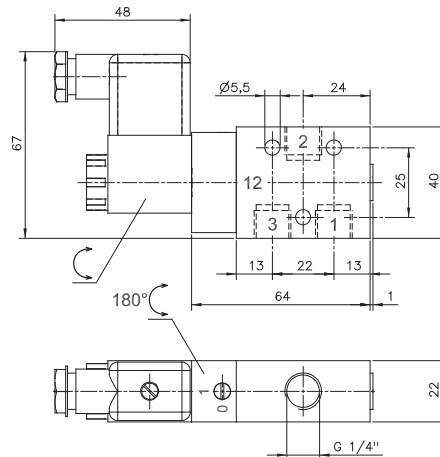


3/2-way solenoid valve normally closed (MH) or normally open (MOH) actuated by permanent signal and equipped with air spring return.

Body parts are made from stainless steel 316L / 1.4404. Customer has the choice between two versions VES and KES, for details refer to the table below.

Available with solenoid operators :  
230V/50Hz, 110V/50Hz, 24V/50Hz, 48V=,  
24V=, 12V=.

Valves are equipped with manual override to be turned.

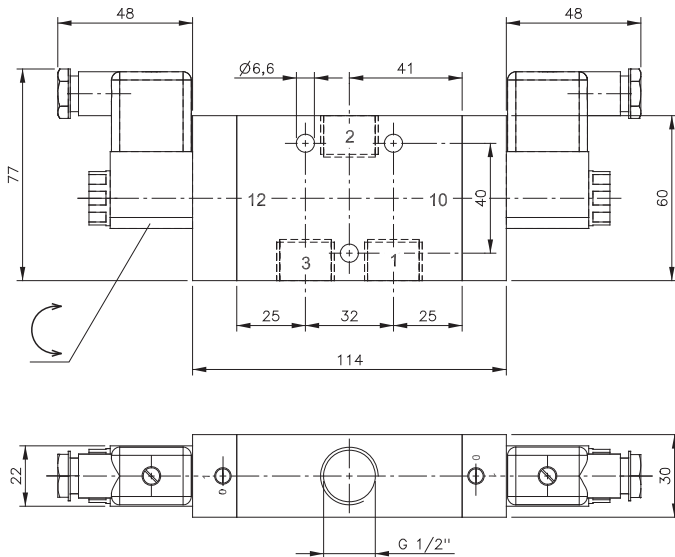
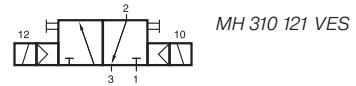


**MH 310 701 VES/KES**  
**MOH 310 701 VES/KES**  
**MH 310 701 VES/KES NPT**  
**MOH 310 701 VES/KES NPT**

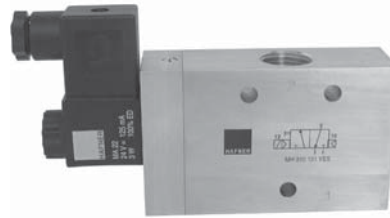
Type	Pilot head	Seals	Other rubber parts
VES	1.4404	PUR	FKM
KES	PA	PUR	FKM

Type	Function	Port size	Air flow	Oper. press.	Power cons.	Weight
MH 310 701 VES	n.c.	G 1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,42 kg ❄️⊕
MH 310 701 KES	n.c.	G 1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,35 kg
MOH 310 701 VES	n.o.	G 1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,42 kg ❄️⊕
MOH 310 701 KES	n.o.	G 1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,35 kg
MH 310 701 VES NPT	n.c.	1/4" NPT	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,42 kg ❄️⊕
MH 310 701 KES NPT	n.c.	1/4" NPT	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,35 kg
MOH 310 701 VES NPT	n.o.	1/4" NPT	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,42 kg ❄️⊕
MOH 310 701 KES NPT	n.o.	1/4" NPT	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,35 kg





**MH 310 121 VES**  
**MH 310 121 VES NPT**



Type MH 310 121 VES 3/2-way solenoid valve normally closed actuated by permanent signal and equipped with air spring return.

Body parts are made from stainless steel 316L / 1.4404, rubber parts are made from FKM.

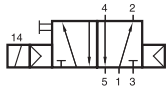
Valves are available with solenoid operators: 230V/50Hz, 110V/50Hz, 24V/50Hz, 48V=, 24V=, 12V=.

Valves are equipped with manual override to be turned.

Normally open version on request.

