

# 2.7

## Manifold Plates

## R \_\_



Common connection to port 1 (pressure).

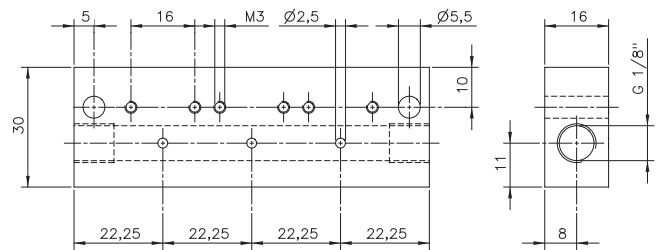
The following valves can be assembled to the manifold plate type **R \_\_**:

- MH 312 port 2: M5
- MH 314 port 2: pif 4 mm
- MH 315 port 2: G 1/8"
- MH 316 port 2: pif 6 mm

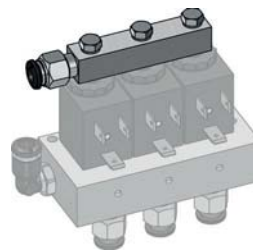
All the valves are displayed on page 2.5.1.2.1.

Blanking plates are also available type BP 3.

*All the manifold plates offered by HAFNER-Pneumatik can be equipped with the DIN-rail mounting clips.*



**R \_\_** Orifice size: 8,5 mm



Exhaust rail - RS 03

Available on request:

Exhaust rail to collect the exhausting air at the operator tube. Please ask for our type RS \_\_ . Please add two digits for the number of positions required. Push-in fitting not included.

Stations	Type	Weight
2	R 02	0,08 kg
3	R 03	0,11 kg
4	R 04	0,13 kg
5	R 05	0,16 kg
6	R 06	0,19 kg
8	R 08	0,24 kg
10	R 10	0,30 kg
12	R 12	0,35 kg

# RD 3\_\_403/RD 3\_\_464

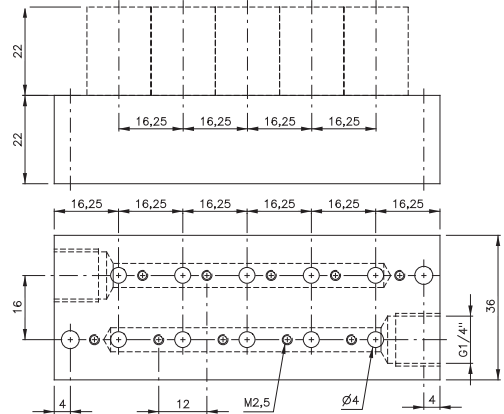


Manifold plate type **RD 3\_\_403**:  
Common connection to port 1 (pressure) and 3 (exhaust).

The following valves can be assembled to the manifold:

- 3/2-way n.c. G 1/8" MD 310 403 page 2.5.1.2.3
- 3/2-way n.o. G 1/8" MOD 310 403 page 2.5.1.2.3
- 3/2-way n.c. pif 6 mm MD 310 463 page 2.5.1.2.3
- 3/2-way n.o. pif 6 mm MOD 310 463 page 2.5.1.2.3

Blanking plates are also available type BP 3 403.



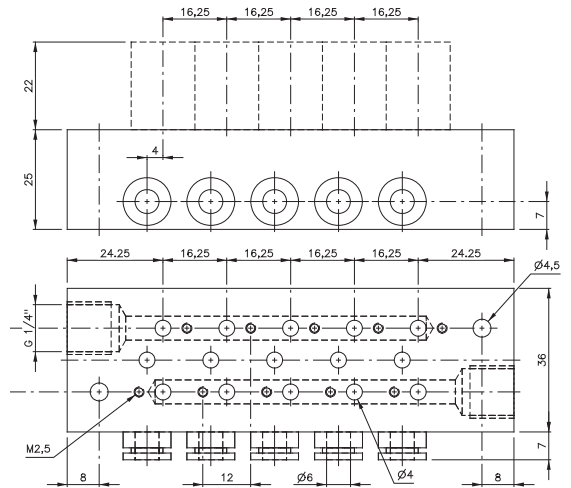
**RD 3\_\_403** Orifice size: 6 mm

Manifold plate type **RD 3\_\_464**.  
Common connection to port 1 (pressure) and 3 (exhaust).  
The individual ports 2 are also in the manifold plate equipped with push-in fittings.

The following valves can be assembled to the manifold:

- 3/2-way n.c. MD 310 404 page 2.5.1.2.4
- 3/2-way n.o. MOD 310 404 page 2.5.1.2.4

Blanking plates are also available type BP 3 404.



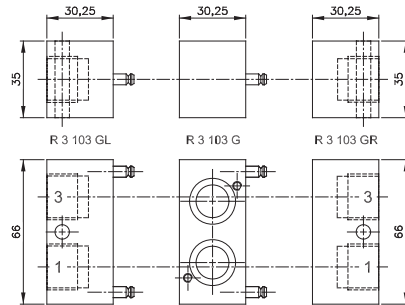
**RD 3\_\_464** Orifice size: 6 mm

Please note:  
Due to the compact design of the plate if a larger number of valves are to switch at the same time please do not select plates with more than 6 stations.

