


 $C_v = .73 - 1.37$

Series 3 Air-Pilot Operated Valve

 $C_v = .73 - 1.37$

Series 3: 1/8" NPTF, 3-way/2-position & 5-way/2-position
 1/4" NPTF, 3-way/2-position, 5-way/2-position, 5-way/3-position,
 and dual 3-way/2-position valves.

The pneumatically operated, 3-way/2-position, 5-way/2-position Series 3 valves have been designed with different methods of return: An Air-Pilot with mechanical spring, Air-Pilot return, or Air-Pilot with bias override return. This is possible due to the type of design consisting of a balanced spool, which means that it can be used for a very wide range of applications. (including reverse porting).

The 3-way/2-position valves are normally closed in the rest position when the pressure is supplied at P, and are normally open when the pressure is supplied at R, the use of A remaining unchanged. Moreover, the 5-way/2-position valves can be supplied via the ports R and S with two different pressures if a cylinder must be operated using a delivery pressure different from the return pressure.

On the valve series 3, two additional holes permit assembly onto the manifold CNVL without the use of a banjo bolt.

*See manifold codes at the end of this section.

New versions of this valve have expanded the range to higher flow 1/4" ported valves as well as dual 3-way/2-position valves. 1/8" and 1/4" valves can be mounted on a common manifold by means of a transition plate.

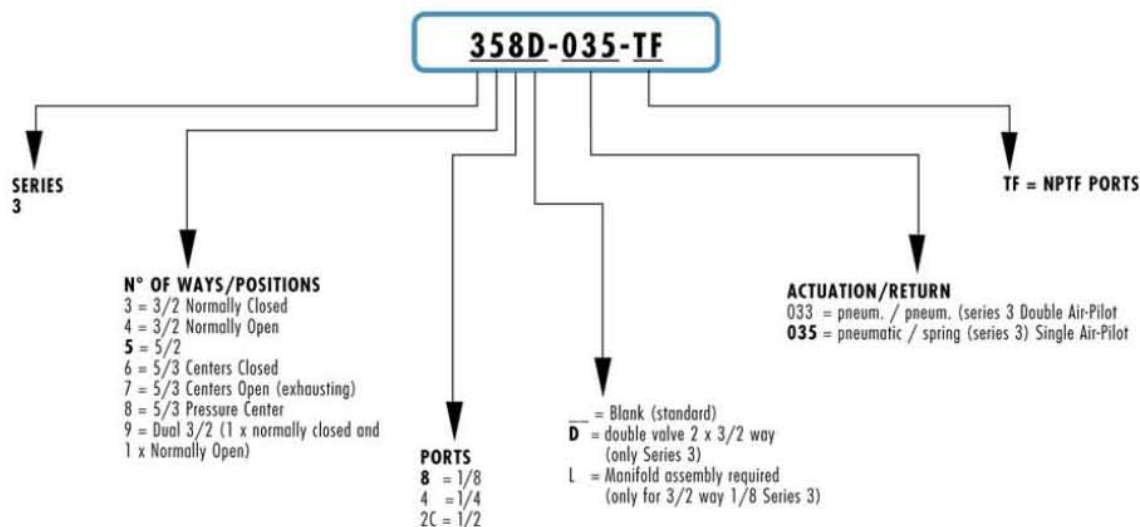


TECHNICAL SPECIFICATIONS

Valve group	3-way/2-position, 5-way/2-position, 5-way/3-position and dual 3-way/2-position
Construction	Air-Pilot, in-line ported
Mounting	through holes in valve body
Materials	Anodized body, stainless steel spool, Buna-N seals
Threaded port sizes	1/4", 1/8" NPTF
Installation	in any position
Operating temperature	0 - 80°C (with dry air at -20°C), 32°F — 176°F (with dry air at -4°F)
Fluid	Filtered air (25 micron or less recommended)
Lubricant	Not required; otherwise, oil compatible with Buna-N, (3° - 10° E); ISOVG32 grade, 32 centistrokes


PNEUMATIC DATA

Operating pressure	P = -9 -10 bar (0-145 psi): (Down to 28" Hg possible)
Control pressure	min. press. (see valve description)
Nominal pressure	6 bar (87 psi)
Nominal flow	*Qn Series 3: 1/8" = 700 NL/min (24.7 SCFM), Cv = .73 1/4" = 1300 NL/min (45.9 SCFM), Cv = 1.37
Nominal diameter	ø1/8 = 5 mm, 1/4" = 7.5 mm
Fluid	filtered air, without lubrication** (25 micron or less recommended)
	*Qn = determined with supply pressure of 6 bar and with Dp = 1 bar. **If lubricated air is used, it is recommended to use ISOVG32 oil and never interrupt the lubrication.