Type	Function	Port size	Air flow	Oper. Press.	Power cons.	Weight
MH 310 121 VES	n.c.	G 1/2"	3000 l/min	1 - 10 bar	3 W = / 5 VA ~	1,20 kg
MH 310 121 VES NPT	n.c.	G 1/2"	3000 l/min	1 - 10 bar	3 W = / 5 VA ~	1,20 kg

# MH 510 701 VES/MH 510 701 KES MH 510 121 VES



MH 510 701 VES/KES  
MH 510 701 VES/KES NPT  
MH 510 121 VES  
MH 510 121 VES NPT



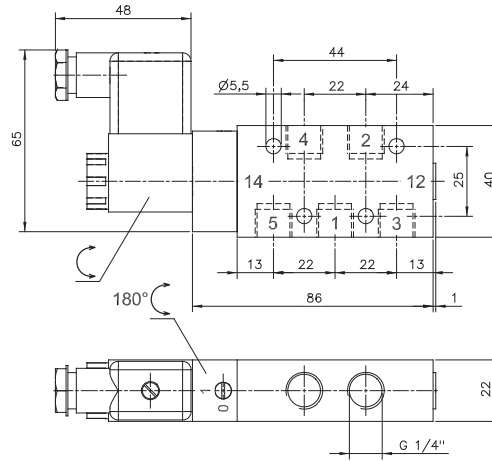
5/2-way solenoid valves actuated by permanent signal and equipped with air spring return.

Body parts are made from stainless steel 316L / 1.4404.

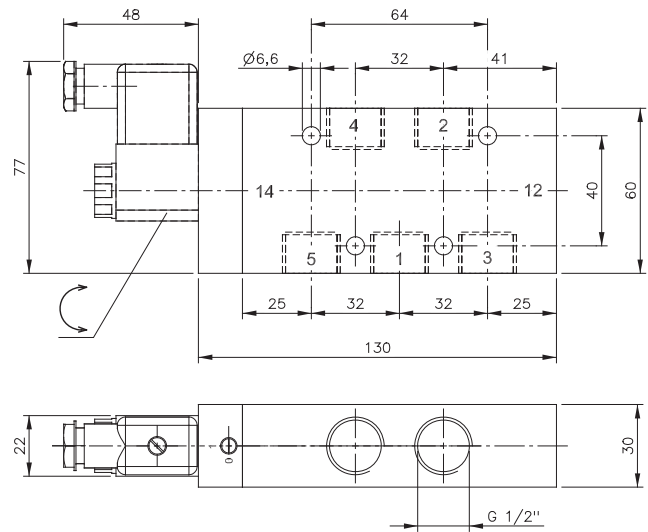
For series 701 the customer has the choice between two versions VES and KES, for details refer to the table below.

Available with solenoid operators :  
230V/50Hz, 110V/50Hz, 24V/50Hz, 48V=,  
24V~, 12V=.

Valves are equipped with manual override to be turned.



**MH 510 701 VES/KES  
MH 510 701 VES/KES NPT**



**MH 510 121 VES  
MH 510 121 VES NPT**

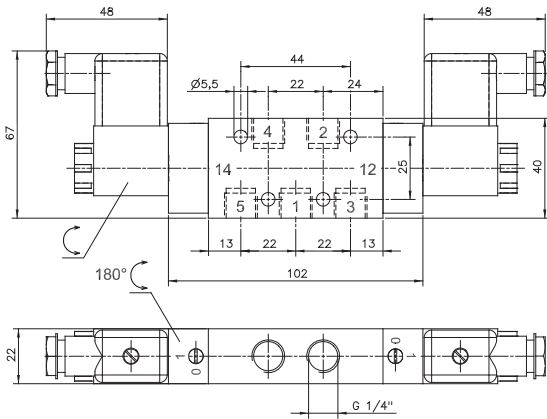
Type	Pilot head	Seals	Other rubber parts
701 VES	1.4404	PUR	FKM
701 KES	PA	PUR	FKM
121 VES	1.4404	FKM	FKM

Type	Function	Port size	Air flow	Oper. press.	Power cons.	Weight
MH 510 701 VES	single sol.	G 1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,53 kg ❄️⊕
MH 510 701 KES	single sol.	G 1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,46 kg
MH 510 701 VES NPT	single sol.	1/4" NPT	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,53 kg ❄️⊕
MH 510 701 KES NPT	single sol.	1/4" NPT	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,46 kg
MH 510 121 VES	single sol.	G 1/2"	3000 l/min	2 - 10 bar	3 W = / 5 VA ~	1,50 kg ⊕
MH 510 121 VES NPT	single sol.	1/2" NPT	3000 l/min	2 - 10 bar	3 W = / 5 VA ~	1,50 kg ⊕

