

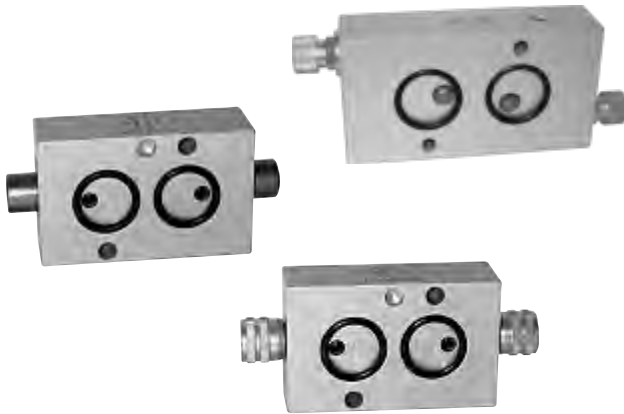
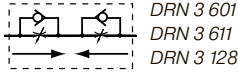


2.10

Accessories for smart valve automation

DRN 3 601/DRN 3 611/DRN 3 128

Flow regulator plate

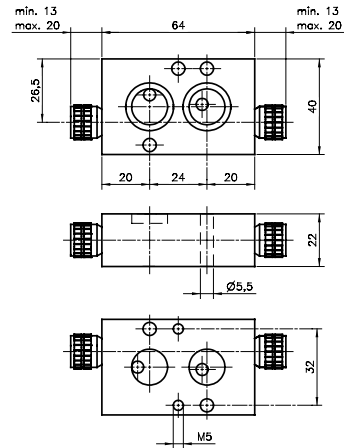


Block form flow regulator as intermediate plate, interface according to NAMUR-standard, for 3/2-way valves with exhaust air recirculation.

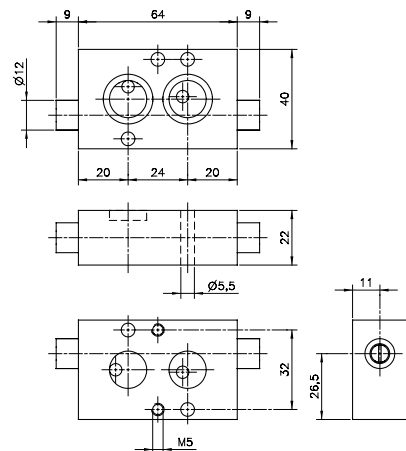
To regulate the forward stroke of a single acting pneumatic actuator and to regulate the exhaust air going into the spring return unit. DRN 3 601 and DRN 3 128 to be operated manually, DRN 3 611 with a screw-driver.

If flow regulator is required with G 1/4" ports, plate GPN 1/4 can be added. For details please refer to page 2.10.14.

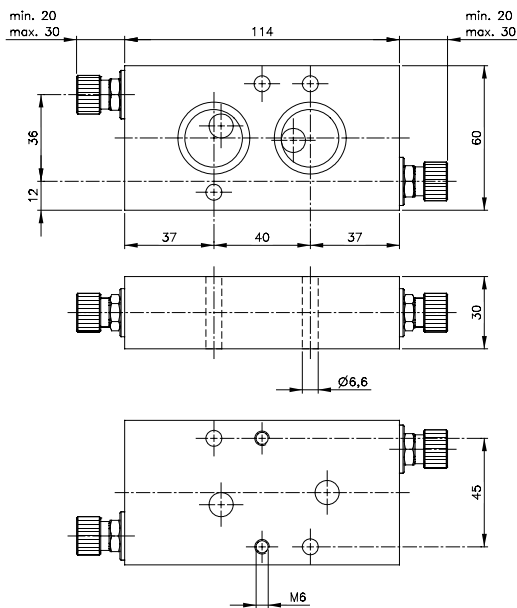
Delivery includes 1 pin, 2 screws, 2 O-rings.



DRN 3 601



DRN 3 611

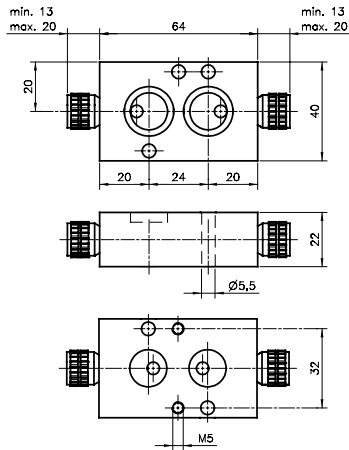
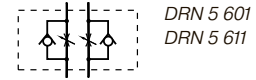


DRN 3 128

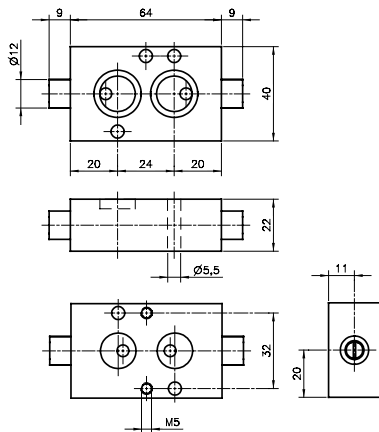
Type	Function	NAMUR	Port size	Max. air flow	Operating pressure	Weight
DRN 3 601	3-way	1/4"	Ø 5 mm	650 l/min	0,5 - 10 bar	0,18 kg
DRN 3 611	3-way	1/4"	Ø 5 mm	650 l/min	0,5 - 10 bar	0,18 kg
DRN 3 128	3-way	1/2"	Ø 8 mm	1.500 l/min	0,5 - 10 bar	0,60 kg

DRN 5 601/DRN 5 611

Flow regulator plate



DRN 5 601



DRN 5 611

Block form flow regulator as intermediate plate, interface according to 1/4" NAMUR-standard, for 5-way valves only.

To regulate the forward- and backward-stroke of a double acting pneumatic actuator. DRN 5 601 and DRN 5 501 to be operated manually, DRN 5 611 with a screw-driver.

If flow regulator is required with G 1/4" ports, plate GPN 1/4 can be added. For details please refer to page 2.10.14.

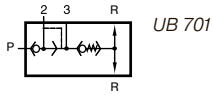
Delivery includes 1 pin, 2 screws, 2 O-rings.

Type	Function	Port size	Max. air flow	Operating pressure	Weight
DRN 5 601	5-way	Ø 5 mm	650 l/min	0,5 - 10 bar	0,18 kg
DRN 5 611	5-way	Ø 5 mm	650 l/min	0,5 - 10 bar	0,18 kg



UB 701

Air-recirculation block for single acting actuators



The air-recirculation block guarantees, that only exhausting air from the actuation chamber is going into the spring chamber, no ambient atmosphere is sucked-in.

