

# Válvulas Direcionais PHT



ENGINEERING YOUR SUCCESS.

## Gabarito de Codificação

PHT	-	A	5	11	ES	D	B	XX
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Tamanho da válvula	
1/8	A
1/4	B
3/8	C
1/2	D

Funções	
3/2 vias NF	3
3/2 vias NA	4
5/2 vias	5
5/3 vias centro fechado	6
5/3 vias centro aberto positivo	7
5/3 vias centro aberto negativo	8

Pórtico	
G1/8	11
G1/4	12
G3/8	13
G1/2	14
Namur G1/4 *	1N

Atuador/Retorno	
EE	Solenoide/Solenoide
ES	Solenoide/Mola
AA	Piloto/Piloto
AS	Piloto/Mola

Conjunto Solenoide	
B	Bobina + Conector 22mm DIN B
N	Atuador solenoide sem bobina

Atuador Manual	
D	Botão rotativo
N	Sem atuador manual (Apenas sinal de piloto)

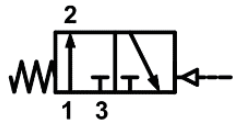
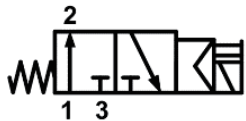
Tensão	
49	24Vcc
57	220Vca (50/60Hz)
45	12Vcc
53	110Vca (50/60Hz)
42	24Vca (50/60Hz)
NN	Válvula sem solenoide/Bobina

\* Para válvulas Namur, os pórticos são 3/8", 5º dígito deverá "C".

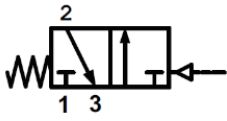
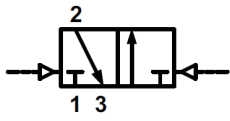
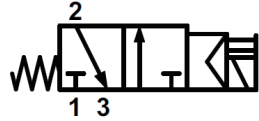
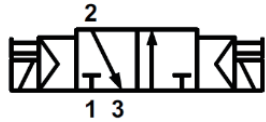
## Características Técnicas

Tamanhos	1/8	1/4	3/8	1/2
Tipo Construtivo	Spool			
Vedações	Soft seals			
Atuação	Piloto interno			
Atuador Manual	Botão rotativo			
Posição de Montagem	Opcional – Preferencialmente na horizontal			
Classificação do Ar	Ar comprimido filtrado 40µm, de acordo com a Norma ISO 8573-2010 [7:4:4]			
Orifício	3.9mm	4.5mm	6.2mm	8mm
Coefficiente de Vazão	CV=0.67	CV=0.89	CV=1.68	CV=2.79
Tamanho dos Pórticos	G1/8	Pórticos 1/2/4: G1/4 Pórticos 3/5: G1/8	Pórticos 1/2/4: G3/8 Pórticos 3/5: G1/4	G1/2
Pressão de Trabalho (Bar)	1.5-8			
Tempo de Resposta	50ms			
Temperatura Ambiente	-20°C ~+60°C			
Pressão Máxima de Entrada (Bar)	12			
Frequência	5Hz			
Tensão (+/-10%)	24Vcc; 220Vca (50/60Hz); 12Vcc; 110Vca(50/60Hz); 24Vca(50/60Hz)			
Potência	Vcc: 2.5W Vca: 2.5VA	Vcc: 3.0W Vca: 3.5VA		
Rating	100% continuous duty			
Conector Elétrico	Padrão DIN			
Classe de Proteção	IP65 – Classe F			

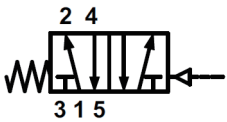
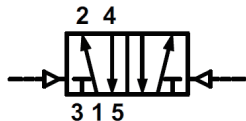
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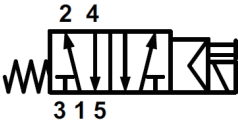
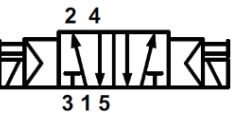
Simbologia	Pórtico	Atuador/Retorno	Pressão de Trabalho (bar)	Vazão (L/min)	Número de Desenho	Código
	G1/8	Piloto/Mola	0.15~0.8	600	1	PHT-A411ASNNNN
	G1/4	Piloto/Mola	0.15~0.8	1050	2	PHT-B412ASNNNN
	G3/8	Piloto/Mola	0.15~0.8	1500	3	PHT-C413ASNNNN
	G1/2	Piloto/Mola	0.15~0.8	3300	4	PHT-D414ASNNNN
	G1/8	Solenóide/Mola	0.15~0.8	600	9	PHT-A411ESDB**
	G1/4	Solenóide/Mola	0.15~0.8	1050	10	PHT-B412ESDB**
	G3/8	Solenóide/Mola	0.15~0.8	1500	11	PHT-C413ESDB**
	G1/2	Solenóide/Mola	0.15~0.8	3300	12	PHT-D414ESDB**