Stations	Type	Weight	Type	Weight
2	RD 302 403	0,09 kg	RD 302 464	0,15 kg
3	RD 303 403	0,13 kg	RD 303 464	0,19 kg
4	RD 304 403	0,16 kg	RD 304 464	0,23 kg
5	RD 305 403	0,19 kg	RD 305 464	0,26 kg
6	RD 306 403	0,23 kg	RD 306 464	0,30 kg
7	RD 307 403	0,27 kg	RD 307 464	0,34 kg
8	RD 308 403	0,30 kg	RD 308 464	0,38 kg
9	RD 309 403	0,33 kg	RD 309 464	0,41 kg
10	RD 310 403	0,36 kg	RD 310 464	0,49 kg
12	RD 312 403	0,43 kg	RD 312 464	0,53 kg
14	RD 314 403	0,49 kg	RD 314 464	0,60 kg
16	RD 316 403	0,55 kg	RD 316 464	0,68 kg



# RB 3\_\_ 103 G



Parts of modular manifold **RB 3\_\_ 103 G**

Series 103 G modular manifold system for common connections to ports 1 (pressure) and 3 (exhaust). The system can be build and taken apart just by operating two hexagon socket screws. Additional stations can be added at any position and any time. End-plates are equipped with threads for adding DIN-rail mounting clips.

The following valves can be assembled to the system  
**RB 3\_\_ 103 G:**

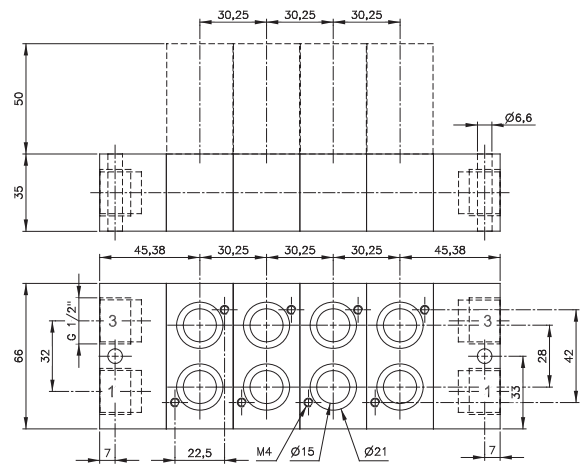
- 3/2 single sol. n.c.     G 3/8" MH 310 101 G     page 2.5.1.1.11
- 3/2 single sol. n.o.     G 3/8" MOH 310 101 G     page 2.5.1.1.11

Further technical details on the valves can be found on the pages mentioned above. Drawings of the "G-version" valves with the additional mounting holes for manifold mounting can be found on this page.

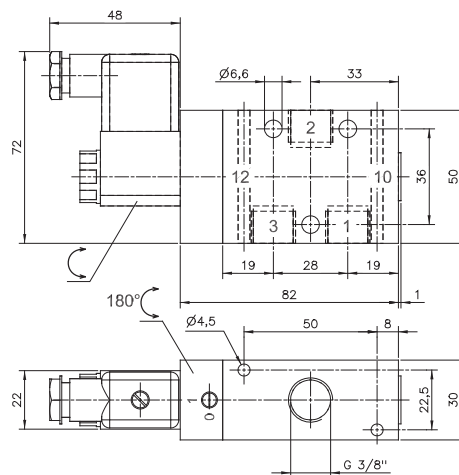
- The system consists of:
- End-plate right type R 3 103 GR
- End-plate left type R 3 103 GL
- Individual position type R 3 103 G

Blanking plates are also available type BP 3 103.

Please note:  
 End-plates of series 103 G are not offering an individual valve position. The plates can also be ordered assembled by the manufacturer. In this case order RB 3\_\_ 103 G (3/8"). Please add two digits for the number of positions required.



**RB 3\_\_ 103 G** Orifice size: 19 mm



**MH 310 101 G/MOH 310 101 G**

Type	Function	Weight
R 3 103 GR	End-plate right	0,14 kg
R 3 103 GL	End-plate left	0,15 kg
R 3 103 G	Individual position	0,12 kg

# RD 5\_\_403



Common connection to port 1 (pressure), 3 and 5 (exhaust).

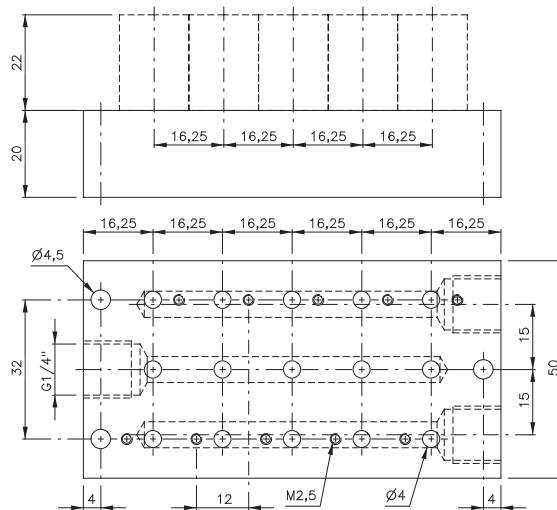
The following solenoid valves can be assembled to the manifold plate type **RD 5\_\_403**:

5/2 single sol.	G 1/8"	MD 510 403	page 2.5.2.2.1
5/2 single sol.	pif 6 mm	MD 510 463	page 2.5.2.2.1
5/2 double sol.	G 1/8"	MD 520 403	page 2.5.2.2.5
5/2 double sol.	pif 6 mm	MD 520 463	page 2.5.2.2.5
5/3-way	G 1/8"	MD 53_403	page 2.5.3.2.1
5/3-way	pif 6 mm	MD 53_463	page 2.5.3.2.1

Blanking plates are also available type BP 5 403.