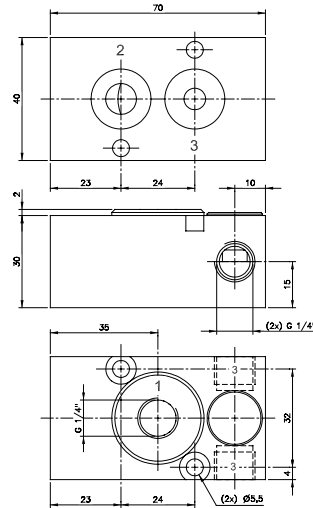
Valve is designed for spring return pneumatic actuators with 1/4" NAMUR-interface to be controlled by a remote piloted 3/2-way valve.

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

- Body: aluminum
- Diaphragm: NBR
- Other inner parts: brass

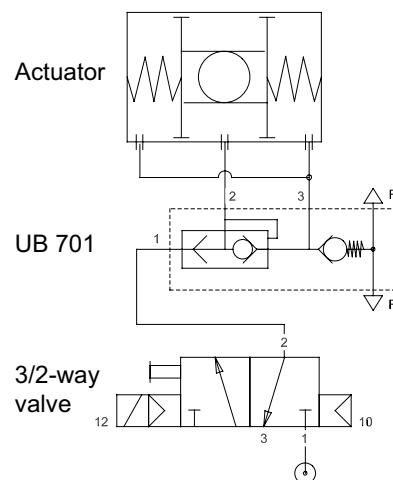
One of the two exhaust ports 3 to be closed by a plug.

Delivery includes 2 screws, 2 O-rings, 1/4" plug for port 3.



UB 701

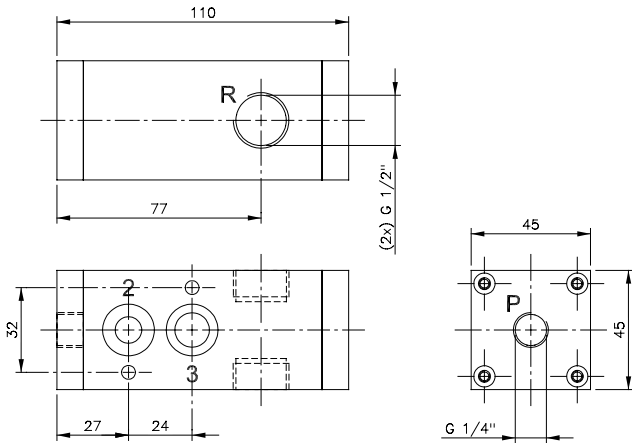
Function:



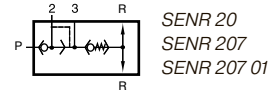
Type	NAMUR	Port size	Air flow	Operating pressure	Weight
UB 701	1/4"	G 1/4"	1250 l/min	1 - 10 bar	0,22 kg

SENR 20/SENR 207/SENR 207 01

Quick-exhaust-block with non-return valve



SENR 20



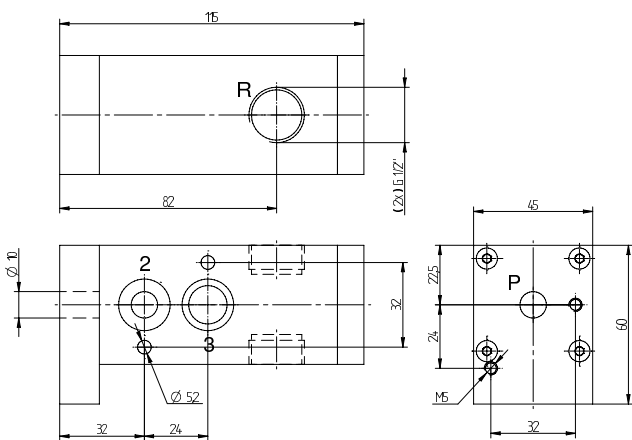
The valve is designed for fast closing of spring-return actuators with 1/4" NAMUR-interface.

Any 3/2-way valve can be used as pilot valve. The connection towards the pilot valve is either G 1/4" ported (type SENR 20) or for NAMUR-valves with the 1/4" NAMUR-interface (SENR 207/ SENR 207 01).

The block assures that only compressed air that has been used to open the actuator is used in the spring-chamber (non-return-function). Excess air is released very fast by the quick-exhaust valve, exhaust-port G 1/2", orifice 10 mm. The non-return valve makes absolutely sure that no ambient atmosphere can be sucked into the actuator.

Two exhaust-ports R allow that the product can always be assembled so the silencer faces downwards.

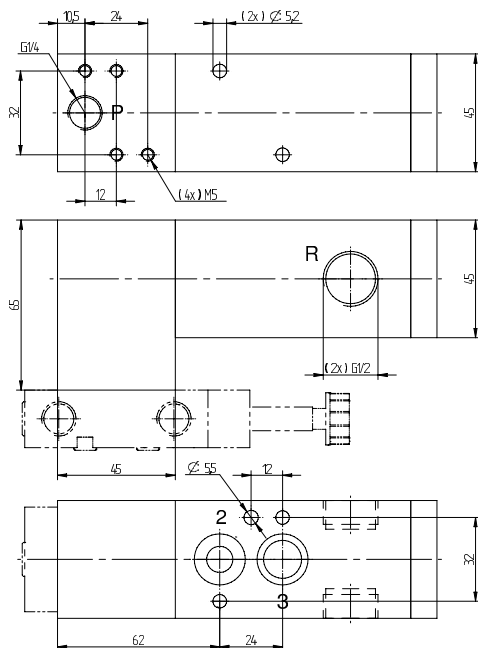
Delivery includes 2 screws, 2 O-rings, 1/2" plug for port R.



SENR 207

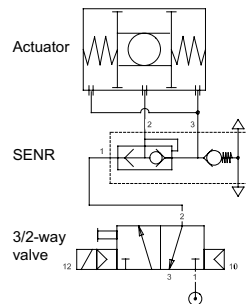
Special solution (SENR 207 01):

Quick-exhaust block for external piping and universal NAMUR-valve mounting.