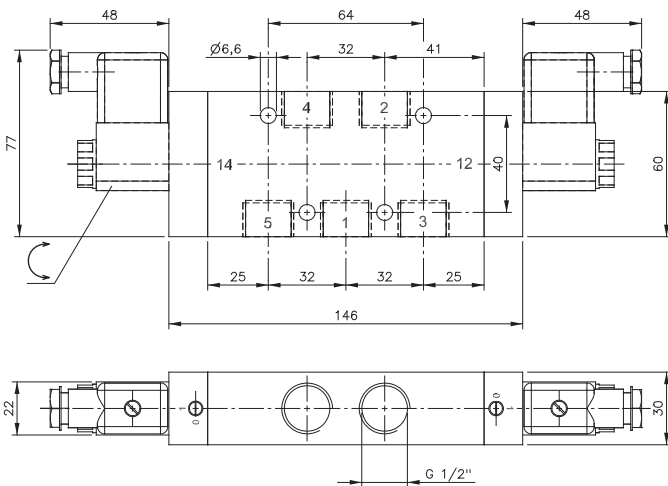
# MH 520 701 VES/MH 520 701 KES MH 520 121 VES



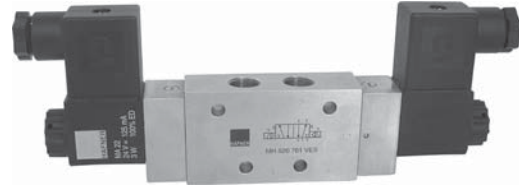
MH 520 701 VES/KES  
MH 520 701 VES/KES NPT  
MH 520 121 VES  
MH 520 121 VES NPT



**MH 520 701 VES/KES  
MH 520 701 VES/KES NPT**



**MH 520 121 VES  
MH 520 121 VES NPT**



5/2-way double solenoid valves.  
Position is kept until an electrical signal is applied to the opposite side even when not attached to an electrical source.

Body parts are made from stainless steel 316L / 1.4404, rubber parts FKM, PUR (series 701).  
Series 701: Customer has the choice between two versions KES and VES, for details refer to the table below.

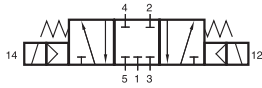
Valves are available with solenoid operators:  
230V/50Hz, 110V/50Hz, 24V/50Hz, 48V=, 24V=, 12V=.

Valves are equipped with manual override to be turned.

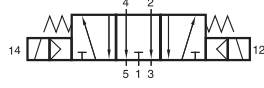
Type	Pilot head	Seals	Other rubber parts
701 VES	1.4404	PUR	FKM
701 KES	PA	PUR	FKM
121 VES	1.4404	FKM	FKM

Type	Port size	Air flow	Oper. Press.	Power cons.	Weight
MH 520 701 VES	G 1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,74 kg
MH 520 701 KES	G 1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,60 kg
MH 520 701 VES NPT	1/4" NPT	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,74 kg
MH 520 701 KES NPT	1/4" NPT	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,60 kg
MH 520 121 VES	G 1/2"	3000 l/min	1 - 10 bar	3 W = / 5 VA ~	1,70 kg
MH 520 121 VES NPT	1/2" NPT	3000 l/min	1 - 10 bar	3 W = / 5 VA ~	1,70 kg

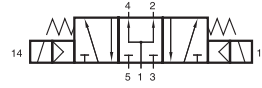
# MH 53\_ 701 VES/MH 53\_ 701 KES MH 53\_ 121 VES



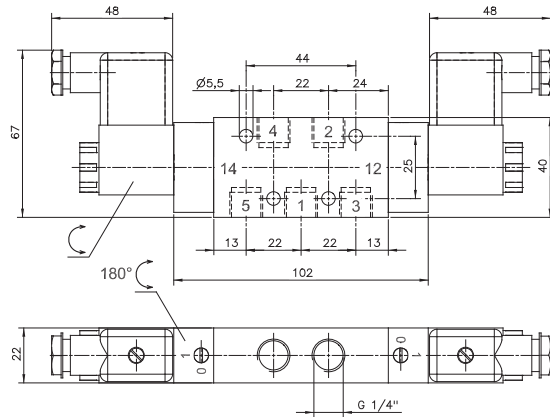
MH 531 701 VES/KES  
MH 531 701 VES/KES NPT  
MH 531 121 VES  
MH 531 121 VES NPT



MH 532 701 VES/KES  
MH 532 701 VES/KES NPT  
MH 532 121 VES  
MH 532 121 VES NPT



MH 533 701 VES/KES  
MH 533 701 VES/KES NPT  
MH 533 121 VES  
MH 533 121 VES NPT



**MH 53\_ 701 VES/KES**  
**MH 53\_ 701 VES/KES NPT**

5/3-way valves actuated with spring return to middle position, actuated by permanent signal.

Body parts are made from stainless steel 316L / 1.4404, rubber parts FKM, PUR (series 701). Series 701: Customer has the choice between two versions KES and VES, for details refer to the table below.

