Valves 2019



Hafner-Pneumatik Excellence in Pneumatics



Pilot Actuated Valves Selected valves can be used for technical vacuum too.

MI

Selected models are available for low temperature application. For detailed information refer to chapter 2.11.

Selected models are available

For detailed information refer to

in stainless steel.

chapter 2.12.

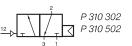
Selected models can be equipped with FKM seals for high temperature environment up to 120 °C.

Selected models are available for explosion hazardous environment. They are ATEX-Ex certified. For detailed information refer to chapter 2.14.



P 310 302/P 310 502

2.4.1.1 page 50



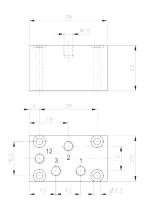


Pneumatically actuated 3/2-way spool valve with air spring return.

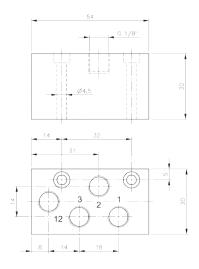
If pressure is attached to port 1 the function is normally closed. If pressure is applied to port 3 the function is normally open. Do not attach pressure at port 2.

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

Exhaust can be throttled.



P 310 302



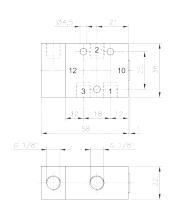
P 310 502

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 310 302	M5	180 I/min	2 - 10 bar	the same	0,05 kg	
P 310 502	G 1/8"	650 l/min	2 - 10 bar	the same	0,13 kg	Æx>

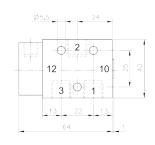


P 310 501/P 310 701/P 310 801 P 311 501/P 311 701/P 311 801

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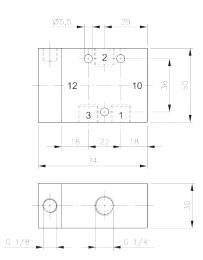


P 310 501/P 311 501

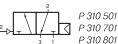




P 310 701/P 311 701



P 310 801/P 311 801





P 311 501 P 311 701 B 311 801



Pneumatically actuated 3/2-way spool valve.

Type P 310 ____ with air-spring-return. Operating pressure and actuating pressure should be at the same level.

Type P 311 ____ with mechanical spring return.

If pressure is attached to port 1 the function is normally closed. If pressure is applied to port 3 the function is normally open. Pressure can only be attached to port 2 if valve has a mechanical spring (type P 311 ____).

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 310 501	G 1/8"	650 l/min	2 - 10 bar	the same	0,13 kg	ً⊗₩
P 310 701	G 1/4"	1250 I/min	2 - 10 bar	the same	0,14 kg	(Ex) 316
P 310 801	G 1/4"	1450 I/min	1,5 - 10 bar	the same	0,29 kg	(Ex)
P 311 501	G 1/8"	650 l/min	1 - 10 bar	3 - 10 bar	0,13 kg	*
P 311 701	G 1/4"	1250 l/min	1 - 10 bar	3 - 10 bar	0,14 kg	316
P 311 801	G 1/4"	1450 I/min	1 - 10 bar	3 - 10 bar	0,29 kg	

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P 310 101/P 310 121/P 310 181 P 311 101/P 311 121/P 311 181





P 311 101 P 311 121 P 311 121 P 311 181 P 311 121 NPT



Pneumatically actuated 3/2-way spool valve.

Type P 310 ____ with air-spring-return. Operating pressure and actuating pressure should be at the same level.

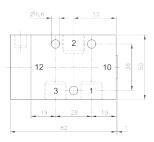
Type P 311 ____ with mechanical spring return.

If pressure is attached to port 1 the function is normally closed.

If pressure is applied to port 3 the function is normally open.

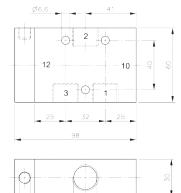
Pressure can only be attached to port 2 if valve has a mechanical spring (type P 311___).

Exhaust can be throttled.



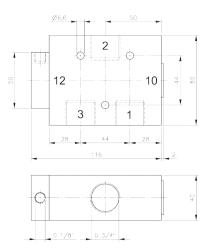


P 310 101/P 311 101



G 1/2"

P 310 121/P 311 121 P 310 121 NPT/ P 311 121 NPT

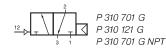


P 310 181/P 311 181

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 310 101	G 3/8"	2250 I/min	1 - 10 bar	the same	0,32 kg	Æx>
P 310 121	G 1/2"	3000 l/min	1 - 10 bar	the same	0,45 kg	€x ₩ 3
P 310 181	G 3/4"	6000 l/min	1 - 10 bar	the same	0,85 kg	
P 311 101	G 3/8"	2250 I/min	1 - 10 bar	3 - 10 bar	0,32 kg	
P 311 121	G 1/2"	3000 l/min	1 - 10 bar	3 - 10 bar	0,45 kg	*
P 311 181	G 3/4"	6000 l/min	1 - 10 bar	3 - 10 bar	0,85 kg	
P 310 121 NPT	1/2" NPT	3000 l/min	1 - 10 bar	the same	0,45 kg	(Ex) 316
P 311 121 NPT	1/2" NPT	3000 l/min	1 - 10 bar	3 - 10 bar	0,45 kg	316



P 310 701 G/P 311 701 G P 310 121 G/P 311 121 G





701 G

2.4.1.4

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G-Series 701 G



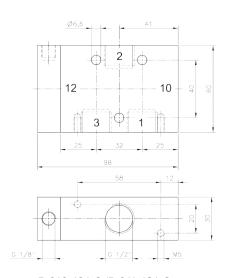




G-Series 121 G



P 310 701 G/P 311 701 G P 310 701 G NPT/ P 311 701 G NPT



Pneumatically actuated 3/2-way spool valve.

Type P 310 ____ with air-spring-return. Operating pressure and actuating pressure should be at the same level.

Type P 311 ____ with mechanical spring return.

If pressure is attached to port 1 the function is normally closed. If pressure is applied to port 3 the function is normally open.

Pressure can only be attached to port 2 if valve has a mechanical spring (type P 311___).

The G-Series valves offer the flexibility of in-line fitment as well as the option of being assembled on to a manifold as shown. Plates are displayed on page 2.7.1.4 and 2.7.1.5.

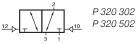
Take into consideration that G 1/2" valves have to be assembled onto the plate by fixing screws from the bottom through the plate into the valve.