SENR 207 01

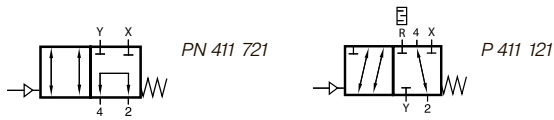
Function:



Type	NAMUR	Port P	Port R	Air flow P to 2	Air flow exhaust	Operating press.	Weight
SENR 20	1/4"	G 1/4"	G 1/2"	1250 l/min	2500 l/min	2 - 10 bar	0,54 kg ❄️
SENR 207	1/4"	1/4" NAMUR	G 1/2"	1250 l/min	2500 l/min	2 - 10 bar	0,56 kg ❄️
SENR 207 01	1/4"	G 1/4" - 1/4" NAMUR	G 1/2"	1250 l/min	2500 l/min	2 - 10 bar	0,85 kg

PN 411 721/P 411 121

Short-cut valve when using manual gearbox



The **PN 411 721** is made for direct assemblage to an actuator with 1/4" NAMUR-interface. It offers a 1/4" NAMUR-interface towards the pilot-valve (use as sandwich plate) as well as ports G 1/4" for piped application. Delivery includes 2 screws, 2 O-rings.

The **P 411 121** is an in-line-version for high-flow-application, ported G 1/2".

Function:

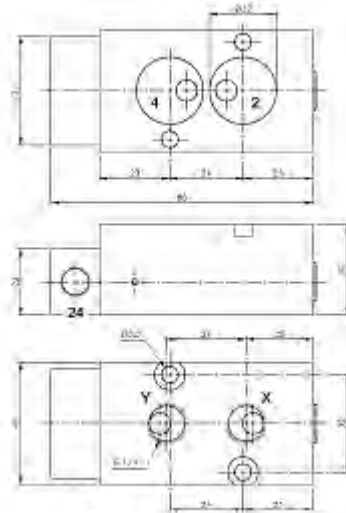
As long as a pneumatic signal is applied, the valve forwards the signals applied to 2 and 4 through to X and Y. When no pneumatic signal is applied the ports 2 and 4 are shortcut.

Typical application:

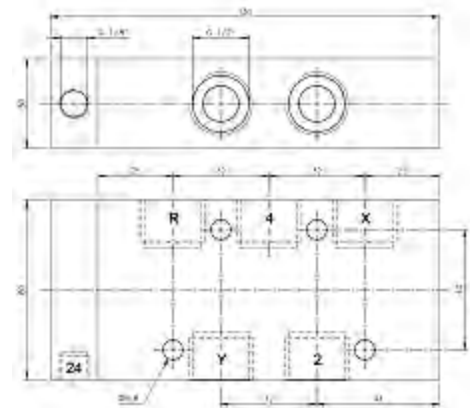
On automated process-valve equipped with a gear-box for manual actuation in case of emergency. When failure occurs, compressed air might get trapped in the actuator. Manual operation might damage the actuator. Valve assures, that the user doesn't have to close the process valve against the force of the air.

On request:

Valve that is normally blocked, type PN 411 711.



PN 411 721

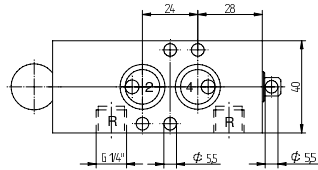
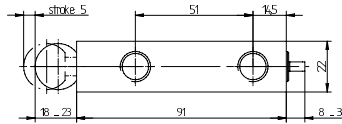
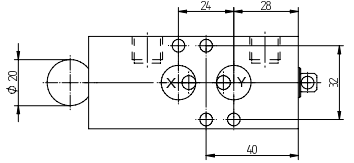
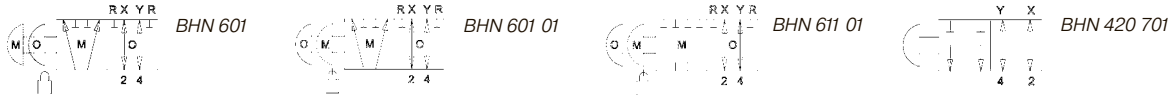


P 411 121

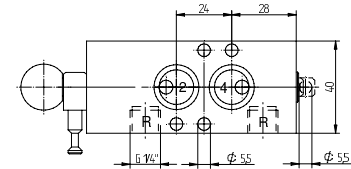
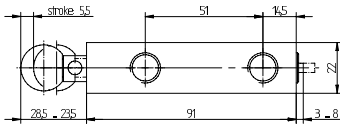
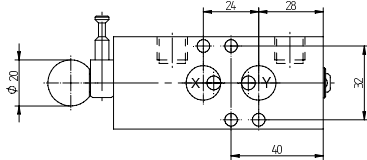
Type	Port size	Air flow	Operating press.	Actuating press.	Weight
PN 411 721	G 1/4"	1250 l/min	1,5 - 10 bar	3 - 10 bar	0,20 kg
P 411 121	G 1/2"	3000 l/min	1 - 10 bar	3 - 10 bar	0,63 kg

BHN 601/BHN 601 01/BHN 611 01 BHN 420 701

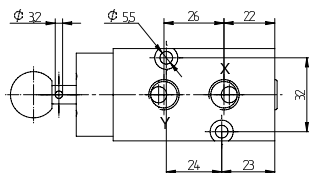
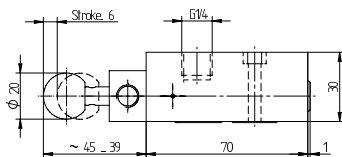
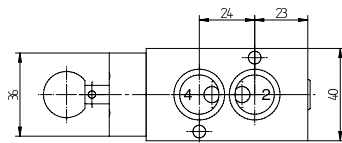
Manual actuated block and vent/block and block/short-cut valve



BHN 601



BHN 601 01/ BHN 611 01



BHN 420 701



Intermediate valve for assemblage onto the actuator with 1/4" NAMUR-interface. Blocks signals from pilot-valve.

BHN 601 exhausts actuator when knob is pulled. Lockable in standard operation mode (O-position).


BHN 601 01 exhaust actuator when knob is pushed. Lockable in manual mode (M-position). Protection against unintended use with pin. Typical application: to avoid injuries of maintenance personal when working on installed process equipment.

BHN 611 01 blocks actuator when knob is pushed. Lockable in manual mode (M-position). Protection against unintended use with pin. Typical application: For process valves on tanks where maintenance people have to go into the tank.

BHN 420 701 compressed air in the actuator is free to float between the two chambers. Typical application: For process valves with manual gear-box to avoid damage caused by potentially trapped compressed air in the actuator.

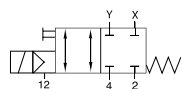
If BHN 6__ are required with G 1/4" ports, plate GPN 1/4 can be added. For details please refer to page 2.10.14.