## 3/2 vias, In-line, NF

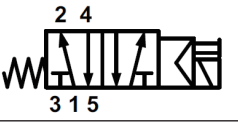

Simbologia	Pórtico	Atuador/Retorno	Pressão de Trabalho (bar)	Vazão (L/min)	Número de Desenho	Código
	G1/8	Piloto/Mola	0.15~0.8	600	1	PHT-A311ASNNNN
	G1/4	Piloto/Mola	0.15~0.8	1050	2	PHT-B312ASNNNN
	G3/8	Piloto/Mola	0.15~0.8	1500	3	PHT-C313ASNNNN
	G1/2	Piloto/Mola	0.15~0.8	3300	4	PHT-D314ASNNNN
	G1/8	Piloto/Piloto	0.15~0.8	600	5	PHT-A311AANNNN
	G1/4	Piloto/Piloto	0.15~0.8	1050	6	PHT-B312AANNNN
	G3/8	Piloto/Piloto	0.15~0.8	1500	7	PHT-C313AANNNN
	G1/2	Piloto/Piloto	0.15~0.8	3300	8	PHT-D314AANNNN
	G1/8	Solenóide/Mola	0.15~0.8	600	9	PHT-A311ESDB**
	G1/4	Solenóide/Mola	0.15~0.8	1050	10	PHT-B312ESDB**
	G3/8	Solenóide/Mola	0.15~0.8	1500	11	PHT-C313ESDB**
	G1/2	Solenóide/Mola	0.15~0.8	3300	12	PHT-D314ESDB**
	G1/8	Solenóide/Solenóide	0.15~0.8	600	13	PHT-A311EEDB**
	G1/4	Solenóide/Solenóide	0.15~0.8	1050	14	PHT-B312EEDB**
	G3/8	Solenóide/Solenóide	0.15~0.8	1500	15	PHT-C313EEDB**
	G1/2	Solenóide/Solenóide	0.15~0.8	3300	16	PHT-D314EEDB**

## 5/2, In-line

Simbologia	Pórtico	Atuador/Retorno	Pressão de Trabalho (bar)	Vazão (L/min)	Número de Desenho	Código
	G1/8	Piloto/Mola	0.15~0.8	600	17	PHT-A511ASNNNN
	G1/4	Piloto/Mola	0.15~0.8	1050	18	PHT-B512ASNNNN
	G3/8	Piloto/Mola	0.15~0.8	1800	19	PHT-C513ASNNNN
	G1/2	Piloto/Mola	0.15~0.8	3350	20	PHT-D514ASNNNN
	G1/8	Piloto/Piloto	0.15~0.8	600	21	PHT-A511AANNNN
	G1/4	Piloto/Piloto	0.15~0.8	1050	22	PHT-B512AANNNN
	G3/8	Piloto/Piloto	0.15~0.8	1800	23	PHT-C513AANNNN
	G1/2	Piloto/Piloto	0.15~0.8	3350	24	PHT-D514AANNNN

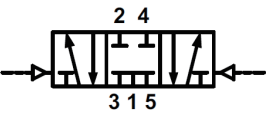
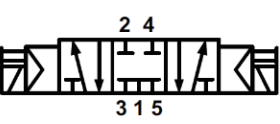
Simbologia	Pórtico	Atuador/Retorno	Pressão de Trabalho (bar)	Vazão (L/min)	Número de Desenho	Código
	G1/8	Solenóide/Mola	0.15~0.8	600	25	PHT-A511ESDB**
	G1/4	Solenóide/Mola	0.15~0.8	1050	26	PHT-B512ESDB**
	G3/8	Solenóide/Mola	0.15~0.8	1800	27	PHT-C513ESDB**
	G1/2	Solenóide/Mola	0.15~0.8	3350	28	PHT-D514ESDB**
	G1/8	Solenóide/Solenóide	0.15~0.8	600	29	PHT-A511EEDB**
	G1/4	Solenóide/Solenóide	0.15~0.8	1050	30	PHT-B512EEDB**
	G3/8	Solenóide/Solenóide	0.15~0.8	1800	31	PHT-C513EEDB**
	G1/2	Solenóide/Solenóide	0.15~0.8	3350	32	PHT-D514EEDB**