CODING OF PNEUMATICALLY OPERATED VALVES




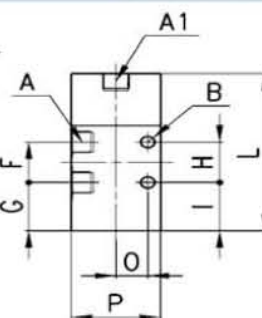
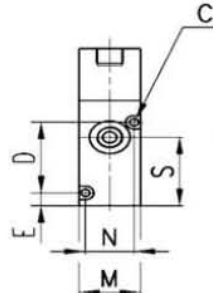
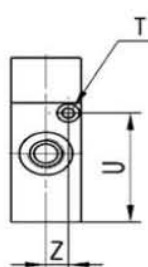
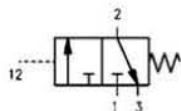
$$C_v = .73 - 1.37$$

3-way/2-position valve, Single Air-Pilot, Spring Return

$$C_v = .73 - 1.37$$

Valve with Air Pilot
and mechanical spring return.
Minimum pilot pressure: 3 bar. (44 psi)

Note: Please specify model 338 for single application
or 338L for manifold CNVL use.

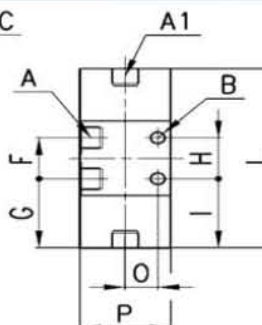
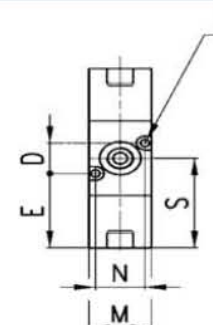
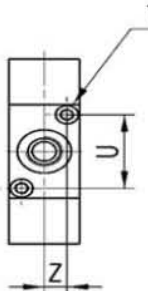
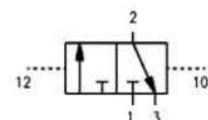

DIMENSIONS

Mod.	Mounting	Function	Flow rate NL/min	Cv	min. pil P.	Ports NPTF Pilot													Pilot						
						A	A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	T	U	Z	
338-035TF	without base	3-way/2-position NC	700	.73	3 bar	1/8	1/8	5	3.2	-	5.7	18	21.4	18	21.4	69.8	22	-	11.5	32	30.4	-	-	-	
338L-035TF	on manifold	3-way/2-position NC	700	.73	3 bar	1/8	1/8	-	3.2	31.4	5.7	18	21.4	-	21.4	69.8	22	17.4	11.5	32	30.4	-	-	-	
334-035TF	without base	3-way/2-position NC	1300	1.37	3 bar	1/4	-	4.1	-	-	-	22	21.4	22	21.4	73	25	-	16	40	32.4	M5	48.5	8	

3-way/2-position valve, 1/8" port Double Air-Pilot

$$C_v = .73 - 1.37$$

Valve with double Air-Pilot
Minimum pilot pressure: 2.5 bar. (29 psi)

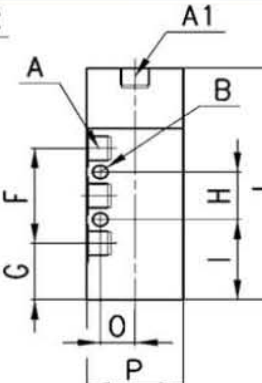
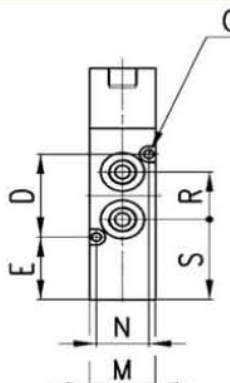
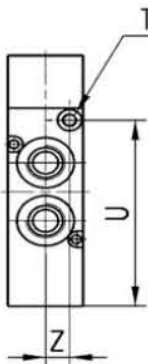
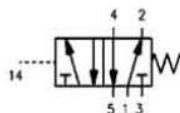