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

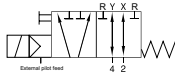
Type	Function	lockable	Air flow	Operating press.	Actuation force	Weight
BHN 601	vents actuator	O-position	900 l/min	1 - 10 bar	18 N	0,23 kg 
BHN 601 01	vents actuator	M-position	900 l/min	1 - 10 bar	18 N	0,24 kg
BHN 611 01	blocks actuator	M-position	900 l/min	1 - 10 bar	18 N	0,24 kg
BHN 420 701	shortcuts actuator	-	1250 l/min	1 - 10 bar	18 N	0,22 kg

MNEH 411 711/MNEH 611 601

Electrically actuated block and block/block and vent valve



MNEH 411 711



MNEH 611 601



The **MNEH 411 711** is made for blocking the air supply from the pilot valve to the actuator and holding the actuator in the current position. It offers a so-called "stay-put" or "fail-in-place" function.

It is designed for direct assemblage to an actuator with 1/4" NAMUR-interface.

It offers a 1/4" NAMUR-interface towards the pilot-valve (use as sandwich) as well as G 1/4" ports (piped application). Delivery includes 2 screws, 2 O-rings.

Function:

As long as an electric signal is applied to the solenoid as well as air pressure is applied to the external pilot port, the valve forwards the signals from the pilot valve which are applied to X and Y through to 2 and 4.

All ports are blocked when the electric signal or air pressure at the external pilot port cuts off.

On request: Valve where port 2 and 4 is shortcut in basic position, type MNEH 411 721.

The **MNEH 611 601** is made for blocking the air supply from the pilot valve to the actuator and venting the actuator at the same time. It is designed for direct assemblage to an actuator with 1/4" NAMUR-interface. It offers a 1/4" NAMUR-interface towards the pilot-valve (use as sandwich).

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

Function:

As long as an electric signal is applied to the solenoid as well as air pressure is applied to the external pilot port, the valve forwards the signals from the pilot valve which are applied to X and Y through to 2 and 4.

Pilot ports are blocked and actuator chamber is vented when the electric signal or air pressure at the external pilot port cuts off.

Available with solenoid operators:

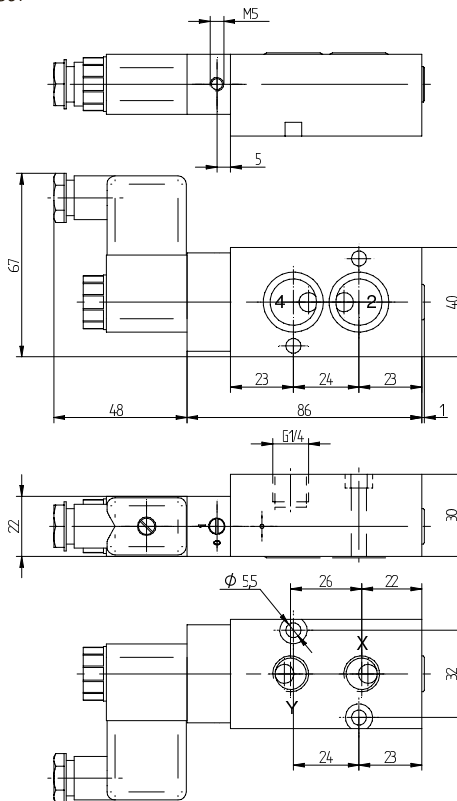
230V/50Hz, 100V/50Hz, 24V/50Hz, 48V=. 24V=, 12V=.

The valves are equipped with manual override to turn.

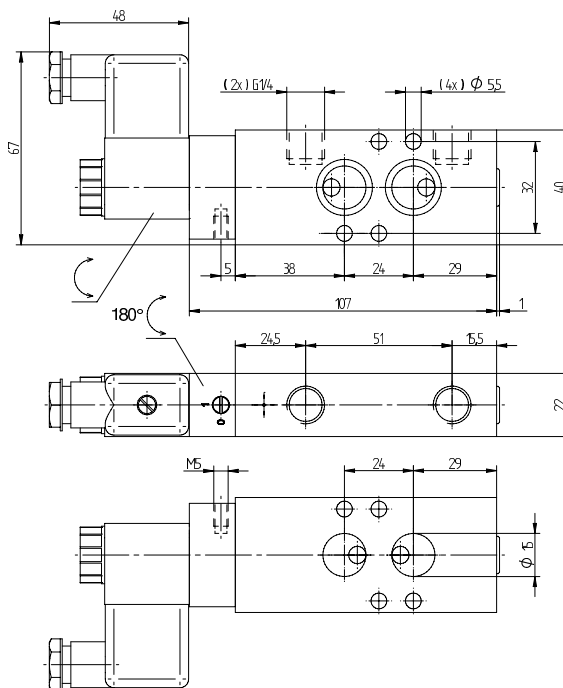
Valves can be used in combination with a positioner.

External pilot-feed is required.

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



MNEH 411 711



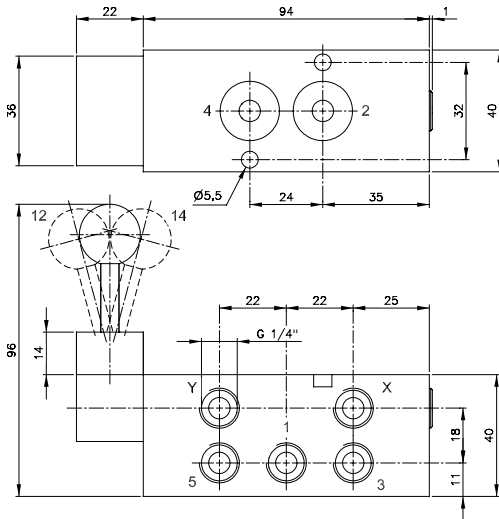
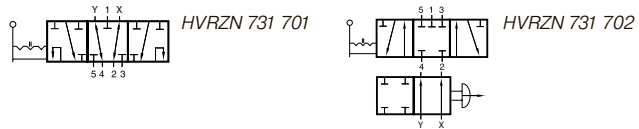
MNEH 611 601

Type	Port size	Air flow	Operating press.	Actuation press.	Power consumption	Weight
MNEH 411 711	G 1/4" - 1/4" NAMUR	1250 l/min	1 - 10 bar	3 - 6 bar	3 W = / 5 VA ~	0,20 kg
MNEH 611 601	1/4" NAMUR	900 l/min	1 - 10 bar	3 - 6 bar	3 W = / 5 VA ~	0,28 kg