## 5/2, Namur\*

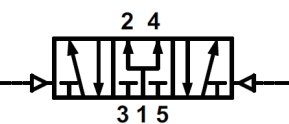
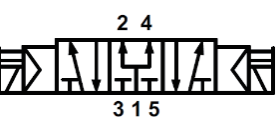
Simbologia	Pórtico	Atuador/Retorno	Pressão de Trabalho (bar)	Vazão (L/min)	Número de Desenho	Código
	G1/4	Solenóide/Mola	0.15~0.8	1050	33	PHT-C51NESDB**
	G1/4	Solenóide/Solenóide	0.15~0.8	1050	34	PHT-C51NEEDB**

1) \* Válvulas 3/2 Namur poderá ser obtida utilizando uma válvula 5/2 Namur combinado com a placa de conversão PHT-C5-BN, a qual deverá ser solicitada separadamente.

## 5/3, Centro Fechado

Simbologia	Pórtico	Atuador/Retorno	Pressão de Trabalho (bar)	Vazão (L/min)	Número de Desenho	Código
	G1/8	Piloto/Piloto	0.15~0.8	470	35	PHT-A611AANNNN
	G1/4	Piloto/Piloto	0.15~0.8	700	36	PHT-B612AANNNN
	G3/8	Piloto/Piloto	0.15~0.8	1200	37	PHT-C613AANNNN
	G1/2	Piloto/Piloto	0.15~0.8	2400	38	PHT-D614AANNNN
	G1/8	Solenóide/Solenóide	0.15~0.8	470	39	PHT-A611EEDB**
	G1/4	Solenóide/Solenóide	0.15~0.8	700	40	PHT-B612EEDB**
	G3/8	Solenóide/Solenóide	0.15~0.8	1200	41	PHT-C613EEDB**
	G1/2	Solenóide/Solenóide	0.15~0.8	2400	42	PHT-D614EEDB**

## 5/3, Centro Aberto Positivo

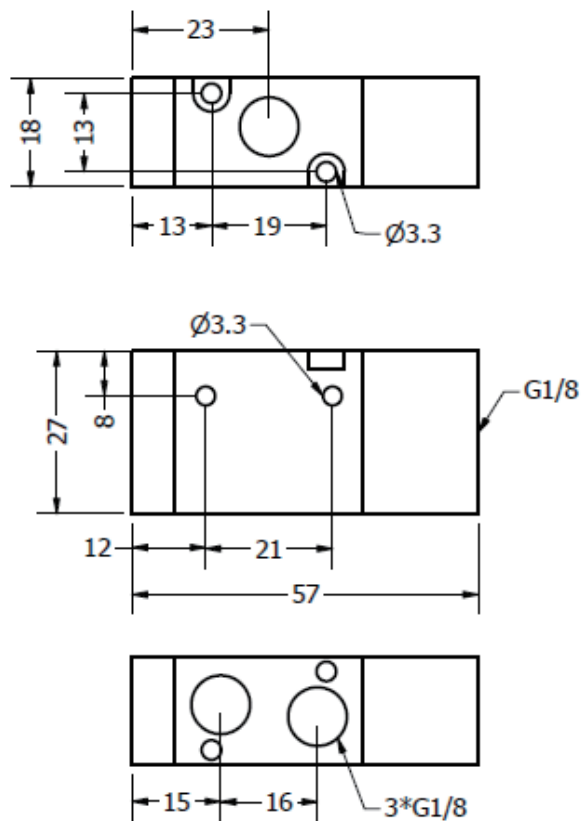
Simbologia	Pórtico	Atuador/Retorno	Pressão de Trabalho (bar)	Vazão (L/min)	Número de Desenho	Código
	G1/8	Piloto/Piloto	0.15~0.8	470	35	PHT-A711AANNNN
	G1/4	Piloto/Piloto	0.15~0.8	700	36	PHT-B712AANNNN
	G3/8	Piloto/Piloto	0.15~0.8	1200	37	PHT-C713AANNNN
	G1/2	Piloto/Piloto	0.15~0.8	2400	38	PHT-D714AANNNN
	G1/8	Solenóide/Solenóide	0.15~0.8	470	39	PHT-A711EEDB**
	G1/4	Solenóide/Solenóide	0.15~0.8	700	40	PHT-B712EEDB**
	G3/8	Solenóide/Solenóide	0.15~0.8	1200	41	PHT-C713EEDB**
	G1/2	Solenóide/Solenóide	0.15~0.8	2400	42	PHT-D714EEDB**