DIMENSIONS

Mod.	Mounting	Function	Flow rate NL/min	Cv	min. pil P.	Ports																	Pilot			
						NPTF		Pilot															Pilot			
						A	A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	T	U	Z		
338-033TF	without base	3-way/2-position NC	700	.73	2.5 bar	1/8	1/8	5	-	-	-	18	30.4	18	30.4	78.8	22	-	11.5	32	41.7	-	-	-		
338L-033TF	on manifold	3-way/2-position NC	700	.73	2.5 bar	1/8	1/8	5	3.2	13.4	32.7	18	30.4	-	30.4	78.8	22	17.4	-	32	41.7	-	-	-		
334-033TF	without base	3-way/2-position NC	1300	1.37	2.5 bar	1/4	-	4.1	-	-	-	22	29.7	22	29.7	81.3	25	-	16	40	40.7	M5	-	-		

5-way/2-position valve, Single Air Pilot, Spring Return

$$C_v = .73 - 1.37$$

Valve with pneumatic operation
mechanical spring return.
Minimum pilot pressure: 2.5 bar. (36 psi)


DIMENSIONS

Mod.	Mounting	Function	Flow rate NL/min	Cv	min. pil P.	Ports																		Pilot			
						NPTF	Pilot	A	A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	T	U	Z	
358-035TF	without base/on manifold	5/2-way	700	.73	3 bar	1/8	1/8	5	3.2	31.4	23.8	36	21.4	18	30.4	87.8	22	17.4	11.5	32	30.4	-	-	-			
354-035TF	without base/on manifold	5/2-way	1300	1.37	3 bar	1/4	-	4.1	3.2	36	25.4	44	21.4	22	30.4	95	25	21	16	40	32.4	M5	70.5	8			

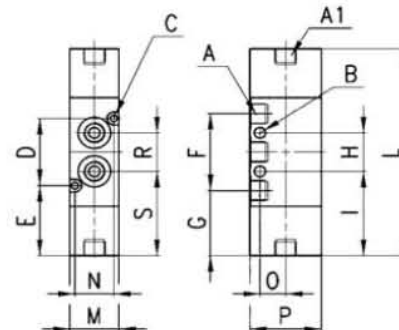
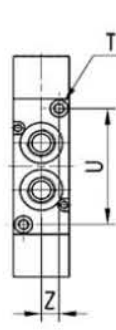
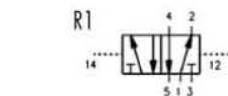


$$C_v = .73 - 1.36$$

5-way/2-position and 5-way/3-position Double Air-Pilot Valve

$$C_v = .73 - 1.36$$

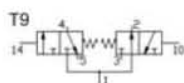
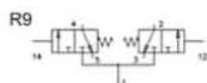
Valve with pneumatic actuation
and differential return.
Minimum pilot pressure: 2 bar. (29 psi)


