


 $C_v = .95 - 4.57$

Series 9 Air-Pilot Operated Valves

 $C_v = .95 - 4.57$

Assembly with sub-base (ISO 5599/1 Standards) non-plug-in
 Sizes 1, 2 and 3: 5-way/2-position; 5-way/3-position; single & double Air-Pilot valves.

The Series 9 Air-Pilot operated valves have been manufactured in the sizes 1, 2 and 3, as recommended by the ISO Standards. Three different types of sub-base are available:

- single sub-base with side ports
- single sub-base with rear ports
- manifold sub-base with common exhausts complete with end blocks.

The Series 9 solenoid valves are also constructed so as to be actuated in different ways:

- Air-Pilot and spring return
- Air-Pilot and return
- Air-Pilot and differential
- Air-Pilot return (bias override)



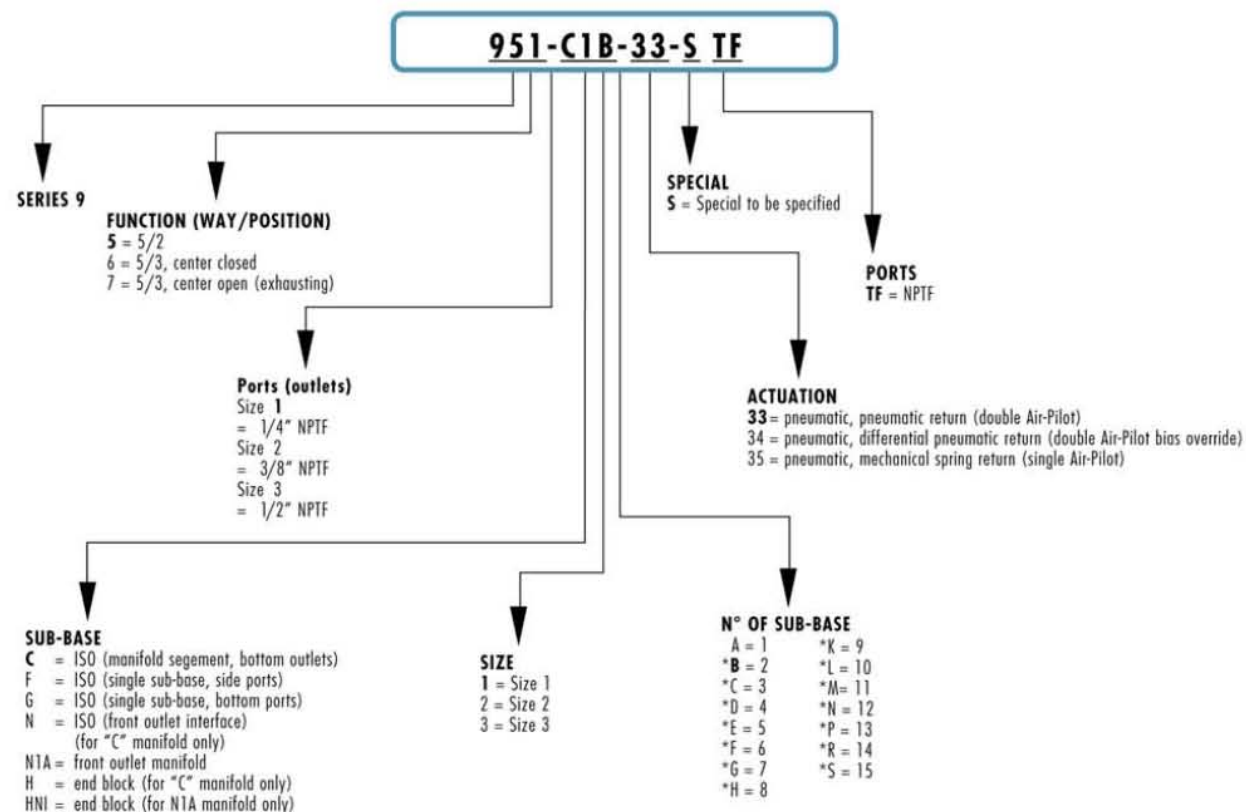
TECHNICAL SPECIFICATIONS

Construction	spool-type (servocontrolled) packed bore
Valve group	5-way/2-position and 5-way/3-position
Materials	Anodized aluminum body, stainless steel spool, BUNA-N seals
Mounting	threaded holes in sub-base
Size	1, 2 and 3 according to ISO 5599/1 standard)
Installation	in any position
Operating temperature	0 - 60°C (using dry air at -20°C) (32°F — 140°F) (using dry air at -4°F)