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 310 701 G	G 1/4"	1250 I/min	2 - 10 bar	the same	0,14 kg	₩
P 310 121 G	G 1/2"	3000 l/min	1 - 10 bar	the same	0,45 kg	
P 311 701 G	G 1/4"	1250 l/min	1 - 10 bar	3 - 10 bar	0,14 kg	₩
P 311 121 G	G 1/2"	3000 l/min	1 - 10 bar	3 - 10 bar	0,45 kg	
P 310 701 G NPT	1/4" NPT	1250 I/min	2 - 10 bar	the same	0,14 kg	
P 311 701 G NPT	1/4" NPT	1250 l/min	1 - 10 bar	3 - 10 bar	0,14 kg	





P 320 302/P 320 502 P 322 302/P 322 502







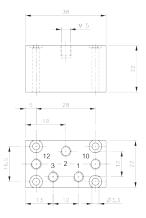
Pneumatically actuated 3/2-way spool valve actuated by impulse.

Type P 320 ____ double pilot Type P 322 ____ double pilot dominating at port 12

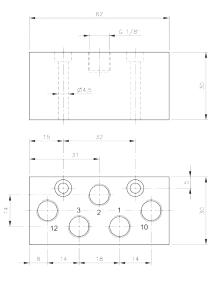
If signal is applied to 12 the valve is open from 1 to 2 and 3 is blocked. If signal is applied at 10 the valve is open from 2 to 3.

Position is kept until next pneumatic signal is applied.

Exhaust can be throttled.



P 320 302/P 322 302



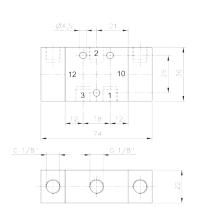
P 320 502/P 322 502

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 320 302	M5	180 I/min	1 - 10 bar	2,5 - 10 bar	0,05 kg	
P 320 502	G 1/8"	650 l/min	1 - 10 bar	2,5 - 10 bar	0,13 kg	(Ex
P 322 302	M5	180 I/min	1 - 10 bar	2,5 - 10 bar	0,05 kg	
P 322 502	G 1/8"	650 l/min	1 - 10 bar	2,5 - 10 bar	0,13 kg	

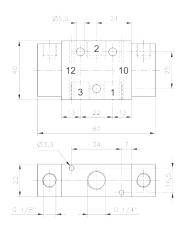


P 320 501/P 320 701 G/ P 320 801 P 322 501/P 322 701 G

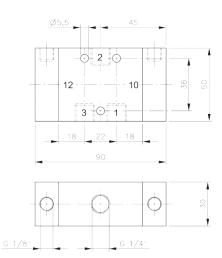
2.4.1.6 page 55



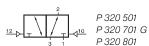
P 320 501/P 322 501



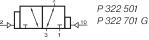
P 320 701 G/P 322 701 G











G-Series 701 G





Pneumatically actuated 3/2-way spool valve actuated by impulse.

Туре Р 320	double pilot
Туре Р 322	double pilot dominating at port 12
Type P 3 701 G	dual use, in-line and on manifold.
	Plates are displyed on page 2.7.1.4.

If signal is applied to 12 the valve is open from 1 to 2 and 3 is blocked. If signal is applied at 10 the valve is open from 2 to 3.

The G-Series valves offer the flexibility of in-line fitment as well as the option of being assembled on to a manifold as shown. Plates are displayed on page 2.7.1.4 and 2.7.1.5.

Position is kept until next pneumatic signal is applied.

Operating pressure can also be applied to 2.

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 320 501	G 1/8"	650 l/min	1 - 10 bar	2,5 - 10 bar	0,16 kg	€x>‡‡
P 322 501	G 1/8"	650 l/min	1 - 10 bar	2,5 - 10 bar	0,16 kg	
P 320 701 G	G 1/4"	1250 l/min	1 - 10 bar	2,5 - 10 bar	0,17 kg	€⋧₩
P 322 701 G	G 1/4"	1250 I/min	1 - 10 bar	2,5 - 10 bar	0,17 kg	
P 320 801	G 1/4"	1450 l/min	1 - 10 bar	2,5 - 10 bar	0,34 kg	Æx>

2.4.1.7 page 56

P 320 101/P 320 121/P 320 181

P 320 101 P 320 121



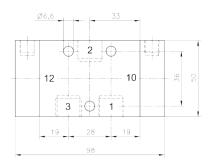
Pneumatically actuated 3/2-way spool valve actuated by impulse.

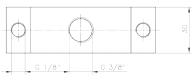
If signal is applied to 12 the valve is open from 1 to 2 and 3 is blocked. If signal is applied at 10 the valve is open from 2 to 3.

Operating pressure can also be applied to 2.

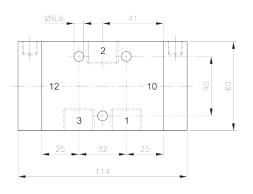
Position is kept until next pneumatic signal is applied.

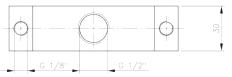
Exhaust can be throttled.



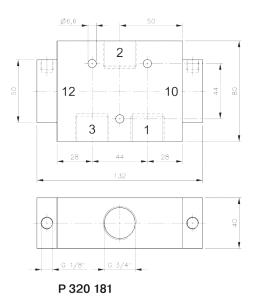


P 320 101









Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 320 101	G 3/8"	2250 I/min	1 - 10 bar	2,5 - 10 bar	0,38 kg	⟨€x⟩
P 320 121	G 1/2"	3000 l/min	1 - 10 bar	2,5 - 10 bar	0,52 kg	⟨€x⟩
P 320 181	G 3/4"	6000 l/min	1 - 10 bar	2 - 10 bar	0,88 kg	

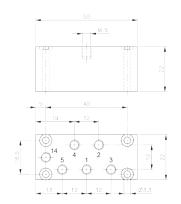


P 510 302/P 510 502

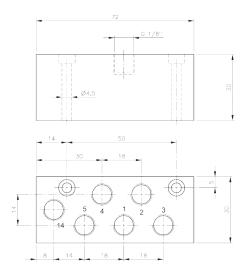
14

2.4.2.1 page 57

P 510 302 P 510 502



P 510 302



P 510 502



Pneumatically actuated 5/2-way spool valve actuated by permanent signal and equipped with air spring return.

Normally open from 1 to 2 and from 4 to 5. If pressure is applied at 14 the valve is open from 1 to 4 and 2 to 3.

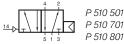
Operating pressure and actuating pressure should be at the same level.