Please note:

Due to the compact design of the plate if a larger number of valves are to switch at the same time please do not select plates with more than 6 stations.



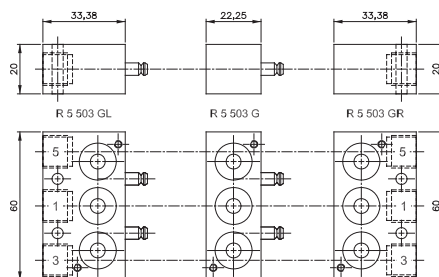
**RD 5\_\_403** Orifice size: 10 mm

Stations	Type	Weight
2	RD 502 403	0,12 kg
3	RD 503 403	0,16 kg
4	RD 504 403	0,20 kg
5	RD 505 403	0,24 kg
6	RD 506 403	0,28 kg
7	RD 507 403	0,32 kg
8	RD 508 403	0,37 kg
9	RD 509 403	0,41 kg
10	RD 510 403	0,45 kg
12	RD 512 403	0,53 kg
14	RD 514 403	0,62 kg
16	RD 516 403	0,69 kg

# RB 5 \_\_ 503 G



Modular manifold system for common connections to ports 1 (pressure), 3 and 5 (exhaust). The system can be build and taken apart just by operating two hexagon socket screws. Additional stations can be added at any position and any time. End-plates are equipped with threads for adding DIN-rail mounting clips.



**Parts of modular manifold RB 5 \_\_ 503 G**

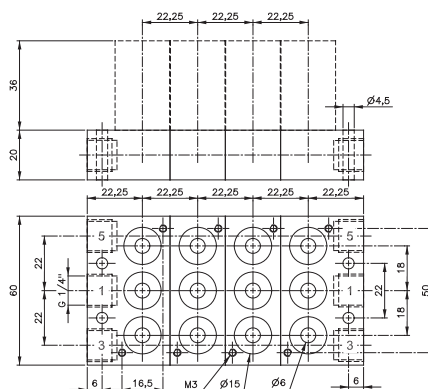
The following valves can be assembled to the system **RB 5 \_\_ 503 G**:

**Solenoid valves:**

5/2 single sol.	G 1/8"	MH 510 501 G	page 2.5.2.1.2
5/2 single sol.	G 1/8"	MH 510 503	page 2.5.2.2.2
5/2 double sol.	G 1/8"	MH 520 501 G	page 2.5.2.1.5
5/2 double sol.	G 1/8"	MH 520 503	page 2.5.2.2.6
5/3 solenoid	G 1/8"	MH 53_ 501 G	page 2.5.3.1.2
5/3 solenoid	G 1/8"	MH 53_ 503	page 2.5.3.2.2

**Pneumatically actuated valves:**

5/2 air spring	G 1/8"	P 510 501 G	page 2.4.2.2
5/2 mech. spring	G 1/8"	P 511 501 G	page 2.4.2.2
5/2 double pilot	G 1/8"	P 52_ 501 G	page 2.4.2.4
5/3	G 1/8"	P 53_ 501 G	page 2.4.3.1



**RB 5 \_\_ 503 G** Orifice size: 10 mm

The system consists of:

- End-plate right type R 5 503 GR
- End-plate left type R 5 503 GL
- Individual position type R 5 503 G

Blanking plates are also available type BP 5 503.

The plates can also be ordered assembled by the manufacturer. In this case order RB 5 \_\_ 503 G. Please add two digits for the number of positions required.

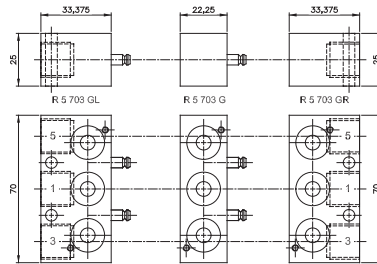


**BS 503**

By adding a special plug (type BS 503), two different pressures can be attached at the same manifold plate. The plug is intercepting the air-supply in the manifold plate wherever the customer likes to.

Type	Function	Weight
R 5 503 GR	End-plate right	0,08 kg
R 5 503 GL	End-plate left	0,08 kg
R 5 503 G	Individual position	0,06 kg

# RB 5 \_\_ 703 G



Parts of modular manifold RB 5 \_\_ 703 G

Modular manifold system for common connections to ports 1 (pressure), 3 and 5 (exhaust). The system can be built and taken apart just by operating two hexagon socket screws. Additional stations can be added at any position and any time. End-plates are equipped with threads for adding DIN-rail mounting clips.