PNEUMATIC DATA

Operating pressure	max. press. 10 bar (for minimum pressures see descriptions); 145 psi max
Nominal pressure	6 bar (87 psi) nominal
Nominal flow	* Qn Size 1 = 900 NL/min; 31.8 SCFM, $C_v = .95$ Size 2 = 1610 NL/min; 56.8 SCFM, $C_v = 1.69$ Size 3 = 4350 NL/min; 153.6 SCFM, $C_v = 4.57$
Fluid	filtered air, without lubrication (25 micron or less recommended)**

*Qn = determined with supply pressure of 6 bar and with $\Delta p = 1$ bar. **If lubricated air is used, it is recommended to use ISOVG32 oil and to never interrupt the lubrication.

**CODING OF SERIES 9 SOLENOID VALVES WITH SUB-BASE**

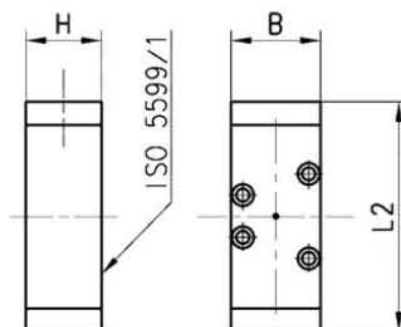
* Complete with two end-blocks Mod. 900-H or 900-HN.


 $C_v = .95 - 4.97$
5-way/2-position valves, ISO 1, ISO 2, ISO 3, spring return and detented
 $C_v = .95 - 4.97$

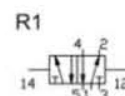
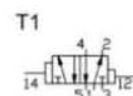
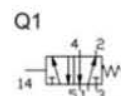
The Series 9 valves with ISO interface, size 1, 2 and 3, are available with the following types of actuation:

- pneumatic, with spring return (min. press. 2.5 bar) (36 psi)
- pneumatic actuation and differential return (min. press. 2 bar) (29 psi)
- pneumatic actuation and return (min. press. 2 bar) (29 psi)

Note: Packaging with ISO solenoid valves includes interface seals and fixing screws.


DIMENSIONS

Mod.	Size ISO	B	L2	H	Min. operating pressure (bar)	Symbol	Function
951-000-35	1	38	98	32	2.5	Q1	CC
952-000-35	2	51	118	33	2.5	Q1	CC
953-000-35	3	65	163	45	2.5	Q1	CC
951-000-34	1	38	98	32	2	T1	CO
952-000-34	2	51	118	33	2	T1	CO
953-000-34	3	65	163	45	2	T1	CO
951-000-33	1	38	98	32	2	R1	PC
952-000-33	2	51	118	33	2	R1	PC
953-000-33	3	65	163	45	2	R1	PC


5-way/3-position valve, ISO 1, ISO 2, ISO 3, spring return, with stable central position
 $C_v = .95 - 4.57$

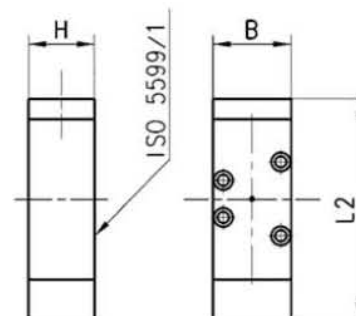
The Series 9 valves with ISO interface, size 1, 2 and 3, are available with pneumatic actuation and central return by a spring.