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 510 302	M5	180 l/min	2 - 10 bar	the same	0,07 kg	
P 510 502	G 1/8"	650 l/min	2 - 10 bar	the same	0, 17 kg	⟨€x⟩



2.4.2.2 page 58

P 510 501/P 510 701/P 510 801 P 511 501/P 511 701/P 511 801









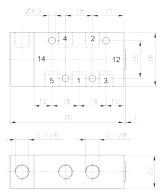
Pneumatically actuated 5/2-way spool valve.

Type P 510 ____ with air-spring-return. Operating pressure and actuating pressure should be at the same level.

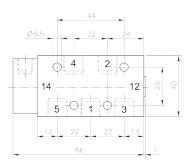
Type P 511 ____ with mechanical spring return.

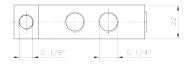
Normally open from 1 to 2 and from 4 to 5. If pressure is applied at 14 the valve is open from 1 to 4 and 2 to 3.

Exhaust can be throttled.

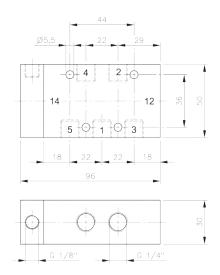


P 510 501/P 511 501





P 510 701/P 511 701

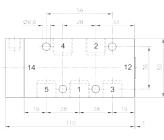


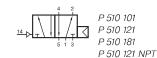
P 510 801/P 511 801

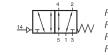
Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 510 501	G 1/8"	650 l/min	2 - 10 bar	the same	0,16 kg	Æx>
P 510 701	G 1/4"	1250 I/min	2 - 10 bar	the same	0,18 kg	(Ex) 💼
P 510 801	G 1/4"	1450 I/min	1,5 - 10 bar	the same	0,38 kg	⟨€x⟩
P 511 501	G 1/8"	650 l/min	1 - 10 bar	3 - 10 bar	0,16 kg	
P 511 701	G 1/4"	1250 I/min	1 - 10 bar	3 - 10 bar	0,18 kg	316
P 511 801	G 1/4"	1450 l/min	1 - 10 bar	3 - 10 bar	0,38 kg	



P 510 101/P 510 121/P 510 181 P 511 101/P 511 121/P 511 181

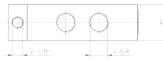




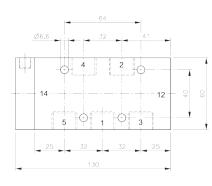


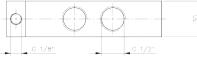
P 511 101 P 511 121 P 511 181 P 511 121 NPT 2.4.2.3

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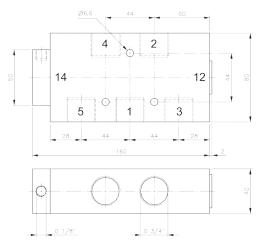


P 510 101/P 511 101





P 510 121/P 511 121 P 510 121 NPT/P511 121 NPT



P 510 181/P 511 181



Pneumatically actuated 5/2-way spool valve.

Type P 510 ____ with air-spring-return. Operating pressure and actuating pressure should be at the same level.

Type P 511 ____ with mechanical spring return.

Normally open from 1 to 2 and from 4 to 5. If pressure is applied at 14 the valve is open from 1 to 4 and 2 to 3.

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 510 101	G 3/8"	2250 l/min	1,5 - 10 bar	the same	0,42 kg	Æx>
P 510 121	G 1/2"	3000 l/min	1 - 10 bar	the same	0,59 kg	€x) ∰ ₃
P 510 181	G 3/4"	6000 l/min	1 - 10 bar	the same	1, 18 kg	
P 511 101	G 3/8"	2250 l/min	1 - 10 bar	3 - 10 bar	0,42 kg	
P 511 121	G 1/2"	3000 l/min	1 - 10 bar	3 - 10 bar	0,59 kg	₩ 🖬
P 511 181	G 3/4"	6000 l/min	1 - 10 bar	3 - 10 bar	1,18 kg	
P 510 121 NPT	1/2" NPT	3000 l/min	1 - 10 bar	the same	0,59 kg	(Ex) 316
P 511 121 NPT	1/2" NPT	3000 l/min	1 - 10 bar	3 - 10 bar	0,59 kg	316
						-

P 510 501 G/P 510 701 G/P 510 121 G P 511 501 G/P 511 701 G/P 511 121 G

P 511 501 G

P 511 701 G

P 511 121 G

P 511 701 G NPT



G-Series 501 G/701 G





Pneumatically actuated 5/2-way spool valve.

Type P 510 ____ with air-spring-return. Operating pressure and actuating pressure should be at the same level.

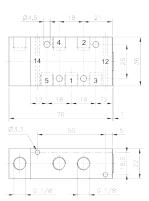
Type P 511 ____ with mechanical spring return.

Normally open from 1 to 2 and from 4 to 5. If pressure is applied at 14 the valve is open from 1 to 4 and 2 to 3.

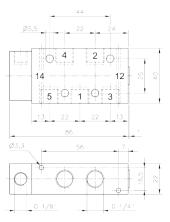
The G-Series valves offer the flexibility of in-line fitment as well as the option of being assembled on to a manifold as shown. Manifolds for valves type 501 G are displayed on page 2.7.2.2, manifolds for valves type 701 G are displayed on page 2.7.2.3, manifolds for valves type 121 G are displayed on page 2.7.2.5.

Take into consideration, that G 1/2" values have to be assembled onto the plate by fixing screws from the bottom through the plate into the value.

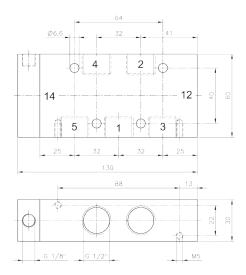
Exhaust can be throttled.



P 510 501 G/P 511 501 G



P 510 701 G/P 511 701 G P 501 701 G NPT/P 511 701 G NPT



P 510 121 G/P 511 121 G

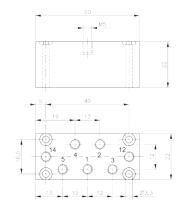
Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 510 501 G	G 1/8"	650 l/min	2 - 10 bar	the same	0,16 kg	*
P 510 701 G	G 1/4"	1250 l/min	2 - 10 bar	the same	0,18 kg	*
P 510 121 G	G 1/2"	3000 l/min	1 - 10 bar	the same	0,59 kg	
P 511 501 G	G 1/8"	650 l/min	1 - 10 bar	3 - 10 bar	0,16 kg	*
P 511 701 G	G 1/4"	1250 l/min	1 - 10 bar	3 - 10 bar	0,18 kg	∦
P 511 121 G	G 1/2"	3000 l/min	1 - 10 bar	3 - 10 bar	0,59 kg	
P 510 701 G NPT	1/4" NPT	1250 l/min	2 - 10 bar	the same	0,18 kg	
P 511 701 G NPT	1/4" NPT	1250 I/min	1 - 10 bar	3 - 10 bar	0,18 kg	



P 520 302/P 520 502

2.4.2.5 page 61

P 520 302 P 520 502





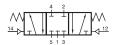
Pneumatically actuated 5/2-way spool valve actuated by impulse.