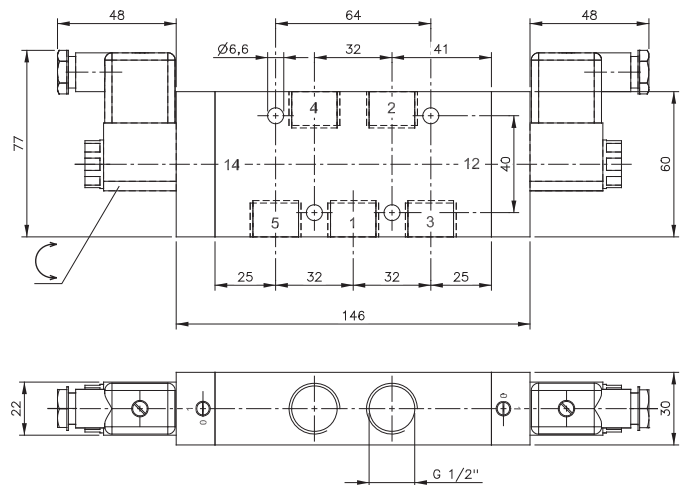
Type 531            centre closed  
Type 532            centre exhausted  
Type 533            centre pressurized

When ordering please complete the type number by 1, 2 or 3 according to the type required.

Valves are available with solenoid operators:  
230V/50Hz, 110V/50Hz, 24V/50Hz, 48V=,  
24V=, 12V=.

Valves are equipped with manual override to be turned.

For type 531: pressure at port 1 has to be  
>= pressure at 2 and 4. If pressure supply is lost,  
2 or 4 can exhaust and actuator might move.

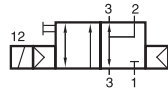


**MH 53\_ 121 VES**  
**MH 53\_ 121 VES NPT**

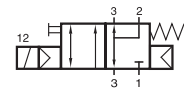
Type	Pilot head	Seals	Other rubber parts
701 VES	1.4404	PUR	FKM
701 KES	PA	PUR	FKM
121 VES	1.4404	FKM	FKM

Type	Port size	Air flow	Oper. Press.	Power cons.	Weight
MH 53_ 701 VES	G 1/4"	1250 l/min	3 - 10 bar	3 W = / 5 VA ~	0,74 kg
MH 53_ 701 KES	G 1/4"	1250 l/min	3 - 10 bar	3 W = / 5 VA ~	0,60 kg
MH 53_ 701 VES NPT	1/4" NPT	1250 l/min	3 - 10 bar	3 W = / 5 VA ~	0,74 kg
MH 53_ 701 KES NPT	1/4" NPT	1250 l/min	3 - 10 bar	3 W = / 5 VA ~	0,60 kg
MH 53_ 121 VES	G 1/2"	3000 l/min	3 - 10 bar	3 W = / 5 VA ~	1,70 kg
MH 53_ 121 VES NPT	1/2" NPT	3000 l/min	3 - 10 bar	3 W = / 5 VA ~	1,70 kg

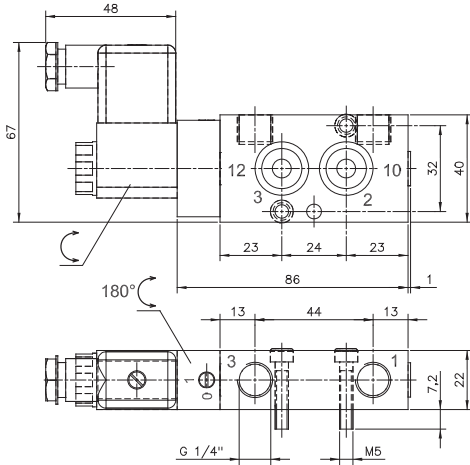
# MNH 310 701 VES/MNH 310 701 KES MNH 311 701 VES/MNH 311 701 KES



MNH 310 701 VES  
MNH 310 701 KES  
MNH 310 701 VES NPT  
MNH 310 701 KES NPT



MNH 311 701 VES  
MNH 311 701 KES  
MNH 310 701 VES NPT  
MNH 310 701 KES NPT



**MNH 310 701 VES/KES**  
**MNH 311 701 VES/KES**  
**MNH 310 701 VES/KES NPT**  
**MNH 311 701 VES/KES NPT**



3/2-way solenoid valve, actuated by permanent signal. Interface according to 1/4" Namur standard, with exhaust air recirculation (purge).

Type MNH 310 701 with pneumatic spring return.  
Type MNH 311 701 with combined spring assuring a fail-safe function in case of cut-off of pressure supply.

Body parts are made from stainless steel 316L / 1.4404. Customer has the choice between two versions VES and KES, for details refer to the table below.

Available with solenoid operators :  
230V/50Hz, 110V/50Hz, 24V/50Hz, 48V=,  
24V=, 12V=.

Valves are equipped with manual override to be turned.