There are two types of function:

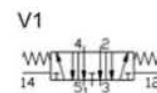
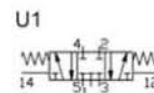
- with closed center
- with open center.

The minimum operating pressure is 2.5 bar. (36 psi)

Note: Packaging with ISO solenoid valves includes interface seals and fixing screws.


DIMENSIONS

Mod.	Size ISO	B	L2	H	Min. operating pressure (bar)	Symbol	Function
961-000-33	1	38	108	32	2,5	U1	CC
962-000-33	2	51	128	33	2,5	U1	CC
963-000-33	3	65	173	45	2,5	U1	CC
971-000-33	1	38	108	32	2,5	V1	CO
972-000-33	2	51	128	33	2,5	V1	CO
973-000-33	3	65	173	45	2,5	V1	CO

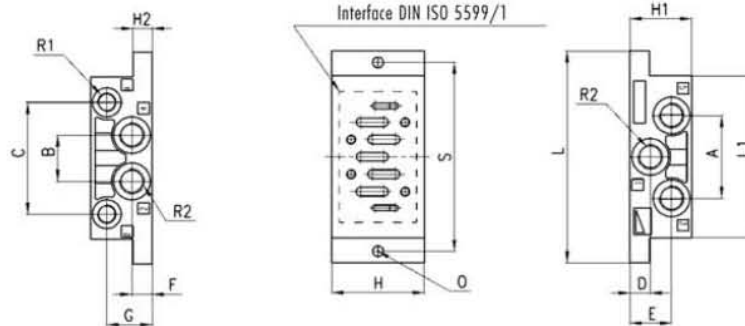




3

AIR PILOT VALVES

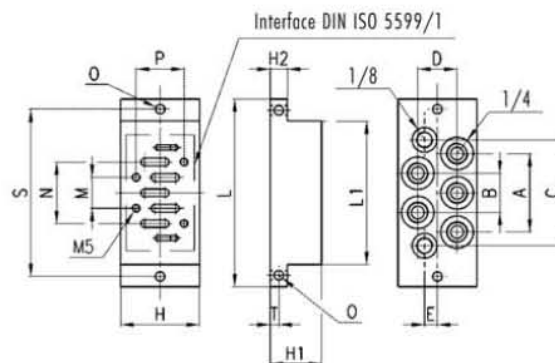
Single sub-base side outlets (VDMA 24345)



DIMENSIONS

														NPTF			
Mod.	Size	A	B	C	D	E	F	G	H	H1	H2	L	L1	O	R1	R2	S
901-F1A TF	1	43	24	58	21.5	10.5	10.5	23.5	48	32	10	110	84	5.5	1/8	1/4	98
902-F2A TF	2	56	30	74	26	14	14	30	57	40	13	124	95	6.5	1/8	3/8	112
903-F3A TF	3	68	32	90	17	17	17	22	71	32	18	149	119	6.5	1/8	1/2	136

Single sub-base with rear outlets (VDMA 24345)