The following valves can be assembled to the system **RB 5 \_\_ 703 G**:

**Solenoid valves:**

5/2 single sol.	G 1/4"	MH 510 701 G	page 2.5.2.1.2
5/2 single sol.	G 1/4"	MH 510 703	page 2.5.2.2.2
5/2 double sol.	G 1/4"	MH 520 701 G	page 2.5.2.1.5
5/2 double sol.	G 1/4"	MH 520 703	page 2.5.2.2.6
5/3 solenoid	G 1/4"	MH 53_ 701 G	page 2.5.3.1.2
5/3 solenoid	G 1/4"	MH 53_ 703	page 2.5.3.2.2

**Pneumatically actuated valves:**

5/2 air spring	G 1/4"	P 510 701 G	page 2.4.2.2
5/2 mech. spring	G 1/4"	P 511 701 G	page 2.4.2.2
5/2 double pilot	G 1/4"	P 52_ 701 G	page 2.4.2.4
5/3 pneum.	G 1/4"	P 53_ 701 G	page 2.4.3.1

The system consists of:

- End-plate right type R 5 703 GR
- End-plate left type R 5 703 GL
- Individual position type R 5 703 G

Blanking plates are also available type BP 5 703.

NPT-ported end-plates available on request.

The plates can also be ordered assembled by the manufacturer. In this case order RB 5 \_\_ 703 G. Please add two digits for the number of positions required.

**Additional:**

1.) Combine 3-way and 5-way valves on the same plate. By adding R 53 703 G elements to the standard R 5 703 G elements, 3-way as well as 5-way valves can be mixed on the same plate (e.g. MH 510 701 G and MH 310 701 G).

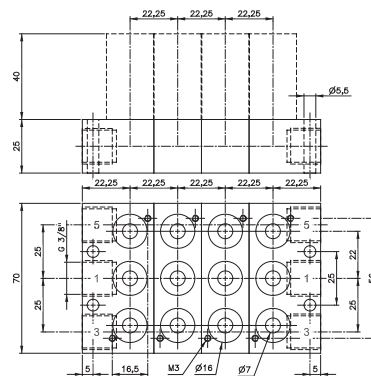
2.) Individual valve isolation.

In certain industries the user appreciates, if he can take away air pressure at any valve on the plate individually. Valves can easily be exchanged by closing port 1 on the reverse side of the plate without interruption of the air-supply of the other valves.

The system consists of:

- End-plate right type R 5 703 GR D1
- End-plate left type R 5 703 GL D1
- Individual position type R 5 703 G D1

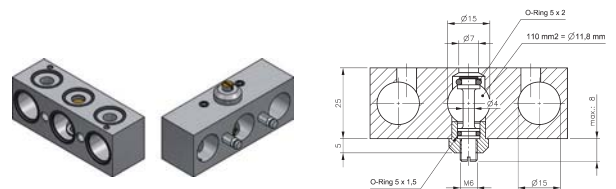
Type	Function	Weight
R 5 703 GR	End-plate right	0,13 kg
R 5 703 GL	End-plate left	0,12 kg
R 5 703 G	Individual position	0,09 kg
R 5 703 G D1	Individual position with individual valve isolation	0,09 kg



**RB 5 \_\_ 703 G** Orifice size: 15 mm



**1.) Combination of 3- and 5-way valves**



**2.) Individual valve isolation (R 5 703 G D1)**



**BS 703**

By adding a special plug (type BS 703), two different pressures can be attached at the same manifold plate. The plug is intercepting the air-supply in the manifold plate wherever the customer likes to.



# RB 5 \_\_ 103 G



Modular manifold system for common connections to ports 1 (pressure), 3 and 5 (exhaust). The system can be build and taken apart just by operating two hexagon socket screws. Additional stations can be added at any position and any time. End-plates are equipped with threads for adding DIN-rail mounting clips.

The following valves can be assembled to the system

**RB 5 \_\_ 103 G:**

- 5/2 single solenoid G 3/8" MH 510 101 G page 2.5.2.1.3
- 5/2 double solenoid G 3/8" MH 520 101 G page 2.5.2.1.6
- 5/3 solenoid G 3/8" MH 53\_ 101 G page 2.5.3.1.3

Further technical details on the valves can be found on the pages mentioned above. Drawings of the "G-version" valves with the additional mounting holes for manifold mounting can be found on this page.

The system consists of:

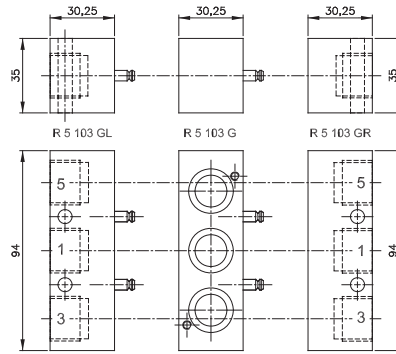
- End-plate right type R 5 103 GR
- End-plate left type R 5 103 GL
- Individual position type R 5 103 G

Blanking plates are also available type BP 5 103.