DIMENSIONS

Mod.	Mounting	Function	Flow rate NL/min	Cv	P. min pil.	Ports NPTF A	Pilot A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	Pilot T	U	Z	Symbol
358-033TF	in line/ manifold	5/2	700	.73	2.5 bar	1/8	1/8	5	3.2	31.4	32.8	36	30.4	18	39.4	96.8	22	17.4	11.5	32	39.4	-	-	-	R1
354-033TF	in line/ manifold	5/2	1300	1.37	2.5 bar	1/4	-	4.1	3.2	36	33.7	44	29.7	22	40.7	103.3	25	21	16	40	40.7	M5	54.3	8	R1
368-033TF	in line/ manifold	5/3	700	.73	2.5 bar	1/8	1/8	5	3.2	31.4	32.8	36	30.4	18	39.4	96.8	22	17.4	11.5	32	39.4	-	-	-	U1
364-033TF	in line/ manifold	5/3	1200	1.26	2.5 bar	1/4	-	4.1	3.2	36	33.7	44	29.7	22	40.7	103.3	25	21	16	40	40.7	M5	54.3	8	U1
378-033TF	in line/ manifold	5/3	700	.73	2.5 bar	1/8	1/8	5	3.2	31.4	32.8	36	30.4	18	39.4	96.8	22	17.4	11.5	32	39.4	-	-	-	V1
374-033TF	in line/ manifold	5/3	1200	1.26	2.5 bar	1/4	-	4.1	3.2	36	33.7	44	29.7	22	40.7	103.3	25	21	16	40	40.7	M5	54.3	8	V1
388-033TF	in line/ manifold	5/3	700	.73	2.5 bar	1/8	1/8	5	3.2	31.4	32.8	36	30.4	18	39.4	96.8	22	17.4	11.5	32	39.4	-	-	-	Z1
384-033TF	in line/ manifold	5/3	1200	1.26	2.5 bar	1/4	-	4.1	3.2	36	33.7	44	29.7	22	40.7	103.3	25	21	16	40	40.7	M5	54.3	8	Z1

Dual 2 x 3-way/2-position Double Air-Pilot Valve

$$C_v = .73 - 1.26$$


DIMENSIONS

Mod.	Mounting	Function	Flow rate NL/min	Cv	P. min pil.	Ports NPTF A	Pilot A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	Pilot T	U	Z	Symbol
338D-035TF	in line/ manifold	2x3/2 NC	700	.73	2.5 bar	1/8	1/8	5	3.2	31.4	32.8	36	30.4	18	39.4	96.8	22	17.4	11.5	32	39.4	-	-	-	R9
334D-035TF	in line/ manifold	2x3/2 NC	1200	1.26	2.5 bar	1/4	-	4.1	3.2	36	33.7	44	29.7	22	40.7	103.3	25	21	16	40	40.7	M5	54.3	8	R9
348D-035TF	in line/ manifold	2x3/2 NA	700	.73	2.5 bar	1/8	1/8	5	3.2	31.4	32.8	36	30.4	18	39.4	96.8	22	17.4	11.5	32	39.4	-	-	-	S9
344D-035TF	in line/ manifold	2x3/2 NA	1050	1.1	2.5 bar	1/4	-	4.1	3.2	36	33.7	44	29.7	22	40.7	103.3	25	21	16	40	40.7	M5	54.3	8	S9
398D-035TF	in line/ manifold	2x3/2 NC NA	700	.73	2.5 bar	1/8	1/8	5	3.2	31.4	32.8	36	30.4	18	39.4	96.8	22	17.4	11.5	32	39.4	-	-	-	T9
394D-035TF	in line/ manifold	2x3/2 NC NA	1050	1.1	2.5 bar	1/4	-	4.1	3.2	36	33.7	44	29.7	22	40.7	103.3	25	21	16	40	40.7	M5	54.3	8	T9

3
AIR PILOT VALVES



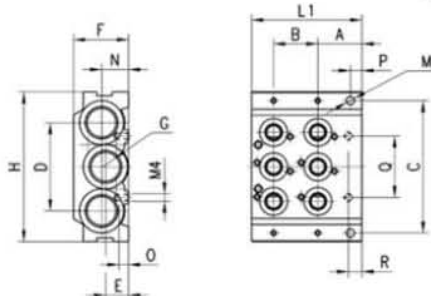
Manifold Segments for Series 3, 1/8" and 1/4" valves (All mounting hardware & seals come with each manifold segment)

Accessories - manifold segments and adaptor plates - 1/2" common inlet & exhaust

Terminal module 2 positions.