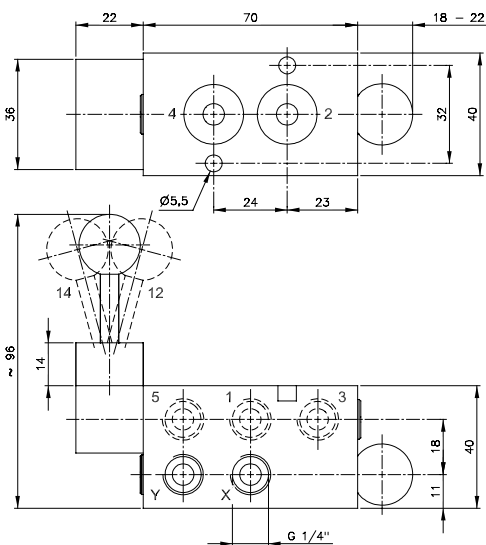


HVRZN 731 701/HVRZN 731 702

Pneumo-manual override valve for positioners



HVRZN 731 701



HVRZN 731 702



Lever valve for direct assemblage to an actuator with 1/4" NAMUR-interface.

Valves offer the possibility to override a positioner.

Version 731 701:

Normally the lever is in the middle position and the actuator is piloted by the positioner. In this position the valve just feeds the signals from the positioner through to the actuator.

In case of electric / electronic problems the actuator can be opened or closed manually.

Advantages of version 701:

Only one lever to manipulate (no second actuation elements).

Overrides in manual mode the positioner, manual mode and automatic mode truly independent.

Version 731 702:

If the knob is pushed, air flows from the positioner from Y to 4 and from X to 2.

If the knob is pulled valve is in manual mode.

The lever valve is to be used as a centre closed 5/3-way valve, actuator can be fully opened, fully closed or put into intermediate position.

Advantage of version 702:

Offers in manual mode a centre closed 5/3-way-valve. Version 701 is in manual mode a 5/2-way-valve.

Safety lever:

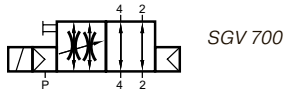
In order to avoid unintended manual actuation the lever of both versions has to be pulled thoroughly for being manipulated out of central position.

Delivery includes 2 screws, 2 O-rings.

Type	Function	Port size	Air flow	Operating press.	Actuating force	Weight
HVRZN 731 701	5/2-way indexed	G 1/4"	1250 l/min	1 - 10 bar	~ 25 N	0,53 kg
HVRZN 731 702	5/3-way indexed	G 1/4"	1250 l/min	1 - 10 bar	~ 25 N	0,45 kg

SGV 700

Two-speed valve



Two-speed valve to operate a pneumatic actuator at two different speeds.

This ensures a smooth closing and, if requested, a smooth opening of the process valve and helps to avoid water hammers.

Function:

When the valve is switched-off the air streams through the valve without any restriction.

When the actuator reaches a defined angle e.g. 5° the solenoid receives a signal from the switch-box (additional electric switch required) to actuate it. This restricts the air-flow. The flow can be regulated by turning the spindle at the end of the valve.

To open you have the choice whether to keep the restrictor active = solenoid energized until actuator reaches a certain angle (again) or if you want to open at full speed = switch-off the valve.

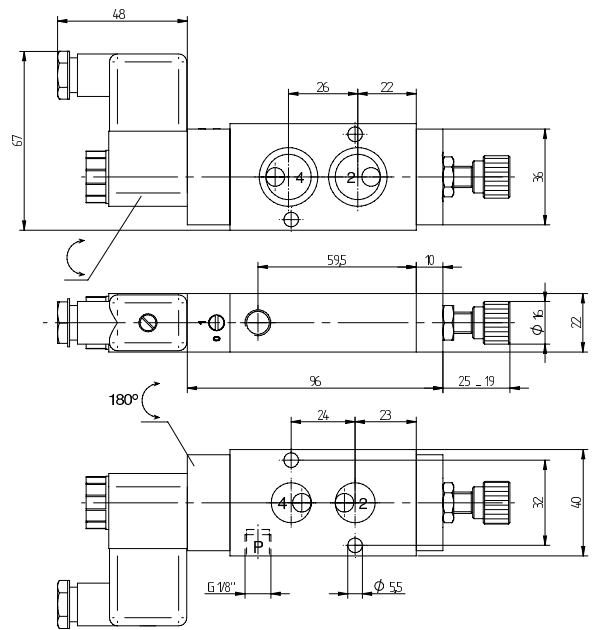
The valve is designed to go as a sandwich between actuator and NAMUR-pilot-valve.

If the valve is required with G 1/4" ports, plate GPN 1/4 can be added.

For details please refer to page 2.10.14.

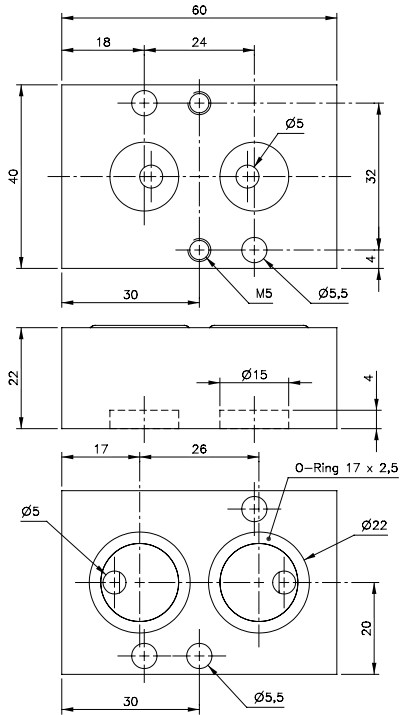
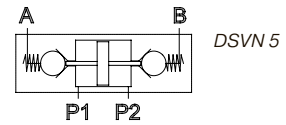
The valve needs an external air supply, port P (G 1/8").

Delivery includes 2 screws, 2 O-rings.



SGV 700

Type	NAMUR	Air flow	Operating press.	Power consumption	Weight
SGV 700	1/4"	1250 l/min	2 - 10 bar	3 W = / 5 VA ~	0,28 kg



DSVN 5



Pressure applied safety valve to hold a double acting actuator at the current position in case of cut-off of pressure supply.

The valve is consisting of two non-return valves which will be unlocked by pressurising port P1 or P2.

Installation between pilot valve and actuator.

Inner parts are made from brass and POM, seals are made from NBR.

If the valve is required with G 1/4" ports, plate GPN 1/4 can be added.

For details please refer to page 2.10.14.