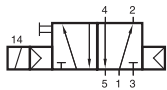
Delivery includes 1 pin, 2 screws, 2 O-rings.

Namur 2 (1/2") on request.

Type	Pilot head	Seals	Other rubber parts
VES	1.4404	PUR	FKM
KES	PA	PUR	FKM

Type	Function	Port size	Air flow	Oper. press.	Power cons.	Weight
MNH 310 701 VES	air-spring	G 1/4"	1250 l/min	1,5 - 10 bar	3 W = / 5 VA ~	0,57 kg ❄️⊕
MNH 310 701 KES	air-spring	G 1/4"	1250 l/min	1,5 - 10 bar	3 W = / 5 VA ~	0,49 kg
MNH 311 701 VES	comb. spring	G 1/4"	1250 l/min	2,5 - 10 bar	3 W = / 5 VA ~	0,57 kg ❄️
MNH 311 701 KES	comb. spring	G 1/4"	1250 l/min	2,5 - 10 bar	3 W = / 5 VA ~	0,49 kg
MNH 310 701 VES NPT	air-spring	1/4" NPT	1250 l/min	1,5 - 10 bar	3 W = / 5 VA ~	0,57 kg ❄️⊕
MNH 310 701 KES NPT	air-spring	1/4" NPT	1250 l/min	1,5 - 10 bar	3 W = / 5 VA ~	0,49 kg
MNH 311 701 VES NPT	comb. spring	1/4" NPT	1250 l/min	2,5 - 10 bar	3 W = / 5 VA ~	0,57 kg ❄️
MNH 311 701 KES NPT	comb. spring	1/4" NPT	1250 l/min	2,5 - 10 bar	3 W = / 5 VA ~	0,49 kg

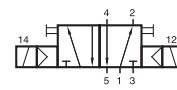
# MNH 510 701 VES/MNH 510 701 KES MNH 511 701 VES/MNH 511 701 KES MNH 520 701 VES/MNH 520 701 KES



MNH 510 701 VES  
MNH 510 701 KES  
MNH 510 701 VES NPT  
MNH 510 701 KES NPT



MNH 511 701 VES  
MNH 511 701 KES  
MNH 511 701 VES NPT  
MNH 511 701 KES NPT



MNH 520 701 VES  
MNH 520 701 KES  
MNH 520 701 VES NPT  
MNH 520 701 KES NPT



5/2-way solenoid valve.

Type MH 510 \_\_\_ single solenoid actuated by permanent signal and equipped with air spring return.

Type MH 520 \_\_\_ double solenoid actuated by impulse. Position is kept until an electric signal is applied to the opposite side even when not attached to an electrical source.

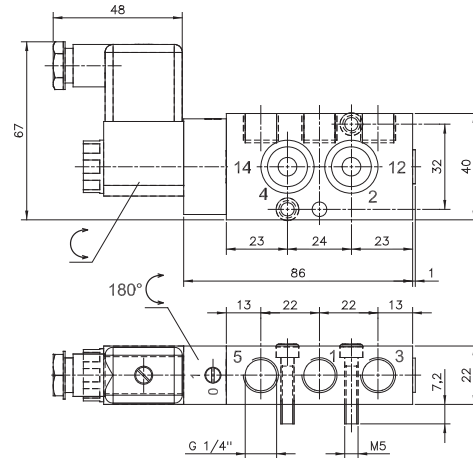
Body parts are made from stainless steel 316L / 1.4404. Customer has the choice between two versions VES and KES, for details refer to the table below.

Available with solenoid operators :  
230V/50Hz, 110V/50Hz, 24V/50Hz, 48V=,  
24V-, 12V=.

Valves are equipped with manual override to be turned.

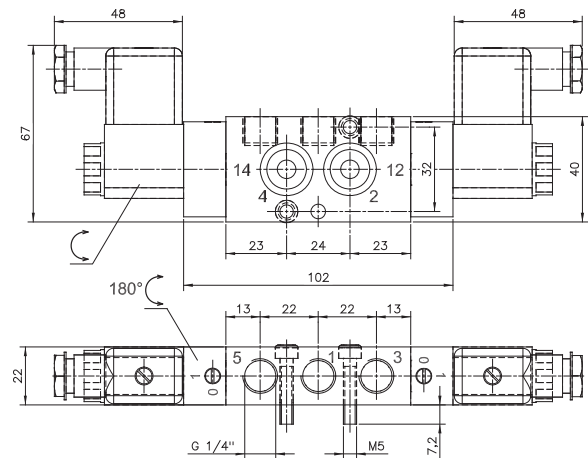
Delivery includes 1 pin, 2 screws, 2 O-rings.

5/3-way valves and Namur 2 (1/2") on request.