If signal is applied to 14 the valve is open from 1 to 4 and 2 to 3, 5 is closed. If signal is applied to 12 the valve is open from 1 to 2 and 4 to 5.

Position is kept until next pneumatic signal is applied.

Exhaust can be throttled.

5/3-way centre closed version type P 531 302 available on request.

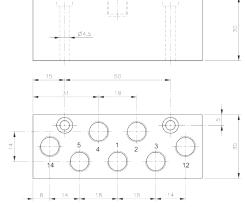


Туре Port size Air flow Operating press. Actuating press. Weight P 520 302 M5 180 I/min 1 - 10 bar 2,5 - 10 bar 0,07 kg P 520 502 G 1/8" 650 l/min 1 - 10 bar 2,5 - 10 bar 0,17 kg (Ex)





P 520 302



2.4.2.6 page 62

P 520 501/P 520 701/P 520 801 P 522 501/P 522 701

P 520 801



P 522 501



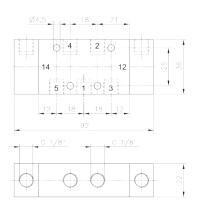
Pneumatically actuated 5/2-way spool valve.

Type P 520 ____ double pilot Type P 522 ____ double pilot dominating at port 14

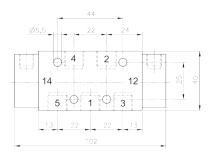
If signal is applied to 14 the valve is open from 1 to 4 and 2 to 3, 5 is closed. If signal is applied to 12 the valve is open from 1 to 2 and 4 to 5.

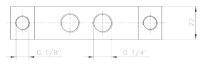
Position is kept until next pneumatic signal is applied.

Exhaust can be throttled.

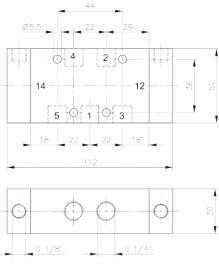


P 520 501/P 522 501





P 520 701/ P 522 701



P 520 801

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight
P 520 501	G 1/8"	650 I/min	1 - 10 bar	2,5 - 10 bar	0,20 kg
P 522 501	G 1/8"	650 l/min	1 - 10 bar	2,5 - 10 bar	0,20 kg
P 520 701	G 1/4"	1250 I/min	1 - 10 bar	2,5 - 10 bar	0,22 kg
P 522 701	G 1/4"	1250 l/min	1- 10 bar	2,5 - 10 bar	0,22 kg
P 520 801	G 1/4"	1450 l/min	1 - 10 bar	2,5 - 10 bar	0,44 kg

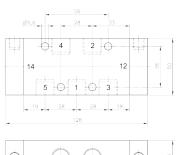


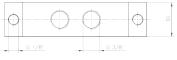
P 520 101/P 520 121/P 520 181

2.4.2.7 page 63

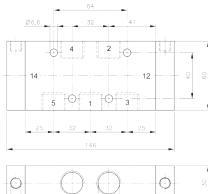


P 520 121 NPT



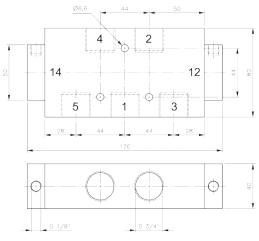


P 520 101





P 520 121/P 520 121 NPT



P 520 181



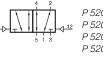
Pneumatically actuated 5/2-way spool valve actuated by impulse.

If signal is applied to 14 the valve is open from 1 to 4 and 2 to 3, 5 is closed. If signal is applied to 12 the valve is open from 1 to 2 and 4 to 5.

Position is kept until next pneumatic signal is applied.

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 520 101	G 3/8"	2250 l/min	1 - 10 bar	2,5 - 10 bar	0,48 kg	⟨€x⟩
P 520 121	G 1/2"	3000 l/min	1 - 10 bar	2,5 - 10 bar	0,67 kg	€x) ₩ 316
P 520 181	G 3/4"	6000 l/min	1 - 10 bar	2 - 10 bar	1,22 kg	
P 520 121 NPT	1/2" NPT	3000 l/min	1 - 10 bar	2,5 - 10 bar	0,67 kg	

P 520 501 G/P 520 701 G/P 520 121 G P 522 501 G/P 522 701 G









G-Series 501 G/701 G



G-Series 121 G





Pneumatically actuated 5/2-way spool valve.

Type P 520 ____ double pilot Type P 522 ____ double pilot dominating at port 14

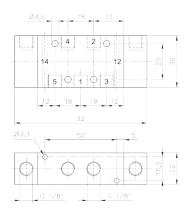
If signal is applied to 14 the valve is open from 1 to 4 and 2 to 3, 5 is closed. If signal is applied to 12 the valve is open from 1 to 2 and 4 to 5.

Position is kept until next pneumatic signal is applied.

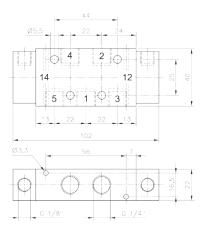
The G-Series valves offer the flexibility of in-line fitment as well as the option of being assembled on to a manifold as shown. Manifolds for valves type 501 G are displayed on page 2.7.2.2, manifolds for valves type 701 G are displayed on page 2.7.2.3, manifolds for valves type 121 G are displayed on page 2.7.2.5.

Take into consideration, that G 1/2" values have to be assembled onto the plate by fixing screws from the bottom through the plate into the value.

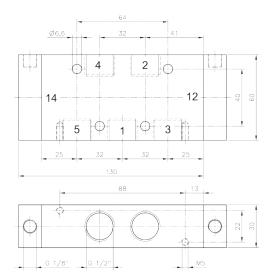
Exhaust can be throttled.