The following is supplied:

- 3x O-Rings
- 2x fixing nuts
- 2x junction plugs
- 6x interface seals
- 4x fixing screws



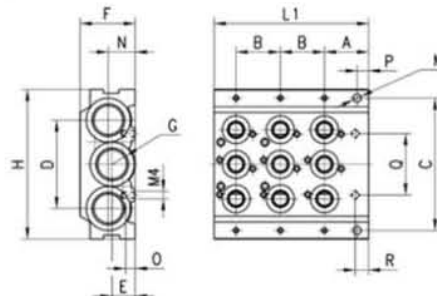
(to be used as a last station on manifold assembly)

DIMENSIONS															
Mod.	Series	A	B	C	D	E	F	H	L1	M	N	O	P	Q	R
CNVL-3H2TF	3 - 1/8"	23	23	69.5	46	12	29	78	57.5	4.3	14	5	6	32	7 3/8
CNVL-4H2TF	3 - 1/4"	26	26	88	60	14	29	98	65	4.3	-	5	5	38	7 1/2

Terminal module 3 positions.

The following is supplied:

- 3x O-Rings
- 2x fixing nuts
- 2x junction plugs
- 9x interface seals
- 6x fixing screws



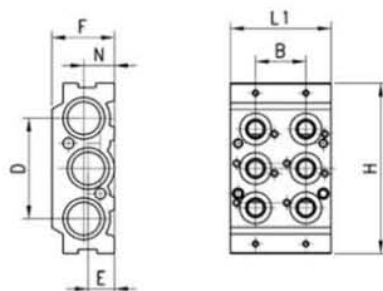
(to be used as a last station on manifold assembly)

DIMENSIONS															
Mod.	Series	A	B	C	D	E	F	H	L1	M	N	O	P	Q	R
CNVL-3H3TF	3 - 1/8"	23	23	69.5	46	12	29	78	80.5	4.3	14	5	6	32	7 3/8
CNVL-4H3TF	3 - 1/4"	26	26	88	60	14	29	98	91	4.3	-	5	5	38	7 1/2

Expansion module 2 positions.

The following is supplied:

- 3x O-Rings
- 2x fixing nuts
- 2x junction plugs
- 6x interface seals
- 4x fixing seals

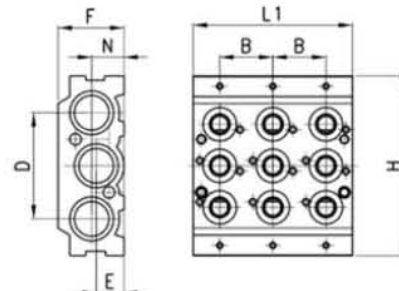


(to be used as an intermediate station on manifold assembly)

DIMENSIONS								
Mod.	Series	B	D	E	F	H	L1	N
CNVL-3I2	3 - 1/8"	23	46	12	29	78	46	14
CNVL-4I2	3 - 1/4"	26	60	14	29	98	52	-

Expansion module 3 positions. The following is supplied:

- 3x O-Rings
- 2x fixing nuts
- 2x junction plugs
- 9x interface seals
- 6x fixing screws



(to be used as an intermediate station on manifold assembly)

DIMENSIONS								
Mod.	Series	B	D	E	F	H	L1	N
CNVL-3I3	3 - 1/8"	23	46	12	29	78	69	14
CNVL-4I3	3 - 1/4"	26	60	14	29	98	65	-

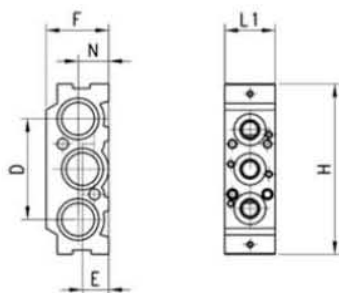


Manifold Segments for Series 3, 1/8" and 1/4" valves (All mounting hardware & seals come with each manifold segment)

Accessories - manifold segments and adaptor plates

Expansion module 1 position Th
following is supplied:

- 3x O-Rings
- 2x fixing nuts
- 2x junction plugs
- 3x interface seals
- 2x fixing seals



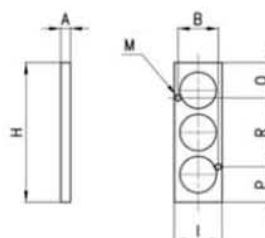
DIMENSIONS

Mod.	Series	D	E	F	H	L1	N
CNVL-311	3 - 1/8"	46	12	29	78	23	14
CNVL-411	3 - 1/4"	60	14	29	98	26	-

Blanking plate for sub-base.