**MNH 510 701 VES/KES  
MNH 511 701 VES/KES**

**MNH 510 701 VES/KES NPT  
MNH 511 701 VES/KES NPT**

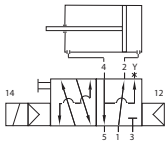


**MNH 520 701 VES/KES  
MNH 520 701 VES/KES NPT**

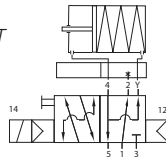
Type	Pilot head	Seals	Other rubber parts
VES	1.4404	PUR	FKM
KES	PA	PUR	FKM

Type	Function	Port size	Air flow	Oper. press.	Power cons.	Weight
MNH 510 701 VES	air-spring	G 1/4"	1250 l/min	1,5 - 10 bar	3 W = / 5 VA ~	0,57 kg ❄️⊕
MNH 510 701 KES	air-spring	G 1/4"	1250 l/min	1,5 - 10 bar	3 W = / 5 VA ~	0,49 kg
MNH 511 701 VES	comb. spring	G 1/4"	1250 l/min	2,5 - 10 bar	3 W = / 5 VA ~	0,57 kg ❄️
MNH 511 701 KES	comb. spring	G 1/4"	1250 l/min	2,5 - 10 bar	3 W = / 5 VA ~	0,49 kg
MNH 520 701 VES	double sol.	G 1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,67 kg ❄️⊕
MNH 520 701 KES	double sol.	G 1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,58 kg
MNH 510 701 VES NPT	air-spring	1/4" NPT	1250 l/min	1,5 - 10 bar	3 W = / 5 VA ~	0,57 kg ❄️⊕
MNH 510 701 KES NPT	air-spring	1/4" NPT	1250 l/min	1,5 - 10 bar	3 W = / 5 VA ~	0,49 kg
MNH 511 701 VES NPT	comb. spring	1/4" NPT	1250 l/min	2,5 - 10 bar	3 W = / 5 VA ~	0,57 kg ❄️
MNH 511 701 KES NPT	comb. spring	1/4" NPT	1250 l/min	2,5 - 10 bar	3 W = / 5 VA ~	0,49 kg
MNH 520 701 VES NPT	double sol.	1/4" NPT	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,67 kg ❄️⊕
MNH 520 701 KES NPT	double sol.	1/4" NPT	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,58 kg

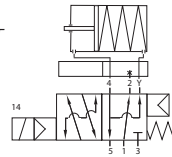
# MNH 350 701 VES/MNH 350 701 KES MNH 351 701 VES/MNH 351 701 KES



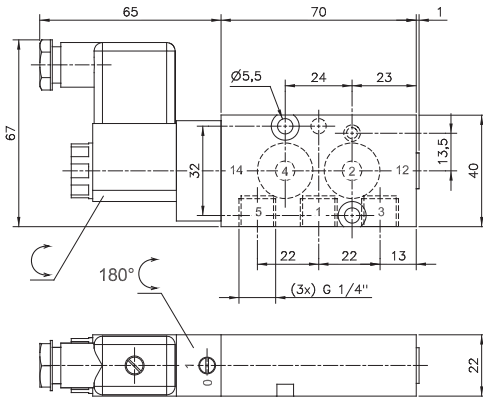
MNH 350 701 VES/KES  
MNH 350 701 VES/KES NPT  
on double acting act.



MNH 350 701 VES/KES  
MNH 350 701 VES/KES NPT  
and Flex-Pack  
on single acting act.

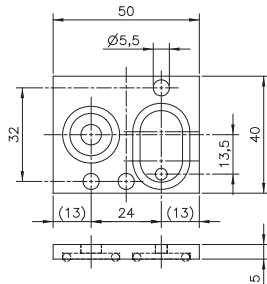


MNH 351 701 VES/KES  
MNH 351 701 VES/KES NPT  
and Flex-Pack  
on single acting act.



**MNH 350 701 VES/KES  
MNH 351 701 VES/KES**

**MNH 350 701 VES/KES NPT  
MNH 351 701 VES/KES NPT**



**FP 701 K/FP 701 VES**



5/2-way solenoid valve, actuated by permanent signal. Interface according to 1/4" Namur standard. Adding the „Flex-Pack“, converts the valve into a 3/2-way-Namur-valve with exhaust-air recirculation (“purge”).

MNH 350 701 with pneumatic spring return,  
MNH 351 701 with combined spring.

Body parts are made from stainless steel 316L / 1.4404. Customer has the choice between two versions VES and KES, for details refer to the table below.

Valves are available with solenoid operators:  
230V/50Hz, 110V/50Hz, 24V/50Hz, 48V=,  
24V=, 12V=

Valves are generally equipped with manual override.

Delivery includes 1 pin, 2 screws, 2 O-rings.