P 520 501 G/P 522 501 G



P 520 701 G/P 522 701 G P 520 701 G NPT



P 520 121 G

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 520 501 G	G 1/8"	650 l/min	1 - 10 bar	2,5 - 10 bar	0,20 kg	₩
P 522 501 G	G 1/8"	650 l/min	1 - 10 bar	2,5 - 10 bar	0,20 kg	
P 520 701 G	G 1/4"	1250 I/min	1 - 10 bar	2,5 - 10 bar	0,22 kg	₩
P 522 701 G	G 1/4"	1250 l/min	1 - 10 bar	2,5 - 10 bar	0,22 kg	
P 520 121 G	G 1/2"	3000 l/min	1 - 10 bar	2,5 - 10 bar	0,67 kg	
P 520 701 G NPT	1/4" NPT	1250 I/min	1 - 10 bar	2,5 - 10 bar	0,22 kg	



P 53_501/P 53_701/P 53_801

P 532 501

P 532 701

P 532 801

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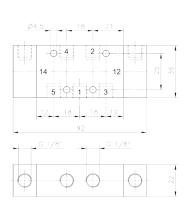
2.4.3.1 page 65

P 533 501

P 533 701

P 533 801

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14

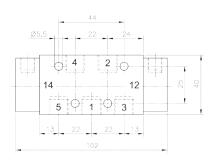
P 531 501

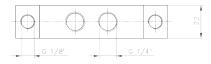
P 531 701

P 531 801

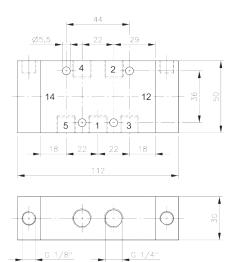
14 D

P 53_ 501





P 53_701



P 53_801



14 D

Pneumatically actuated 5/3-way spool valve with spring return to middle position.

Type 531	centre closed
Type 532	centre exhausted
Type 533	centre pressurised

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

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 53_ 501	G 1/8"	650 l/min	1 - 10 bar	3 - 10 bar	0,20 kg	(Ex)
P 53_ 701	G 1/4"	1250 l/min	1 - 10 bar	3 - 10 bar	0,22 kg	(Ex) 316
P 53_801	G 1/4"	1450 I/min	1 - 10 bar	3 - 10 bar	0,44 kg	



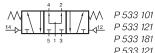
P 53_101/P 53_121/P 53_181

2.4.3.2 page 66

P 531 101
P 531 101 P 531 121
P 531 181
P 531 121 NP



P 532 101 \mathbb{N} <u>____</u>↓<u>12</u> P 532 121 P 532 181 P 532 121 NPT



P 533 121 P 533 181 P 533 121 NPT

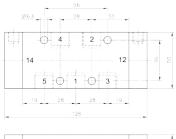


Pneumatically actuated 5/3-way spool valve with spring return to middle position.

Type 531	centre closed
Type 532	centre exhausted
Type 533	centre pressurised

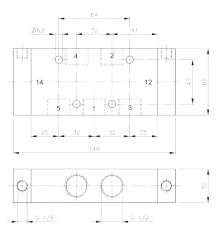
When ordering please complete the type number by 1, 2 or 3 according to the type required.

Exhaust can be throttled.

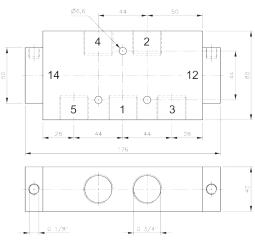




P 53_101



P 53_121/P 53_121 NPT



P 53_181

Туре	Port size	Air flow	Operating press.	Actuating press.	Weight	
P 53_ 101	G 3/8"	2250 l/min	1 - 10 bar	3 - 10 bar	0,49 kg	Æ,
P 53_ 121	G 1/2"	3000 l/min	1 - 10 bar	3 - 10 bar	0,69 kg	Æ,
P 53_ 181	G 3/4"	6000 I/min	1 - 10 bar	3 - 10 bar	1,22 kg	
P 53_ 121 NPT	1/2" NPT	3000 l/min	1 - 10 bar	3 - 10 bar	0,69 kg	Æ;



P 53_ 501 G/P 53_ 701 G/P 53_ 121 G

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P 532 501 G

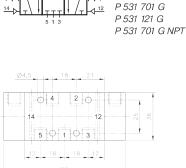
P 532 701 G

P 532 121 G

P 532 701 G NPT

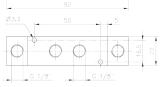
14

2.4.3.3 page 67



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P 531 501 G



P 53_ 501 G



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P 533 501 G

P 533 701 G

P 533 121 G

G-Series 121 G



Pneumatically actuated 5/3-way spool valve with spring return to middle position.

Type 531	centre closed
Type 532	centre exhausted
Туре 533	centre pressurised

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

The G-Series valves offer the flexibility of in-line fitment as well as the option of being assembled on to a manifold as shown. Manifolds for valves type 501 G are displayed on page 2.7.2.2, manifolds for valves type 701 G are displayed on page 2.7.2.3, manifolds for valves type 121 G are displayed on page 2.7.2.5.

Take into consideration, that G 1/2" valves have to be assembled onto the plate by fixing screws from the bottom through the plate into the valve.

Exhaust can be throttled.

14		12	60
		3	
25	32 32	25	
-	130		
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ф -	$\bigcirc \bigcirc$	φ	30
0.1/00	G 1/2"	M5	

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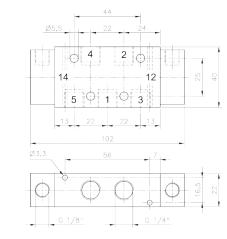
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P 53_ 121 G

.... Тур P 53 P 53 P 53 P 53





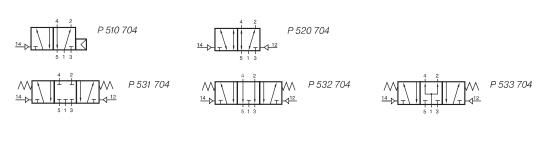
P 53_701 G/P 53_701 G NPT

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ре	Port size	Air flow	Operating press.	Actuating press.	Weight	
53_501 G	G 1/8"	650 l/min	1 - 10 bar	3 - 10 bar	0,20 kg	**
53_701 G	G 1/4"	1250 I/min	1 - 10 bar	3 - 10 bar	0,22 kg	*
53_ 121 G	G 1/2"	3000 I/min	1 - 10 bar	3 - 10 bar	0,69 kg	
53 701 G NPT	1/4" NPT	1250 l/min	1 - 10 bar	3 - 10 bar	0,22 kg	

P 510 704/P 520 704/P 53_704





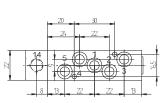
Pneumatically actuated 5/2-way and 5/3-way spool valves. All the ports are in the plate.