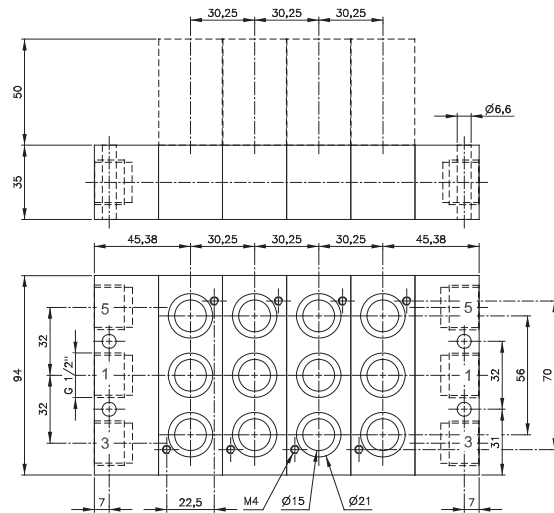
Please note:

End-plates are not offering an individual valve-position.

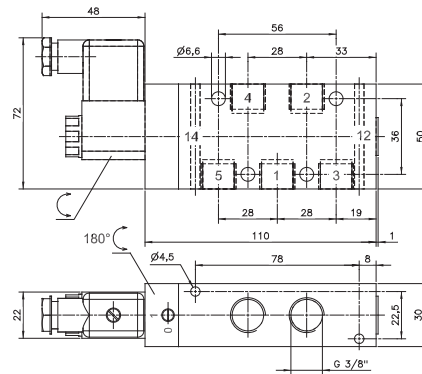
The plates can also be ordered assembled by the manufacturer. In this case order RB 5 \_\_ 103 G. Please add two digits for the number of positions required.



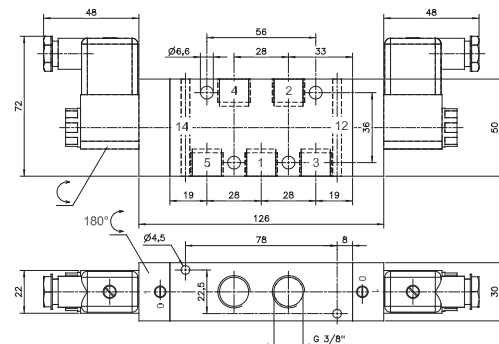
Parts of modular manifold RB 5 \_\_ 103 G



R 5 \_\_ 103 G Orifice size: 19 mm



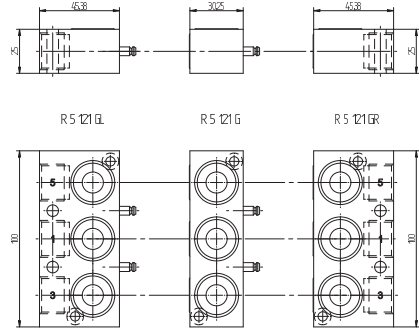
MH 510 101 G



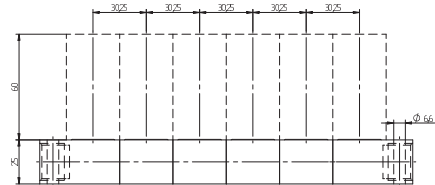
MH 520 101 G/MH 53\_ 101 G

Type	Function	Weight
R 5 103 GR	End-plate right	0,20 kg
R 5 103 GL	End-plate left	0,21 kg
R 5 103 G	Individual position	0,18 kg

# RB 5 \_\_ 121 G



Parts of modular manifold RB 5 \_\_ 121 G



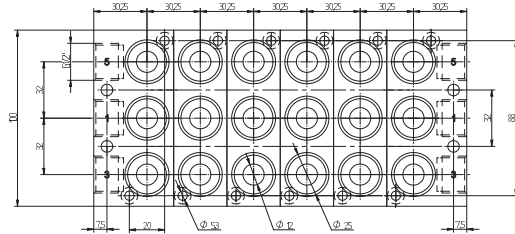
The following valves can be assembled to the system **RB 5 \_\_ 121 G**:

**Solenoid valves:**

- 5/2 single sol. G 1/2" MH 510 121 G page 2.5.2.1.3
- 5/2 double sol. G 1/2" MH 520 121 G page 2.5.2.1.6
- 5/3 solenoid G 1/2" MH 53\_ 121 G page 2.5.3.1.3

**Pneumatically actuated valves :**

- 5/2 single pilot G 1/2" P 510 121 G page 2.4.2.3
- 5/2 double pilot G 1/2" P 520 121 G page 2.4.2.5
- 5/3 pneumatic G 1/2" P 53\_ 121 G page 2.4.3.2



**RB 5 \_\_ 121 G** Orifice size: 17 mm

Further technical details on the valves can be found on the pages mentioned above. Drawings of the "G-version" valves with the additional mounting holes for manifold mounting can be found on this page.

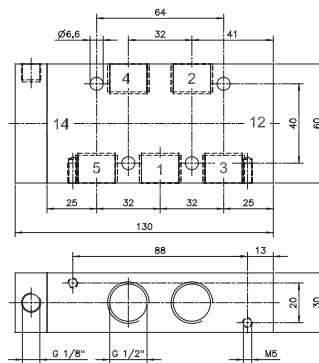
Blanking plates are also available type BP 5 121 G.