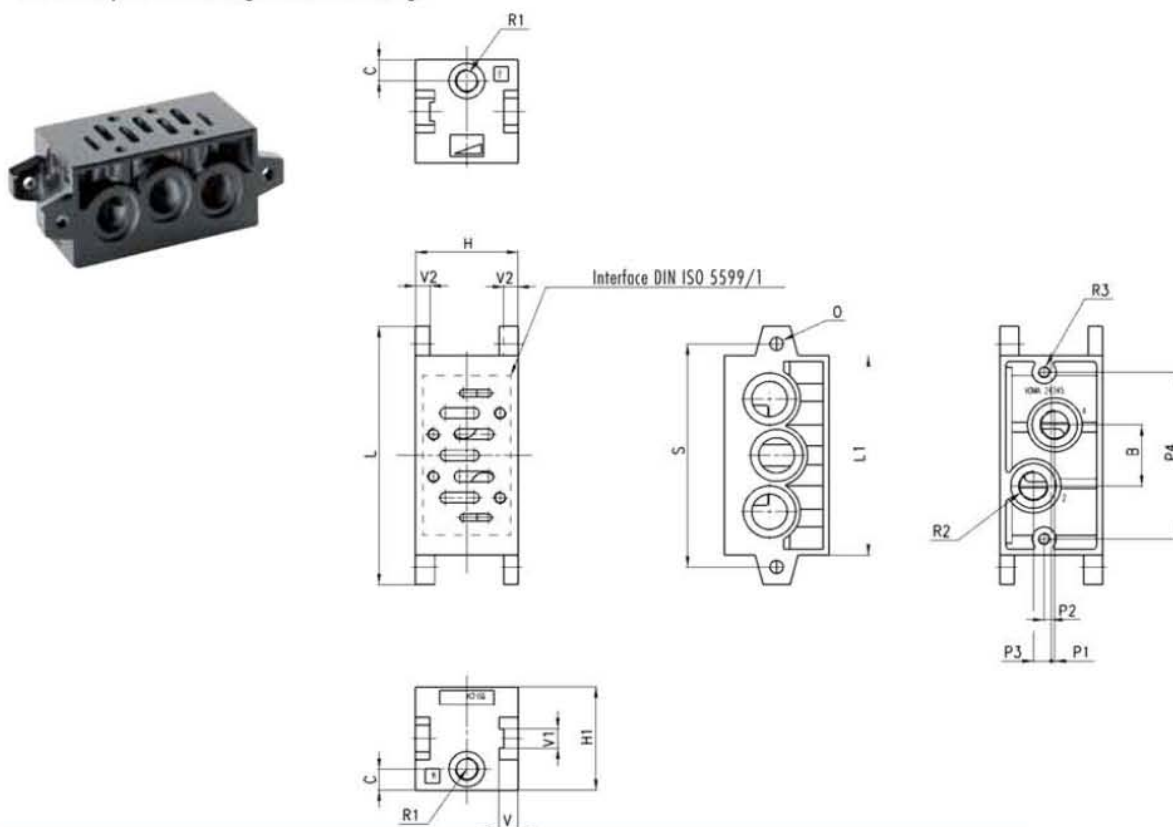


DIMENSIONS

DIMENSIONS															NPTF					
Mod.	Size ISO	A	B	C	D	E	H	H1	H2	L	L1	M	N	O	P	R	R1	R2	S	T
901-G1A TF	1	46	23	61	23	7.5	46	30	10	110	84	18	36	5.5	28	M5	1/8	1/4	98	5
902-G2A TF	2	56	28	72	28	8	56	35	13	124	95	24	48	6.5	38	M6	1/8	3/8	112	6.5
903-G3A TF	3	68	34	90	34	10	71	32	18	149	119	32	64	6.5	48	M8	1/8	1/2	136	9


Manifold sub-base with common exhausts and inlet (VDMA 24345): (bottom outlets)

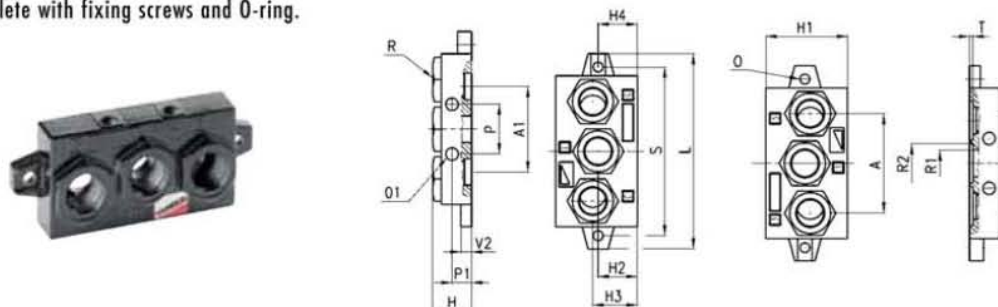
Note: complete with fixing screws and O-ring.