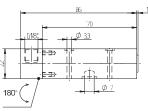
Type 510	single pilot	5/2-way
Type 520	double pilot	5/2-way
Type 531	centre closed	5/3-way
Type 532	centre exhausted	5/3-way
Type 533	centre pressurized	5/3-way

Blanking plates are also available type BP 5 704.

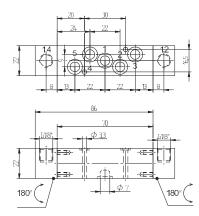
Manifolds are displayed on page 2.7.2.8.

Mounting screws and seals are included.





P 510 704



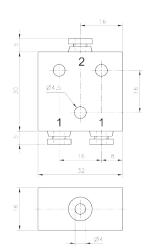
P 520 704/P 53_704

Туре	Function	Port size	Air flow	Operating press.	Actuating press.	Weight
P 510 704	5/2-way single pilot	Ø7mm	1250 I/min	2 - 10 bar	the same	0,20 kg
P 520 704	5/2-way double pilot	Ø7mm	1250 l/min	1 - 10 bar	2,5 - 10 bar	0,29 kg
P 53_704	5/3-way	Ø7mm	1250 l/min	1 - 10 bar	3 - 10 bar	0,29 kg

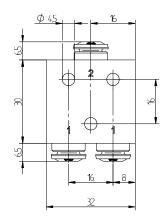


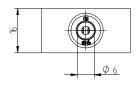
HAFNER

2.4.4.1 page 68

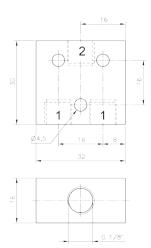


VA 341/ES 341









VA 401/ES 401

VA 341/VA 361/VA 401 ES 341/ES 401

VA 341

VA 361

VA 401

ES 341 ES 401



VA 341/VA 361/VA 401: OR-gate

The OR-gate has two inputs 1 and one output 2.

The shuttle valve is used when only one of two possible signals is required to pass on a signal.

Function: If one of two signal inputs are activated, an output signal on port 2 is present and the other input is blocked.

In case of pressurising both inputs at different pressure levels, the higher pressure is fed to port 2.

ES 341/ES 401: AND-gate

The AND-gate has two inputs 1 and one output 2.

The dual-pressure valve is used when at least 2 signals are required before a signal is passed on.

Function: Only when both inputs are pressurised output 2 is pressurised.

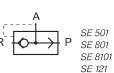
If two different pressures are applied the lower pressure is fed to output 2.

In case of only one signal at one of the two ports 1, the output 2 is blocked.

Туре	Function	Port size	Air flow	Operating press.	Weight
VA 341	OR	pif 4 mm	280 I/min	1 - 10 bar	0,04 kg
VA 361	OR	pif 6 mm	280 I/min	1 - 10 bar	0,04 kg
VA 401	OR	G 1/8"	280 l/min	1 - 10 bar	0,04 kg
ES 341	AND	pif 4 mm	280 I/min	1 - 10 bar	0,04 kg
ES 401	AND	G 1/8"	280 I/min	1 - 10 bar	0,04 kg

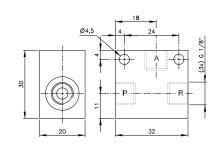


2.4.5.1 page 69 **2.4.5.2** page 70





SE 501/SE 801/SE 8101/SE 121



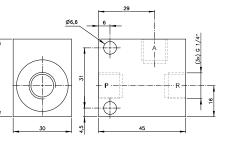
Quick-exhaust valve which can also be used as non-return valve as well as or-gate.

If used as a non-return valve please plug port R. Open from P to A, closed from A to P.

If used as an or-gate connect pressure to P and R. Port A is outlet.

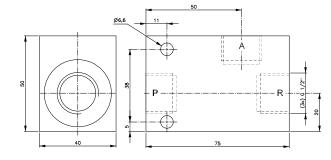
Temperature range: -20° C to +80° C

Stainless steel version as well as low temperature version (-40° C) available on request.

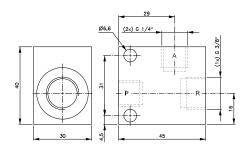




SE 501



SE 121



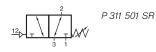
SE 8101

Туре	Port size A + P	Port size R	Air flow from A to R	Operating press.	Weight	
SE 501	G 1/8"	G 1/8"	564 I/min	0,3 - 10 bar	0,06 kg	₩ 16
SE 801	G 1/4"	G 1/4"	1188 I/min	0,2 - 10 bar	0,18 kg	* 316
SE 8101	G 1/4"	G 3/8"	1188 I/min	0,2 - 10 bar	0,18 kg	*
SE 121	G 1/2"	G 1/2"	3600 l/min	0,5 - 10 bar	0,26 kg	*



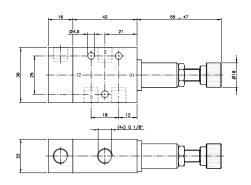
P 311 501 SR/P 411 701 SR P 411 701 SR NPT

2.4.5.3 page 71

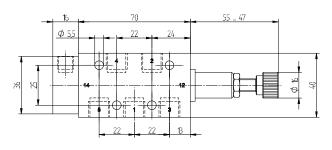


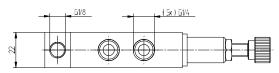


P 411 701 SR P 411 701 SR NPT



P 311 501 SR





P 411 701 SR/P 411 701 SR NPT



P 311 501 SR pneumatically actuated 3/2-way valve with mechanical spring return. Valve can be used normally closed (pressure at port 1) and normally open (pressure at port 3). Can also be used as 2/2-way valve. Unused port to be closed with a silencer or plug.

P 411 701 SR pneumatically actuated 4/2-way valve with mechanical spring return. Valve either blocks all ports or is open from 1 to 4 and from 3 to 2.

Port 5 is a vent port and should have a silencer installed, do not plug.

Valve can be used as an **adjustable pneumatic pressure switch**. By turning the hand-wheel the required minimum actuation pressure can be set. Adjustment is not independent from operation pressure.

Switch-on pressure differs from switch-off pressure due to a hysteresis of around 1.5 bar. The hysteresis is the difference between the pressure point when the valve is opening (e.g. 5 bar) and closing (e.g. 3.5). The 1.5 bar hysteresis is just a reference point as it is depending on the friction force.

The proportion between the friction force and the force of the air is changing when the air pressure increases. Therefore the hysteresis is getting smaller when the set actuating pressure increases.