5/3, Centro Aberto Negativo

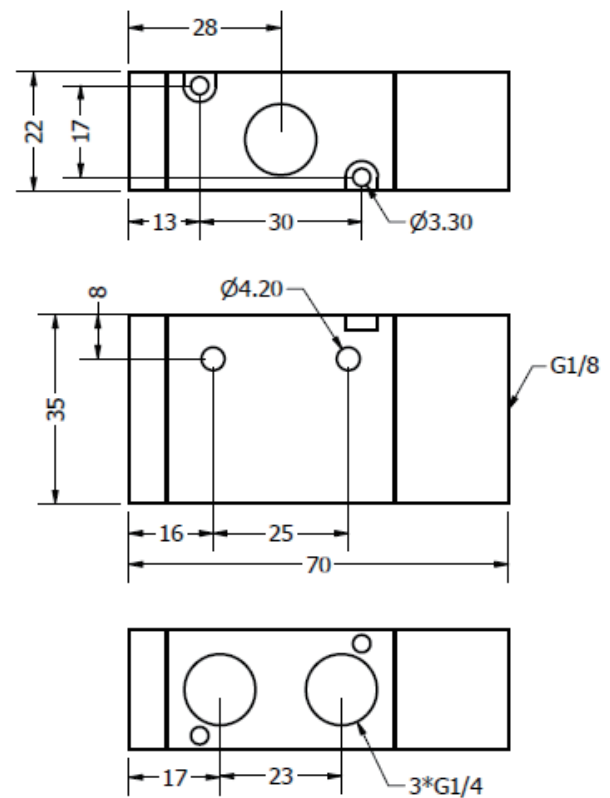
Simbologia	Pórtico	Atuador/Retorno	Pressão de Trabalho (bar)	Vazão (L/min)	Número de Desenho	Código
	G1/8	Piloto/Piloto	0.15-0.8	470	35	PHT-A811AANNNN
	G1/4	Piloto/Piloto	0.15-0.8	700	36	PHT-B812AANNNN
	G3/8	Piloto/Piloto	0.15-0.8	1200	37	PHT-C813AANNNN
	G1/2	Piloto/Piloto	0.15-0.8	2400	38	PHT-D814AANNNN
	G1/8	Solenóide/Solenóide	0.15-0.8	470	39	PHT-A811EEDB**
	G1/4	Solenóide/Solenóide	0.15-0.8	700	40	PHT-B812EEDB**
	G3/8	Solenóide/Solenóide	0.15-0.8	1200	41	PHT-C813EEDB**
	G1/2	Solenóide/Solenóide	0.15-0.8	2400	42	PHT-D814EEDB**