The system consists of:

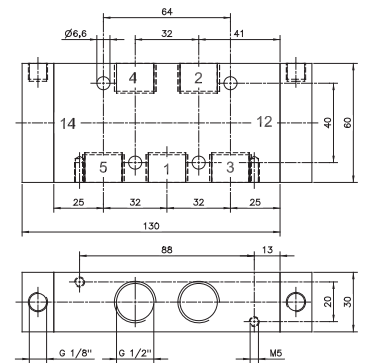
- End-plate right type R 5 121 GR
- End-plate left type R 5 121 GL
- Individual position type R 5 121 G

The plates can also be ordered assembled by the manufacturer. In this case order RB 5 \_\_ 121 G (G 1/2").

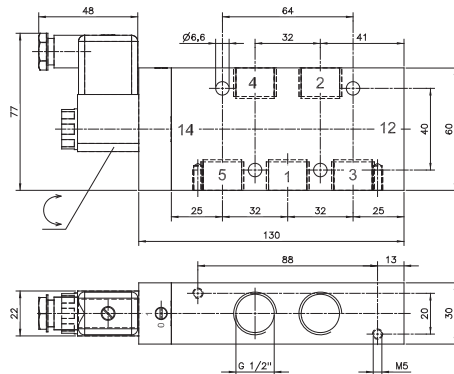
Please add two digits for the number of positions required.



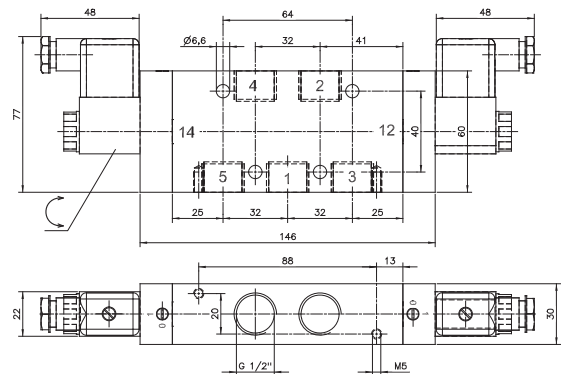
**P 510 121 G**



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



**MH 510 121 G**



**MH 520 121 G / MH 53\_ 121 G**

Type	Function	Weight
R 5 121 GR	End-plate right	0,24 kg
R 5 121 GL	End-plate left	0,24 kg
R 5 121	Individual position	0,15 kg

## RD 5\_\_464



Common connection to port 1 (pressure), 3 and 5 (exhaust). The individual ports 2 and 4 are also in the manifold plate equipped with push-in fittings.

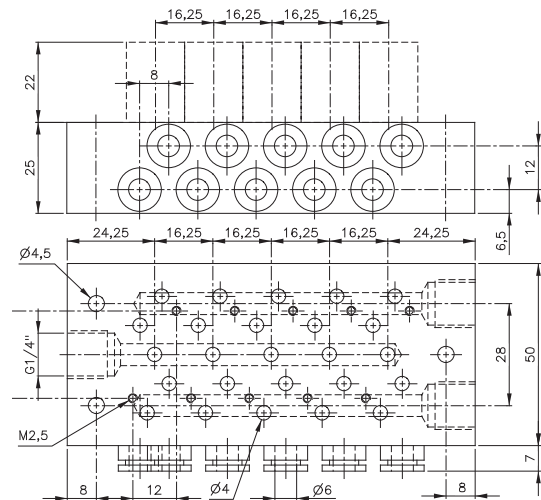
The following solenoid valves can be assembled to the manifold plate type **RD 5\_\_464** (pif 6 mm):

5/2 single sol.	MD 510 404	page 2.5.2.2.3
5/2 double sol.	MD 520 404	page 2.5.2.2.3
5/3-way	MD 53_404	page 2.5.2.2.3

Blanking plates are also available type BP 5 404.

Please note:

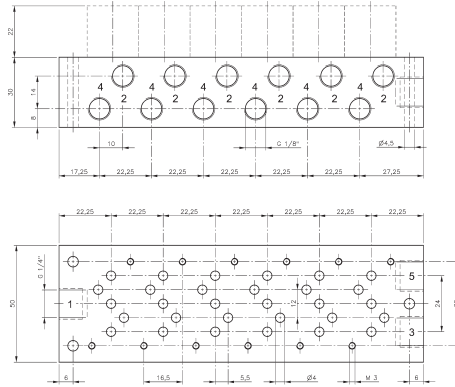
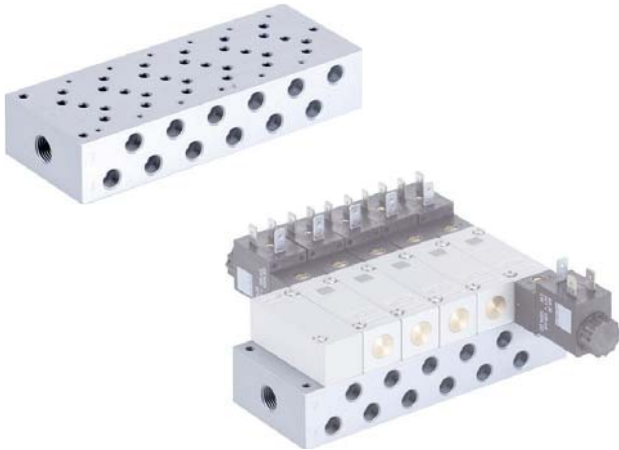
Due to the compact design of the plate if a larger number of valves are to switch at the same time please do not select plates with more than 6 stations.