Туре	Port size	Air flow	Operating press.	Regulating range act. press.	Max. act. press.	Weight	
P 311 501 SR	G 1/8"	650 I/min	2 - 10 bar	3 - 6 bar	10 bar	0,16 kg	⟨€x⟩
P 311 501 SR 02	G 1/8"	650 l/min	2 - 10 bar	5 - 8 bar	10 bar	0,16 kg	
P 311 501 SR 03	G 1/8"	650 l/min	2 - 10 bar	2 - 4 bar	10 bar	0,16 kg	
P 411 701 SR	G 1/4"	1250 l/min	2 - 10 bar	3 - 6 bar	10 bar	0,21 kg	(Ex)
P 411 701 SR NPT	1/4" NPT	1250 l/min	2 - 10 bar	3 - 6 bar	10 bar	0,21 kg	



ERV 701/ERV 101/ERV 121

2.4.5.4 page 72

	2	
1		ERV 701
	19 W	ERV 101
-	1	ERV 121



ERV 701

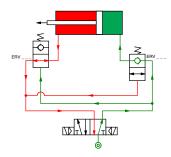
Pilot operated non-return valve.

Port 1 is blocked in basic position, but port 2 can exhaust through port1.

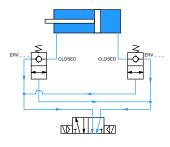
When a pilot signal is applied to port 12, the valve opens from 1 to 2.

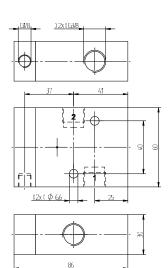
Valve can be used to lock the air in a cylinder in case of loss of air pressure.

Cylinder in movement:

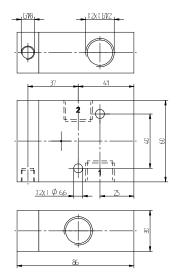


Pressure loss:





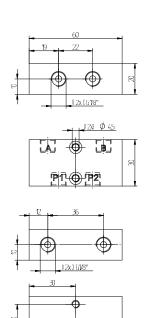
ERV 101

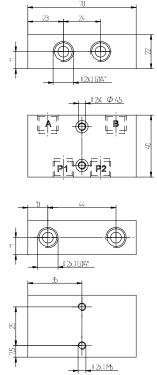


ERV 121

Туре	Port size 1 and 2	Port size 12	Air flow	Operating press.	Weight	
ERV 701	G 1/4"	G 1/8"	1250 I/min	1 - 10 bar	0,14 kg	316
ERV 101	G 3/8"	G 1/8"	2250 I/min	1 - 10 bar	0,32 kg	316
ERV 121	G 1/2"	G 1/8"	3000 I/min	1 - 10 bar	0,45 kg	316









19

12X1M5

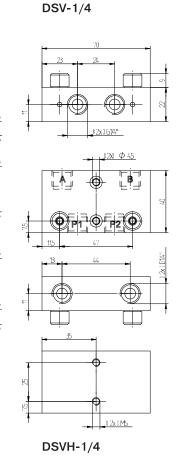
12x161/8*

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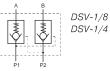
12x1M5

DSVH-1/8



DSV-1/8/DSV-1/4 VH-1/8/DSVH-1/4

2.4.5.5 page 73







DSVH-1/4



Pressure holding valves to hold a double acting actuator at the current position in case of pressure failure.

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

Installation between pilot valve and actuator.

This valve is often used for gripper-applications. In case of pressure failure, the Hafner valve is locking the air in the gripper and thereby it does not lose its load.

Type DSVH with manual exhaust function. The user can exhaust the actuator manually by pushing the manual exhaust buttons.

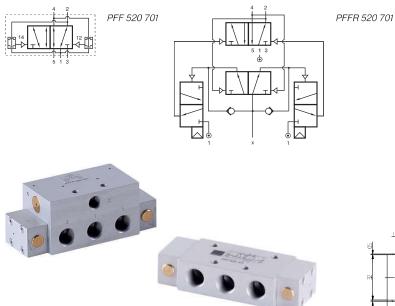
Inner parts are made of brass and POM, seals are made of NBR.

Туре	Port size	Air flow P to A/B	Air flow A/B to P	Operating press.	Weight
DSV-1/8	G 1/8"	230 l/min	360 l/min	1 - 10 bar	0,10 kg
DSV-1/4	G 1/4"	650 l/min	1000 l/min	1 - 10 bar	0,10 kg
DSVH-1/8	G 1/8"	230 l/min	360 l/min	1 - 10 bar	0,10 kg
DSVH-1/4	G 1/4"	650 l/min	1000 l/min	1 - 10 bar	0,10 kg



PFF 520 701/PFFR 520 701

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Valves to generate oscillating movements for devices where continuous cycling is required, e.g. shaking, hammering, scraping, wiping, dipping etc.

Oscillating valve type PFF 520 701:

When compressed air is applied to port 1, the outlet ports 2 and 4 are alternately supplied with compressed air.

The valve always moves the position as soon as the cylinder has reached the end position and a back pressure is applied to the valve.

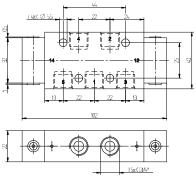
Flip-Flop valve type PFFR 520 701:

The PFFR is a bistable 5/2-way valve, which is operated by only one pilot port. When a signal is applied to pilot port X, the valve is switching the position. It will remain in this position even if the signal is taken away. When the pilot signal is applied to port X again, the valve will switch the position again.

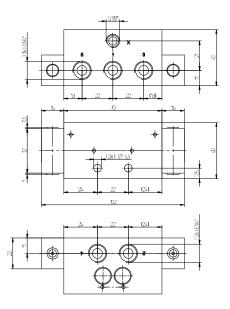
The speed of the operated cylinder and thus the frequency can be adjusted by adding flow regulators to the exhaust ports 3 and 5 of the valve. Please ask for SVE-1/4.



SVE-1/4



PFF 520 701



PFFR 520 701

Туре	Port size	Air flow	Operating press.	Weight
PFF 520 701	G 1/4"	1250 l/min	2 - 10 bar	0,22 kg
PFFR 520 701	G 1/4"	1250 l/min	2 - 10 bar	0,40 kg

DR 501/DR 801/DR 101 D 501/D 801/D 101

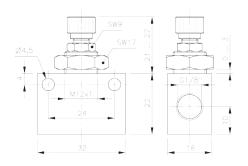
DR 501 DR 801

DR 101

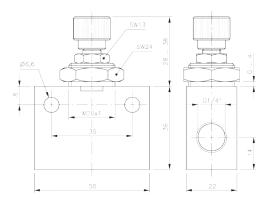
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D 501 D 801

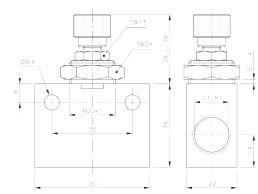
D 101







DR 801/D 801



DR 101/D 101

Block form flow regulator.