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

Type	NAMUR	Air flow P to A/B	Air flow A/B to P	Operating press.	Weight
DSVN 5	1/4"	230 l/min	360 l/min	1 - 10 bar	0,10 kg

ZVP 701/ZVP 101/ZVP 121/ZVP 121-701

Plates for cylinder-valve combinations – 1. for standard pneumatic cylinders



Plates to combine a NAMUR-valve with a double acting cylinder / the actuation-element of a knife-gate-valve.

ZVP 701 to be assembled onto a cylinder with G 1/4" ports (diameter 32, 40, 50 mm according to ISO 6431/ISO 15552). Designed for an orifice size 7 mm in combination with e.g. MNH 510 711.

ZVP 101 to be assembled onto a cylinder with G 3/8" ports (diameter 63, 80 mm according to ISO 6431/ISO 15552). Designed for an orifice size 10 mm in combination with e.g. MNH 510 101.

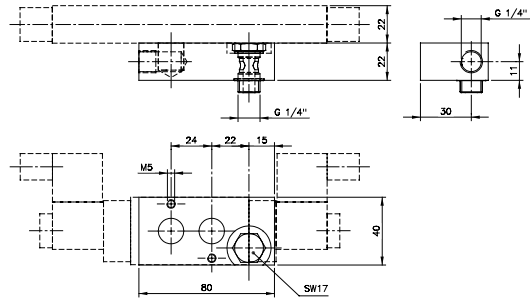
ZVP 121 to be assembled onto a cylinder with G 1/2" ports (diameter 100, 125 mm according to ISO 6431/ISO 15552). Designed for an orifice size 12 mm in combination with e.g. MNH 510 121.

ZVP 121 - 701 to be assembled onto a cylinder with G 1/2" ports and equipped with a NAMUR-valve of 1/4" standard.

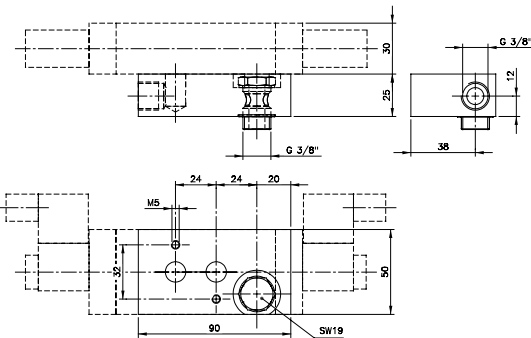
Plate can be equipped with different kinds of NAMUR-valves.

Delivery contains the plate and the banjo for one port.

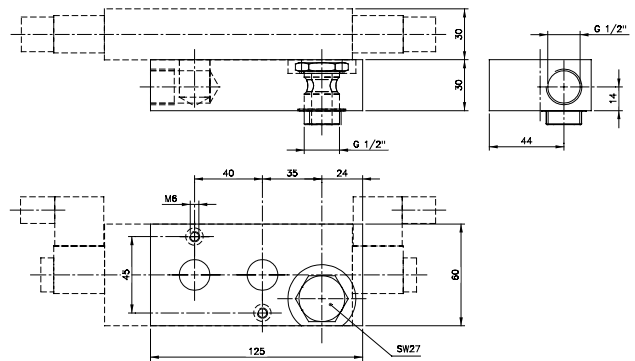
Straight male fittings and rotating elbow fittings to make the other connection can be supplied on request.



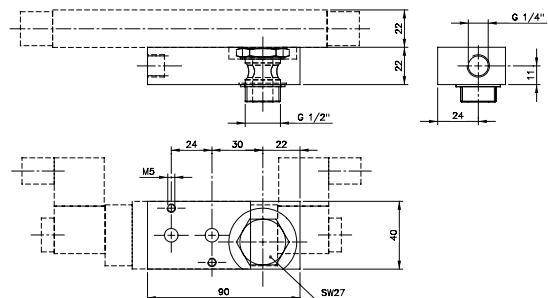
ZVP 701



ZVP 101



ZVP 121



ZVP 121-701

Type	Port A	Port B	NAMUR	Orifice	Weight
ZVP 701	Banjo G 1/4"	G 1/4"	1/4"	7 mm	0,35 kg
ZVP 101	Banjo G 3/8"	G 3/8"	1/4"	10 mm	0,40 kg
ZVP 121	Banjo G 1/2"	G 1/2"	1/2"	12 mm	0,45 kg
ZVP 121-701	Banjo G 1/2"	G 1/4"	1/4"	7 mm	0,35 kg

ZVPS 701/ZVPS 101/ZVPS 121

Plates for cylinder-valve combinations – 2. for scotch-yoke actuators



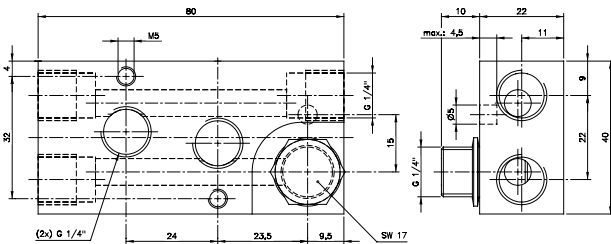
Double cylinder actuator



Single cylinder actuator, piped



Single cylinder actuator, NAMUR



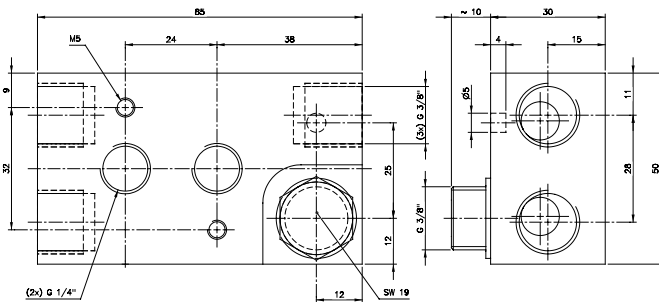
ZVPS 701

Hafner is offering an innovative system to generate a NAMUR-interface on scotch-yoke actuators.

The plates can be attached to different cylinders, independent of their stroke.