Instead of the Flex-Pack the „Flex-regulator“ Type DRF 601 converts the function of the valve and offers the possibility to control opening- and closing-speed of a spring-return actuator independently.

Delivery of FP 701 K includes longer screws, seals as well as a plug to close port 3 of the valve.

Delivery of FP 701 VES includes longer screws and seals.

## Type Pilot head Seals Other rubber parts

VES 1.4404 PUR FKM

KES PA PUR FKM

## Type Material Orifice 4 Orifice 2-3 Weight

FP 701 K PA 7 mm 4 mm 0,012 kg

FP 701 VES 1.44.04 7 mm 4 mm 0,025 kg

## Type Function Port size Air flow Oper. press. Power Cons. Weight

MNH 350 701 VES air-spring G 1/4" 1250 l/min 1,5 - 10 bar 3 W = / 5 VA ~ 0,57 kg ❄️⊕

MNH 350 701 KES air-spring G 1/4" 1250 l/min 1,5 - 10 bar 3 W = / 5 VA ~ 0,49 kg

MNH 351 701 VES comb. spring G 1/4" 1250 l/min 2,5 - 10 bar 3 W = / 5 VA ~ 0,57 kg ❄️

MNH 351 701 KES comb. spring G 1/4" 1250 l/min 2,5 - 10 bar 3 W = / 5 VA ~ 0,49 kg

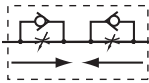
MNH 350 701 VES NPT air-spring 1/4" NPT 1250 l/min 1,5 - 10 bar 3 W = / 5 VA ~ 0,57 kg ❄️⊕

MNH 350 701 KES NPT air-spring 1/4" NPT 1250 l/min 1,5 - 10 bar 3 W = / 5 VA ~ 0,49 kg

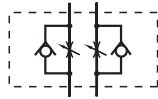
MNH 351 701 VES NPT comb. spring 1/4" NPT 1250 l/min 2,5 - 10 bar 3 W = / 5 VA ~ 0,57 kg ❄️

MNH 351 701 KES NPT comb. spring 1/4" NPT 1250 l/min 2,5 - 10 bar 3 W = / 5 VA ~ 0,49 kg

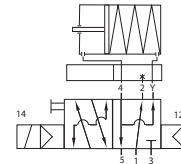
# DRN 3 611 VES/DRN 5 611 VES DRF 3 611 VES



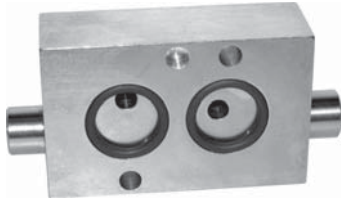
DRN 3 611 VES



DRN 5 611 VES



MNH 350 701  
and Flex Regulator  
DRF 3 611 VES



Block form flow regulator as intermediate plate, interface according to 1/4" Namur standard.

Type DRN 3 611 VES:

For 3/2-way valves with exhaust air recirculation. To regulate the forward stroke of a single acting pneumatic actuator and to regulate the exhaust air going into the spring return unit.

Type DRN 5 611 VES:

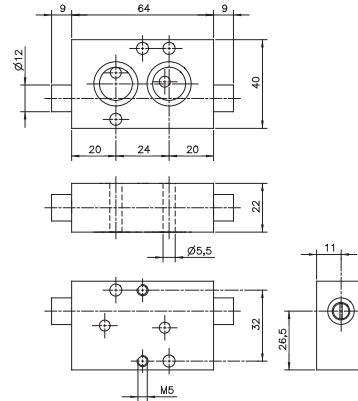
For 5/2 and 5/3 way valves only. To regulate the forward- and backward-stroke of a double acting pneumatic actuator.

Type DRF 3 611 VES:

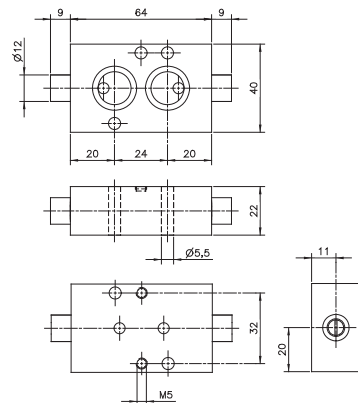
For the Hafner Namur-Flex valve. To regulate the forward stroke of a single acting actuator and to regulate the exhaust air going into the spring return unit.

To be operated with a screw-driver.

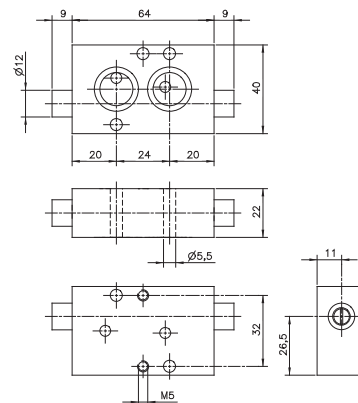
Delivery includes 1 pin, 2 screws, 2 O-Rings.