Type DR

uni-directional block form flow regulator. Air streaming in the direction of the throttle can be regulated by turning the spindle. In the opposite direction air streams unthrottled.

DR 101

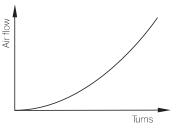
Type D

bi-directional flow regulator. Air is regulated in both directions.

The throttle can be adjusted very precisely along the entire regulation range.

Adjustment can be locked.

Suitable for wall and panel mounting. Nut is included.



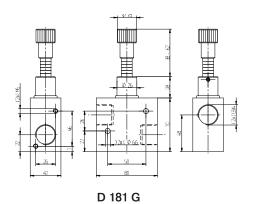
Туре	Port size	Air flow	Airflow in opposite direction	Operating press.	Weight
D 501	G 1/8"	450 l/min	450 I/min	0,5 - 10 bar	0,04 kg
D 801	G 1/4"	1150 l/min	1150 I/min	0,5 - 10 bar	0,13 kg
D 101	G 3/8"	1450 I/min	1450 I/min	0,5 - 10 bar	0,13 kg
DR 501	G 1/8"	450 l/min	450 I/min	2 - 10 bar	0,04 kg
DR 801	G 1/4"	1150 I/min	1150 I/min	2 - 10 bar	0,13 kg
DR 101	G 3/8"	1450 l/min	1450 l/min	2 - 10 bar	0,13 kg



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D 181 G





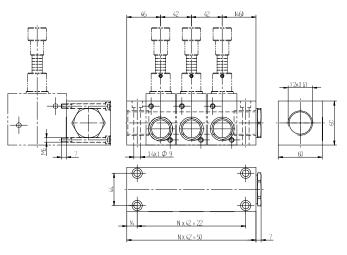
Block form flow regulator, bi-directional. Air is regulated in both directions.

Adjustment can be locked by a socket screw. 7 coloured rings are indicating the adjustment.

The flow regulator can either be used in-line or on a manifold plate. The following manifold sizes are available:

D 181 02D 181 02D 181 03S stations, including flow regulators

Temperature range: 0°C to 120°C.



D 181 0_

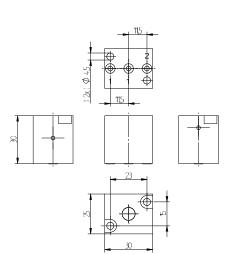
Туре	Port size	Air flow	Operating press.	Weight
D 181 G	G 3/4"	6000 l/min	0 - 10 bar	0,75 kg



YES 204

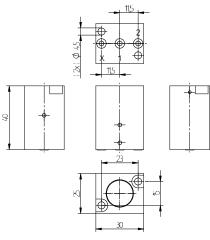
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NOT 204

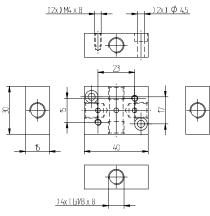


AND 204

AND 204/OR 204



YES 204/NOT 204







OR 204



Logical elements with standardized interface used in commercial vehicle industries.

Elements can be mounted to subbase RP LG 204.

AND 204:	Gives output signal only when
OR 204:	both input signals are present.
UN 204.	Gives output signal if either or both input signals are present.
YES 204:	The unit will give an output signal
	when there is an input signal present at port X.
NOT 204:	The unit gives an output signal
	when there is no input signal present at port X.
RP LG 204:	Subbase for logical elements

P LG 204: Subbase for logical elements series 204 with 4 x G 1/8" ports.

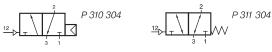
Delivery of logical elements includes 2 screws and 3 O-Rings.

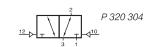
Туре	Function	Port size	Air flow	Operating press.	Actuating press.	Weight
AND 204	OR	Ø2mm	100 l/min	1 - 10 bar		0,06 kg
OR 204	AND	Ø2mm	100 l/min	1 - 10 bar		0,06 kg
YES 204	N.C.	Ø2mm	100 l/min	1 - 10 bar	1 - 10 bar	0,08 kg
NOT 204	N.O.	Ø2mm	100 l/min	1 - 10 bar	1 - 10 bar	0,08 kg
RP LG 204		G 1/8"				0,08 kg

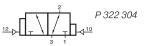


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P 310 304/P 311 304 P 320 304/P 322 304/RP 3 344









Pneumatically actuated 3/2-way spool valves. To be assembled to plate RP 3 344.

Four different versions are offered:

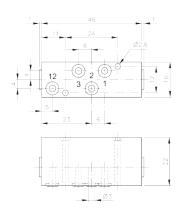
P 310 304 valve with air-spring return

P 311 304	valve with mechanical spring return			
	Pressure applied to port 1 = YES-function			
	Pressure applied to port 3 = NOT-function			
P 320 304	double pilot valve			

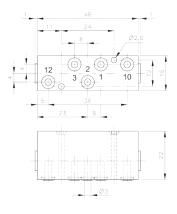
P 322 304 double pilot valve dominating at port 12

For P 310 304 the operating and actuating pressure should be at the same level.

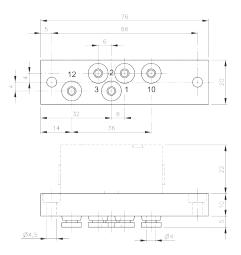
RP 3 344 is designed for carrying one 3/2-way valve type P 310 304, P 311 304, P 320 304 or P 322 304. The plate is equipped with 5 push-in fittings for 4 mm tube.



P 310 304/P 311 304



P 320 304/P 322 304



RP 3 344

Туре	Port size	Air flow	Operating press.	Actuating press	Weight
P 310 304	Ø3mm	280 I/min	2 - 10 bar	the same	0,04 kg
P 311 304	Ø3mm	280 l/min	2 - 10 bar	3 - 10 bar	0,04 kg
P 320 304	Ø3mm	280 l/min	2 - 10 bar	2,5 - 10 bar	0,04 kg
P 322 304	Ø3mm	280 I/min	2 - 10 bar	2,5 - 10 bar	0,04 kg
RP 3 344	pif 4 mm				0,04 kg