**RD 5\_\_464** Orifice size: 6 mm

Stations	Type	Weight
2	RD 502 464	0,21 kg
3	RD 503 464	0,27 kg
4	RD 504 464	0,33 kg
5	RD 505 464	0,38 kg
6	RD 506 464	0,44 kg
7	RD 507 464	0,50 kg
8	RD 508 464	0,55 kg
9	RD 509 464	0,60 kg
10	RD 510 464	0,66 kg
12	RD 512 464	0,77 kg
14	RD 514 464	0,88 kg
16	RD 516 464	0,99 kg

# R 5\_\_ 304/R 5\_\_ 504/R 5\_\_ 704



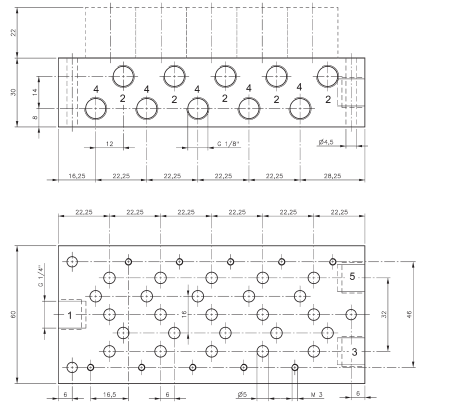
**R 5\_\_ 304** Orifice size: 6 mm

Common connection to port 1 (pressure), 3 (exhaust) and 5 (exhaust). The ports 2 and 4 of the individual valves are also located in the manifold plate.

The following solenoid valves can be assembled to the manifold plate type **R 5\_\_ 304** (G 1/8" orifice 3 mm):  
 5/2 single sol. MH 510 304 page 2.5.2.2.4  
 5/2 double sol. MH 520 304 page 2.5.2.2.7  
 5/3-way MH 53\_ 304 page 2.5.3.2.3

Blanking plates are also available type BPH 5 304.

The following solenoid valves can be assembled to the manifold plate type **R 5\_\_ 504** (G 1/8" orifice 5 mm):  
 5/2 single sol. MH 510 504 page 2.5.2.2.4  
 5/2 double sol. MH 520 504 page 2.5.2.2.7  
 5/3-way MH 53\_ 504 page 2.5.3.2.3



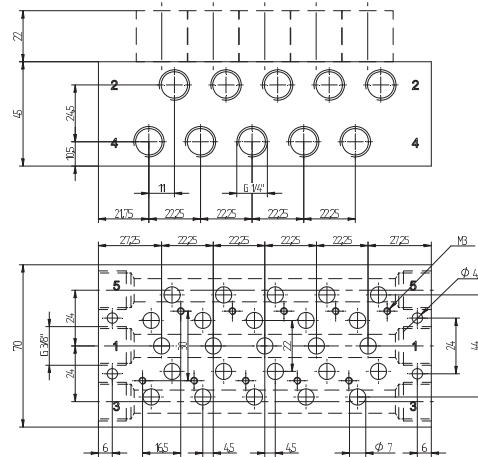
**R 5\_\_ 504** Orifice size: 6,6 mm

Blanking plates are also available type BP 5 504.

The following valves can be assembled to the manifold plate type **R 5\_\_ 704** (G 1/4").

5/2-way MH 510 704 page 2.5.2.2.4  
 5/2-way MH 520 704 page 2.5.2.2.7  
 5/3-way MH 53\_ 704 page 2.5.3.2.3

Blanking plates are also available type BP 5 704.



**R 5\_\_ 704** Orifice size: 10 mm

Stations	Type	Weight	Type	Weight	Type	Weight
2	R 502 304	0,26 kg	R 502 504	0,30 kg	R 502 704	0,54 kg
3	R 503 304	0,34 kg	R 503 504	0,40 kg	R 503 704	0,72 kg
4	R 504 304	0,42 kg	R 504 504	0,50 kg	R 504 704	0,90 kg
5	R 505 304	0,51 kg	R 505 504	0,60 kg	R 505 704	1,10 kg
6			R 506 504	0,70 kg	R 506 704	1,25 kg
8			R 508 504	0,89 kg	R 508 704	1,60 kg
10			R 510 504	1,08 kg	R 510 704	1,95 kg
12			R 512 504	1,29 kg	R 512 704	2,32 kg

# RB 5\_\_704 K1



Bottom side

Modular manifold system with all ports on the bottom. Plates are designed for assemblage in control cabinets.