DIMENSIONS											NPTF									
Mod.	Size	B	C	H	H1	L	L1	O	P1	P2	P3	P4	R1	R2	R3	S	V	V1	V2	
901-C1A TF	1	26	8.5	43	44	110	85	5.5	1.5	3	7.5	71	1/8	1/4	M5	95	8	8	6	
902-C2A TF	2	30	9	56	45	135	100	6.5	5	3	6	86	1/8	3/8	M6	115	11	11	8	
903-C3A TF	3	38	10	71	54	190	140	9	6	3	8	130	1/8	1/2	M8	168	13	13	8	

End block for manifold sub-base (VDMA 24345): for use with "C" manifolds only

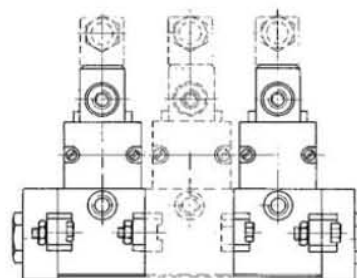
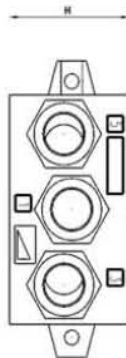
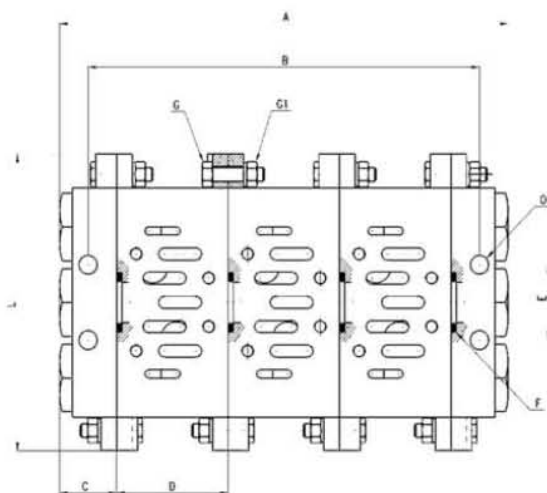
Note: complete with fixing screws and O-ring.



DIMENSIONS													NPTF							
Mod.	Size	A	A1	H	H1	H2	H3	H4	L	O	O1	P	P1	R	øR1	øR2	S	T	V2	
901-H1 TF (pair)	1	56	48	22	46	22	25	22	110	5.5	7	28	11	3/8	15	22.1	95	2	6	
902-H2 TF (pair)	2	68	63	26	47	23	25	24	135	6.5	9	35	13	1/2	18.5	28.7	115	2	8	
903-H3 TF (pair)	3	104	94	30	56	22	25	25	190	9	12	52	15	1	28	38	168	2.7	8	


Assembly of manifold sub-base (VDMA 24345) assembly dimensions for "C" manifold with "H" end plates
Manifold assembly with valves

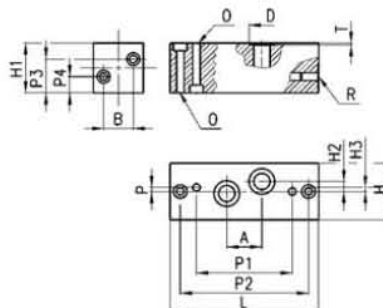
(with "C" manifolds & "H" end-blocks)



Valves shown for illustration purposes only

DIMENSIONS

Size	A	B	C	D	E	F	G	G1	H	L	O
						O-Ring Part No.	UNI 5739	UNI 5588			
1	n° D+2C	n° D+C	22	43	28	3068	M5x20	M5	46	110	7
2	n° D+2C	n° D+C	26	56	35	3093	M6x25	M6	47	135	9
3	n° D+2C	n° D+C	30	71	52	4125	M8x25	M8	56	190	12