DRN 3 611 VES



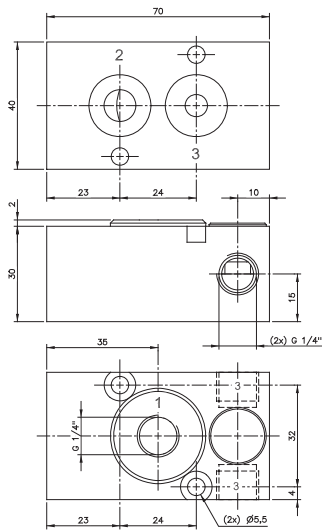
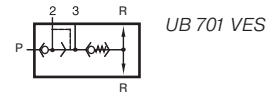
DRN 5 611 VES



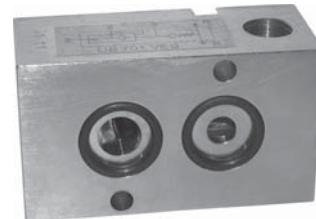
DRF 3 611 VES

Type	Function	Port size	Max. air flow	Operating press.	Weight	
DRN 3 611 VES	3-way valves	Ø 5mm	650 l/min	0,5 - 10 bar	0,42 kg	❄
DRN 5 611 VES	5-way valves	Ø 5mm	650 l/min	0,5 - 10 bar	0,42 kg	❄
DRF 3 611 VES	3-way Namur Flex	Ø 5mm	650 l/min	0,5 - 10 bar	0,42 kg	





UB 701 VES



The Hafner Namur air-recirculation block absolutely guarantees, that only exhausting air from the actuation-side is going into the spring chamber and for sure no ambient atmosphere.

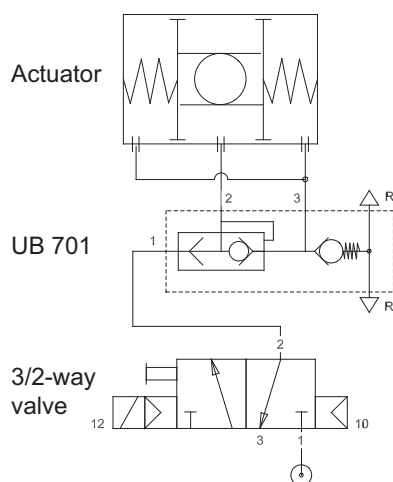
Valve is designed for spring return pneumatic actuators with 1/4" Namur-Interface to be controlled by a remote piloted 3/2-way valve.

Standard with G 1/4" pilot port. Materials being used:

- Body: Stainless steel 1.4404
- Membrane: NBR
- Other inner parts: Stainless steel 1.4404, 1.4310, 1.4031

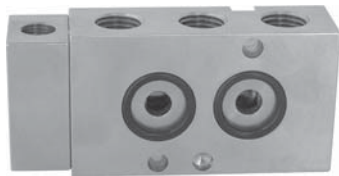
One of the two exhaust ports 3 to be closed by a plug. Plug is not included.

Function:



Type	Namur	Port size	Air flow	Operating pressure
UB 701 VES	1/4"	G 1/4"	1250 l/min	1 - 10 bar

# Pneumatically actuated valves in Stainless Steel with Namur interface



Dimensions can be taken from chapter 2.5.2 as technical drawings are identical to the products in aluminum.

Selected products displayed on this page are also available NPT ported.

For 1/4"-size: Due to the specific design of the internal parts pressure has to be applied to port 1.

For type PN 531 701 VES: pressure at port 1 has to be  $\geq$  pressure at 2 and 4. If pressure supply is lost, 2 or 4 can exhaust and actuator might move.

Type	Namur	Port size	Function	Air flow	Oper. press.	Act. press.
PN 310 701 VES	1/4"	G 1/4" - G 1/8"	3/2-way air ret.	1250 l/min	1,5 - 10 bar	the same
PN 311 701 VES	1/4"	G 1/4" - G 1/8"	3/2-way spring ret.	1250 l/min	3 - 10 bar	2,5 - 10 bar
PN 510 701 VES	1/4"	G 1/4" - G 1/8"	5/2-way air ret.	1250 l/min	1,5 - 10 bar	the same
PN 511 701 VES	1/4"	G 1/4" - G 1/8"	5/2-way spring ret.	1250 l/min	3 - 10 bar	2,5 - 10 bar
PN 520 701 VES	1/4"	G 1/4" - G 1/8"	5/2-way double pil.	1250 l/min	1 - 10 bar	the same
PN 531 701 VES	1/4"	G 1/4" - G 1/8"	5/3-way	1250 l/min	3 - 10 bar	3 - 10 bar