Common connection to port 1 (pressure), 3 (exhaust) and 5 (exhaust). The ports 2 and 4 of the individual valves are also located in the manifold plate. The system can be build up and taken apart by just operating two hexagon socket screws. Additional stations can be added at any position and any time.

The following valves can be assembled to the system

**RB 5\_\_704 K1:**

- 5/2 single solenoid      MH 510 704      page 2.5.2.2.4
- 5/2 double solenoid    MH 520 704      page 2.5.2.2.7
- 5/3 solenoid            MH 53\_704      page 2.5.3.2.3

3/2-way functions by closing either port 2 or 4.

The system consists of:

- End-plate right            type R 5 704 K1 R
- End-plate left            type R 5 704 K1 L
- Individual position      type R 5 704 K1

Blanking plates are also available type BP 5 704.

Please note:

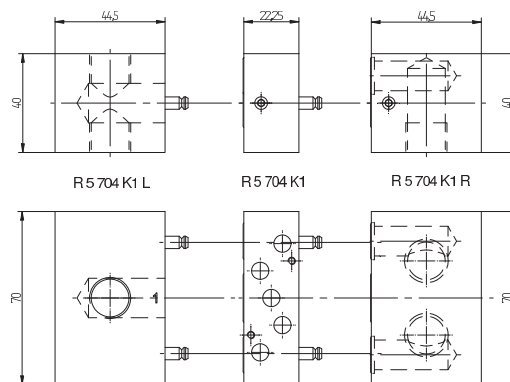
End-plates are not offering an individual valve-position.

The plates can also be ordered assembled by the manufacturer. In this case order **RB 5\_\_704 K1**. Please add two digits for the number of positions required.

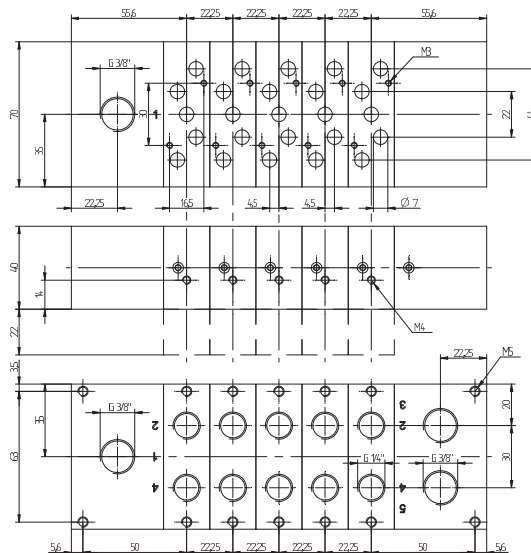
In case the customer wants to have the FRL inside the box, the endplate left offers as second supply port that faces inside the box. One of the two has to be closed with a G 3/8" plug.

The individual plates are also available with individual valve isolation type R 5 704 K1 D1. In certain industries the user appreciates, if he can take away air pressure at any valve on the plate individually. Valves can easily be exchanged by closing the plug in port 1 without interruption of the air-supply of the other valves.

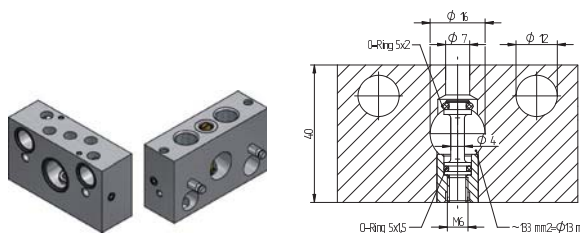
Wider elements for usage with wider coils (e.g. ATEX-approved versions) are available on request.



Parts of modular manifold RB 5\_\_704 K1



RB 5\_\_704 K1



Individual valve isolation (R 5 704 K1 D1)

Type	Function	Weight
R 5 704 K1 R	End-plate right	0,13 kg
R 5 704 K1 L	End-plate left	0,12 kg
R 5 704 K1	Individual position	0,09 kg
R 5 704 K1 D1	Individual position, with individual valve isolation	0,09 kg

# Control Cabinets built by HAFNER



Bottom side



Bottom side

HAFNER offers a range of products designed to make the assemblage of manifolds and valve terminals inside a control cabinet as easy as possible. No tubing needs to stay inside the box!

- **Series 704 K1** with a maximum air-flow of 1.250 l/min  
Further information on page 2.7.2.9 and 2.8.3.5
- **Series 104 K1** with a maximum air-flow of 2.250 l/min on request

### The HAFNER system offers distinct advantages:

- Less effort to assemble = significant time-savings
- No bulk-head fittings required
- Less installation material = significant material savings
- No hoses inside the box
- Less risk of leakage inside the box, significant air savings



### Available as a special feature:

Manifolds with **individual valve isolation screw** (suffix D1 to type-number).

Valves can easily be exchanged by closing the plug in port 1 without interruption of the air-supply of the other valves.



Image source: Voith GmbH

### Application examples:

Control cabinet with 8 x 5/2-way single solenoid valves with 7 mm orifice, assembled on a valve terminal. Manifold is having the individual valve isolation feature.



Image source: Voith GmbH

Air distributor cabinet with pressure regulator, main shut-off valve and 12 outlets.