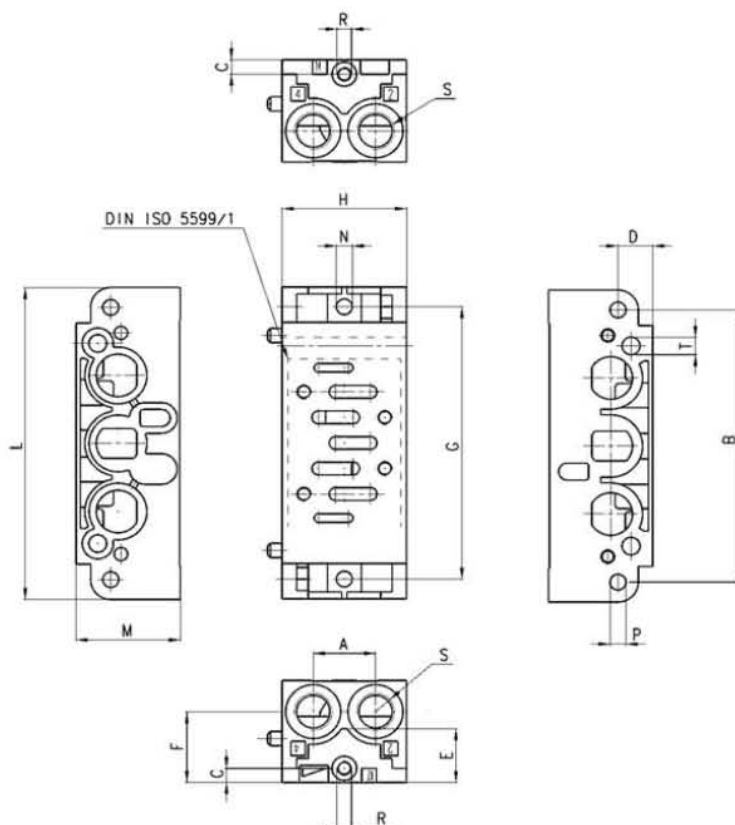
Manifold segment adapter with front outlets (VDMA 24345): for use with "C" manifold to adapt to end outlets
Note: complete with fixing screws and O-ring.

DIMENSIONS
NPTF

Mod.	Size	A	B	D	H	H1	H2	H3	L	O	P	P1	P2	P3	P4	R	T
901-N1 TF	1	26	22	19	42	37	7.5	1.5	110	5.5	3	71	95	25	12	1/4	1.4
902-N2 TF	2	30	29	23	55	40	6	5	135	6.5	3	86	115	26	14	3/8	1.4
903-N3 TF	3	38	36	27	70	45	8	6	190	9	3	130	168	29	17	1/2	1.4



Manifold bases with common inlet and exhaust ports and with outlet ports on the front (end)

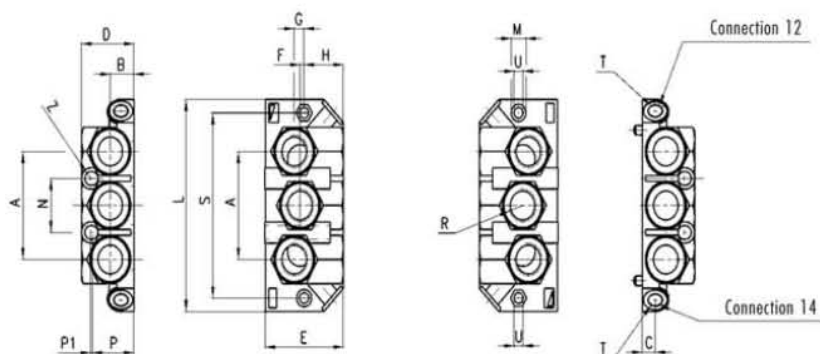
Note: complete with fixing screws and O-ring.