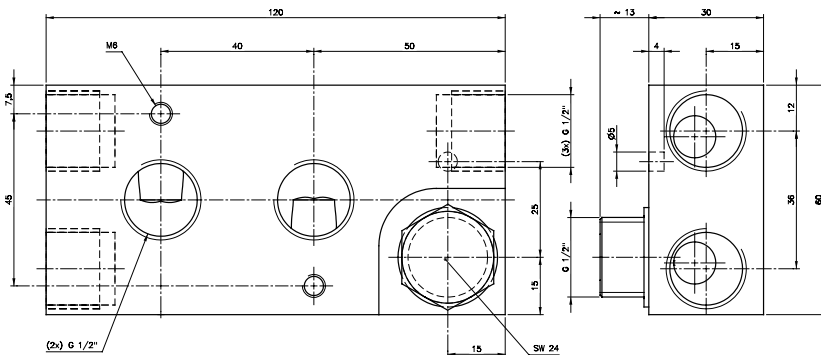
Plates are available with 1/4" as well as with 1/2" NAMUR-interface.

Banjo-joint to fix plate on actuator in G 1/4", G 3/8" and G 1/2".



ZVPS 101

Delivery contains the plate and the banjo for one port. Straight male fittings and rotating elbow fittings to make the other connection can be supplied on request.

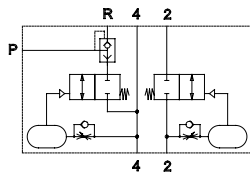


ZVPS 121

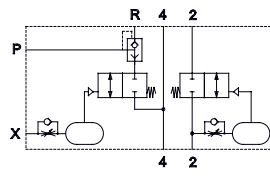
Type	Port A	Port B	Port C + O	NAMUR	Orifice	Weight
ZVPS 701	Banjo G 1/4"	G 1/4"	G 1/4"	1/4"	7 mm	0,35 kg
ZVPS 101	Banjo G 3/8"	G 3/8"	G 1/4"	1/4"	10 mm	0,40 kg
ZVPS 121	Banjo G 1/2"	G 1/2"	G 1/2"	1/2"	12 mm	0,45 kg

CBN 700 K/CBN 700 K EB

Controlblock for butterfly valves with inflatable valve-seat



CBN 700 K



CBN 700 K EB



Control block for double acting actuators with interface according to 1/4" NAMUR-standard, to be used on process-valves with inflatable valve seat.

The control-block receives it's signals to open and close from a standard 5/2-way NAMUR-valve. The block is to be put between the actuator and the NAMUR-valve (flange-version). The closing-signal is fed through to the actuator, the seal is inflated with time-delay.

When the process-valves is to be closed first the seal is deflated, with time-delay the actuator opens the process-valve.

Opening- and closing-time-delay can be adjusted independently but they are related to the operating pressure.

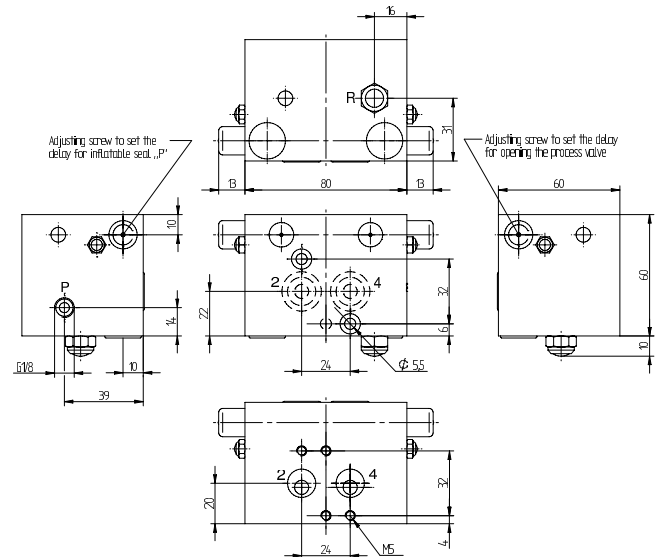
At 6 bar time-delay can be adjusted between 0 and 2 seconds.

Type **CBN 700 K EB** with additional port X: pressurizing of the inflatable seal does not start before a pneumatic signal is received.

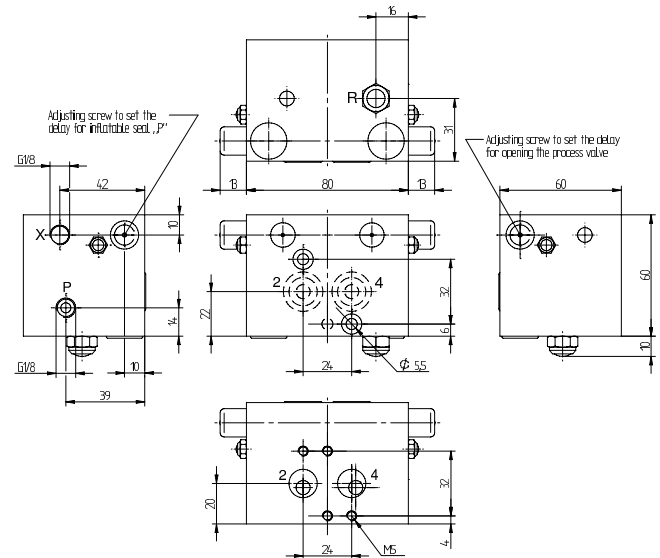
If the valve is required with G 1/4" ports, plate GPN 1/4 can be added. For details please refer to page 2.10.14.

Delivery includes 2 screws, 2 O-rings, 2 protection caps.

Also available for explosion hazardous environment zone 22 (cat. III D), please refer to page 2.14.4.1.

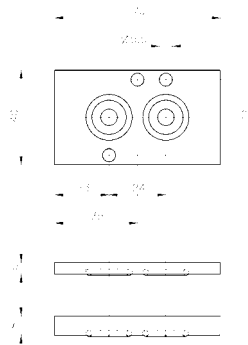


CBN 700 K

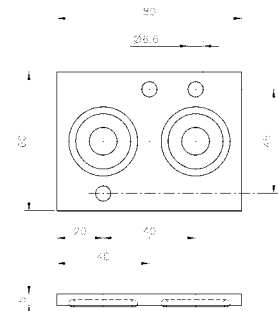


CBN 700 K EB

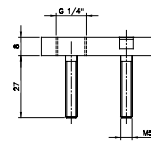
Type	NAMUR	Port P	Port X	Air flow act.	Operating press.	Air flow seal	Weight	
CBN 700 K	1/4"	G 1/8"		900 l/min	3 - 10 bar	400 l/min	0,80 kg	Ex
CBN 700 K EB	1/4"	G 1/8"	G 1/8"	900 l/min	3 - 10 bar	400 l/min	0,80 kg	Ex



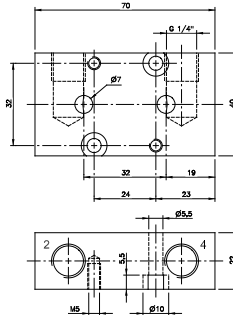
ZPN 5/ZPN 8



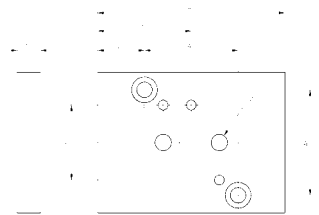
ZPN 6-5



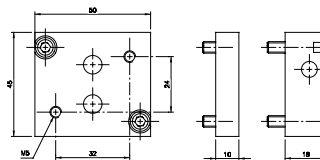
GPN 1/4



FPNW 22-1/4



ZPN 6-10



ZPN 701-90

Mounting accessories for NAMUR products when assembling them to an actuator.