The item is used to blank one or more stations on a manifold base Mod.CNVL...,
The following is supplied:

- 2x fixing screws
- 3x O-Rings



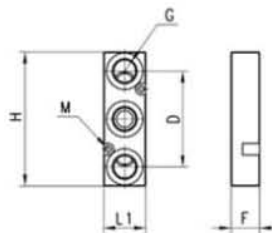
DIMENSIONS

Mod.	Series	A	B	H	I	M	P	Q	R
CNVL-1	3 - 1/8"	5	17.4	52	22	3.2	10.3	10.3	31.4
CNVL-4	3 - 1/4"	5	21	73	25	3.2	18.5	18.5	36

Intermediate plate for manifolds.

The following is supplied:

- 3x O-Rings
- 2x fixing screws



(to be used to create threaded ports on manifold station instead of valve interface)

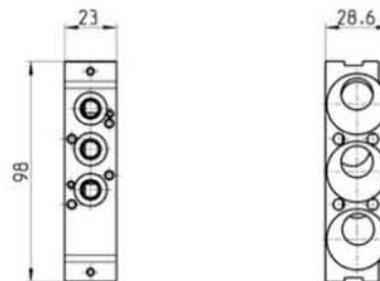
DIMENSIONS

Mod.	Series	G	H	M	F	L1	D	F
CNVL-3PTF	3 - 1/8"	1/4	70	3.2	29	22	50	15
CNVL-4PTF	3 - 1/4"	1/4	73	3.2	29	25	50	20

Interface plate between 358 and 354.

The following is supplied:

- 1x interface seal
- 2x screws
- 2x pins
- 2x plugs
- 6x O-Rings



DIMENSIONS

Mod.
CNVL-4H-3HTF

3

AIR PILOT VALVES

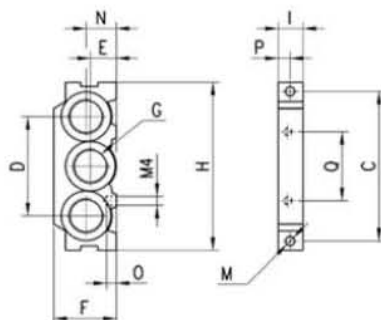


Manifold Segments for Series 3, 1/8" and 1/4" valves

(All mounting hardware & seals come with each manifold segment)

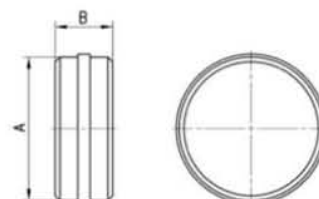
Accessories - manifold segments and adaptor plates - 1/2" common inlet & exhaust

End plate for manifolds.
The following is supplied:
2x fixing nuts



DIMENSIONS													
Mod.	Series	C	D	E	F	H	I	M	N	O	P	Q	G
CNVL-3H	3 - 1/8"	69.5	46	12	29	78	11.5	4.3	14	5	6	32	3/8
CNVL-4H	3 - 1/4"	88	60	14	29	98	13	4.3	-	5	8	29	1/2

Blocking disk between manifold stations.



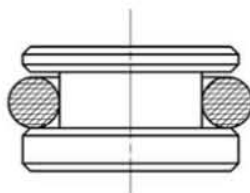
DIMENSIONS

Mod.	Series	A	B	Supply
CNVL-3H-TP	3 - 1/8"	15.6	6	Channels diaphragm 1; 3; 5
CNVL-3H-UP	3 - 1/8"	15.6	6	Channels diaphragm 1
CNVL-3H-JP	3 - 1/8"	15.6	6	Channels diaphragm 3; 5
CNVL-4H-TP	3 - 1/4"	23.8	8	Channels diaphragm 1; 3; 5
CNVL-4H-UP	3 - 1/4"	23.8	8	Channels diaphragm 1
CNVL-4H-JP	3 - 1/4"	23.8	8	Channels diaphragm 3; 5

Blanking plug for 3-way/2-position valve mounted on manifold segments.

The following is supplied:

- 1x blanking plug
- 1x O-Ring



DIMENSIONS	
Mod.	Series
CNVL - 3	3 - 1/8"
CNVL - 5	3 - 1/4"