DIMENSIONS
NPTF

Mod.	Size	A	B	C	D	E	F	G	H	L	M	N	P	R	S	T
901-N1A TF	1	21.5	96	5	12	19	25	96	43	110	36	5.5	5.5	M5	1/4	6.2

End blocks for manifold bases with front outlets: for use with "N1A" manifold units

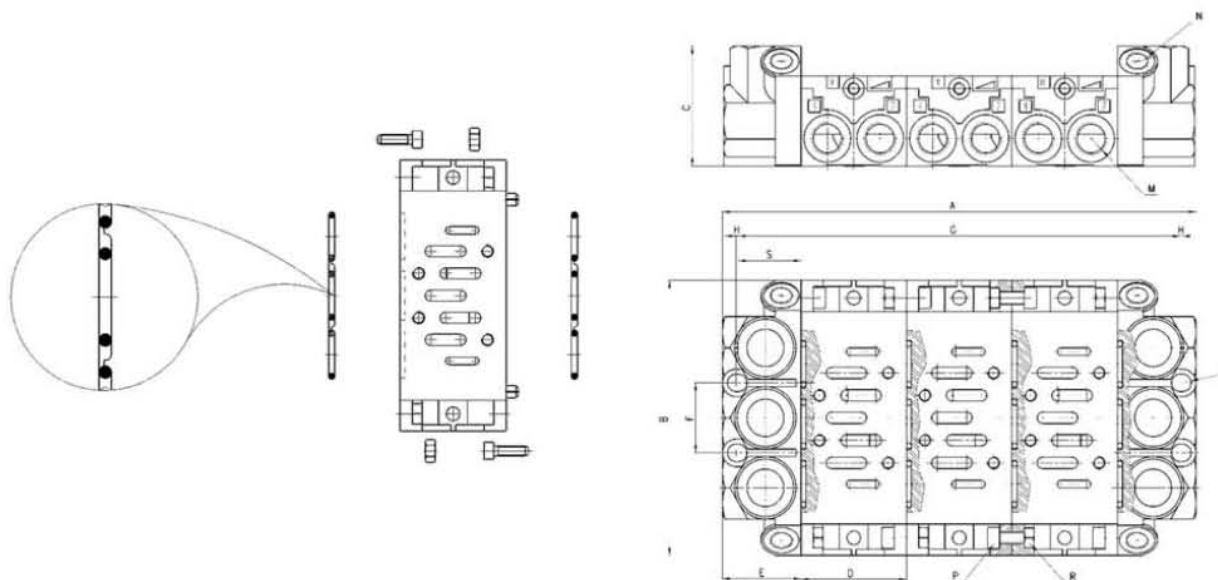
Note: complete with fixing screws and O-ring.


DIMENSIONS
NPTF
NPTF

Mod.	Size	A	B	C	D	E	F	G	H	L	M	N	P	P1	R	S	T	U	Z
901-HN1 TF (pair)	1	56	14.5	8	32	48	2.5	6	24	110	9	28	25.5	1	3/8"	96	1/8	5.5	3.5



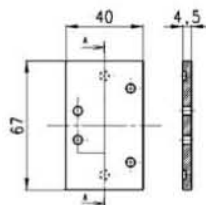
Assembly for front outlet manifold sub-bases: (shown with "N1A" & "HN1" assembly dimensions in mm units)


DIMENSIONS
NPTF

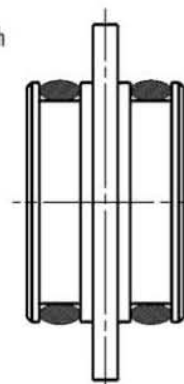
Size	A	B	C	D	E	F	G	H	L	M	N	UNI 5931 P	UNI 5588 R	S
1	N° D+2E	110	48	43	32	28	n° D+2S	1	3.5	1/4	1/8	M5 x 14	M5	25.5

Mod. 901-TP (ISO size 1 only)

Cover plate for the positions which are not used.
Complete with seals and screws.


Example of assembly - blocking discs

Separation tap lines 1/3/5 to be used with
manifold type 901C - 902C.
Mod. **901-C1A/TP** Size 1
Mod. **902-C2A/TP** Size 2


Mod. 901-N1A/T - full blocking gasket

Separation joint to be used with
manifold type 901N.
P-R-S plugged.



(ISO size 1 only)

Mod. 901 - N1A/TP - pressure blocking gasket

Separation joint to be used with
manifold type 901N.
P plugged.



(ISO size 1 only)