O-ring seals are made from NBR 70° shore, fasteners such as screws and pins are made from stainless steel (A2) only.

GPN 1/4

Plate to convert a 1/4" NAMUR-interface into 2 x G 1/4" threaded ports for remote piloting.

FPNW 22-1/4:

Plate to convert a 5-way NAMUR-valve into an inline valve. The NAMUR ports 2 and 4 are transferred into the plate and offer G 1/4" BSP thread. Mounting plate can be assembled independently and the valve is attached later-on.

ZPN 6-10:

Adapter plate to be assembled onto an actuator with 1/2" interface. A 1/4" NAMUR-valve can be assembled to the plate. Saves money whenever the actuator does not have to be operated fast.

ZPN 701-90:

Plate to rotate a NAMUR-valve on the actuator by 90°. Orifice 7 mm assures full flow!

Type	Use and Content
ZPN 5	Intermediate plate, made from anodised aluminium 5 mm thick to be used in case a 30 mm wide coil is to be assembled to a 22 mm wide 1/4" NAMUR-valve
ZPN 5K	Intermediate plate, made from Polyamid 5 mm thick to be used in case a 30 mm wide coil is to be assembled to a 22 mm wide 1/4" NAMUR-valve
ZPN 8	Intermediate plate, made from anodised aluminium 8 mm thick to be used in case a 36 mm wide coil is to be assembled to a 22 mm wide 1/4" NAMUR-valve
ZPN 6-5	Intermediate plate, made from anodised aluminium 5 mm thick to be used in case a 36 mm wide coil is to be assembled to a 30 mm wide 1/2" NAMUR-valve
FPNW 22-1/4	Plate to convert a NAMUR-valve into an inline valve
ZPN 6-10	Adapter-plate G 1/2" actuator to G 1/4" valve
ZPN 701-90	Plate to turn a NAMUR-valve by 90° on the actuator
GPN 1/4	Plate to convert a 1/4" NAMUR-interface into G 1/4" threaded ports

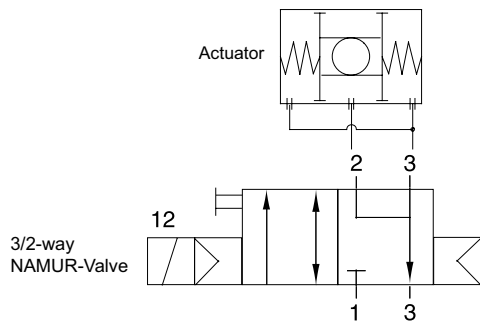
The air-recirculation in single-acting actuators

Air-recirculation into the spring chamber or “purge” is a central demand in process-automation. On standard Rack and Pinion actuators as well as on smaller Scotch Yoke actuators with spring return the spring chamber has an air-port. Therefore the pilot valve should support the desire of the user to supply the spring chamber with process air and not just suck ambient atmosphere into it.

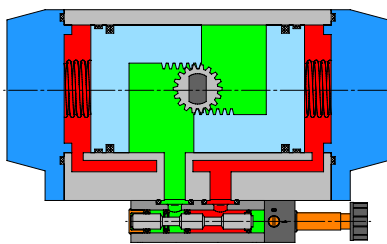
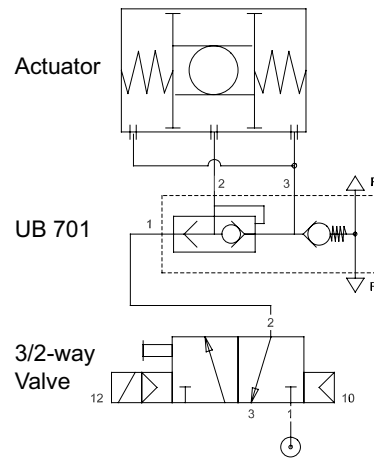
This function is called **exhaust air-recirculation** or **“purge”**.

How it works: When the actuator “closes” (pressurized chamber exhausts), a part of the instrument air is directed from the actuation side into the spring chamber. The rest exhausts out of port 3.

Function if actuator is piloted by a NAMUR-valve:

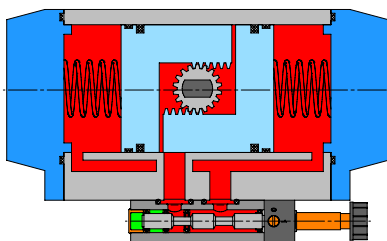
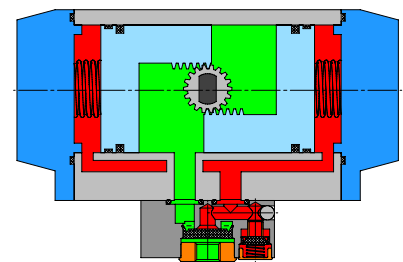


Function if actuator is remote piloted:



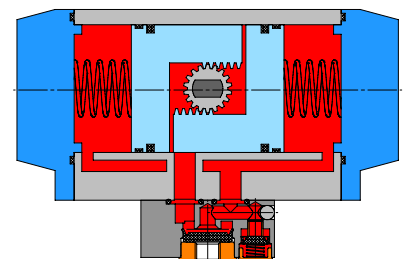
Step 1 - Opening:

1. Pilot valve opens
2. Air flows into actuation chamber
3. Actuator opens



Step 2 - Closing:

1. Pilot valve closes
2. Actuator closes through the force of the springs
3. Air is directed from the actuation chamber into the spring chamber



All 3-way Hafner NAMUR-valves ensure the exhaust air-recirculation! That applies also to our Hafner NAMUR-Flex valve (page 2.9.1.3).

If single-acting actuators are remote controlled, we strongly recommend to use our air-recirculation block type UB 701 which you can find on page 2.10.3.

Only by using the UB 701 you can avoid that ambient atmosphere can suck into the actuator.