Dimensionais

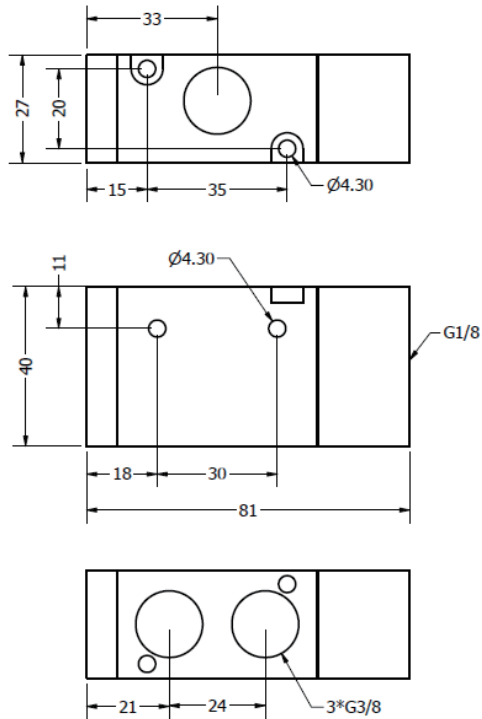
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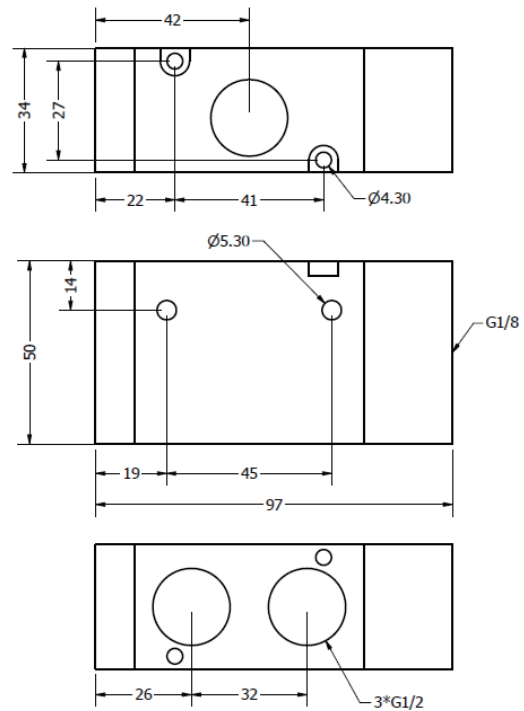
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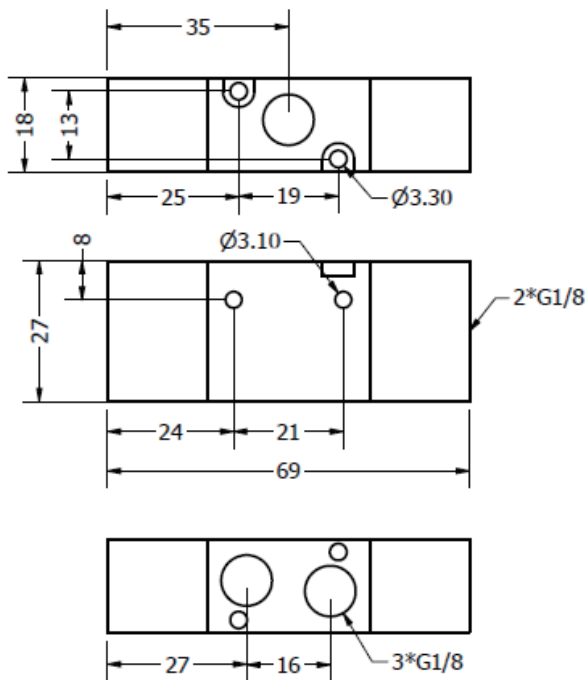
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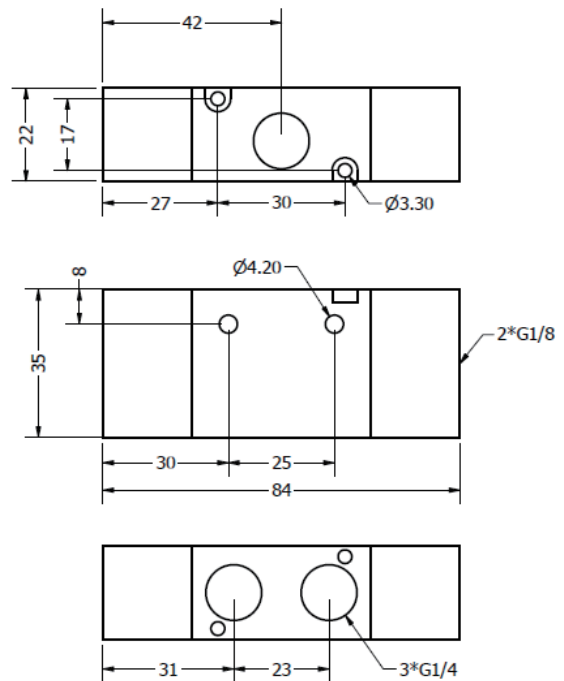
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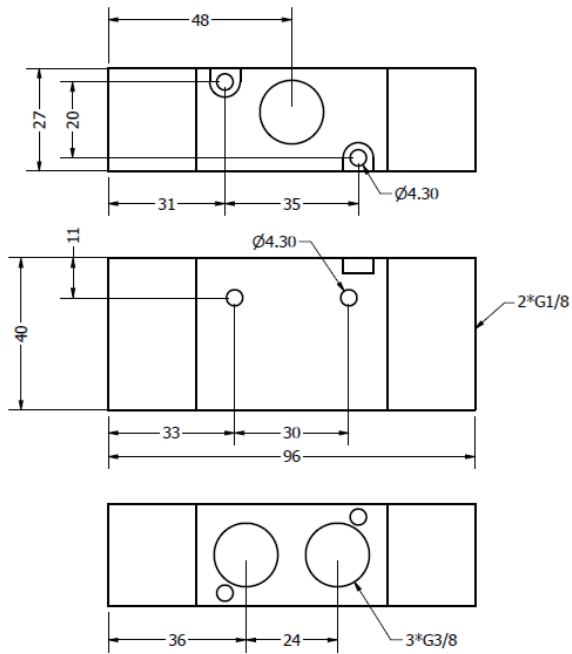


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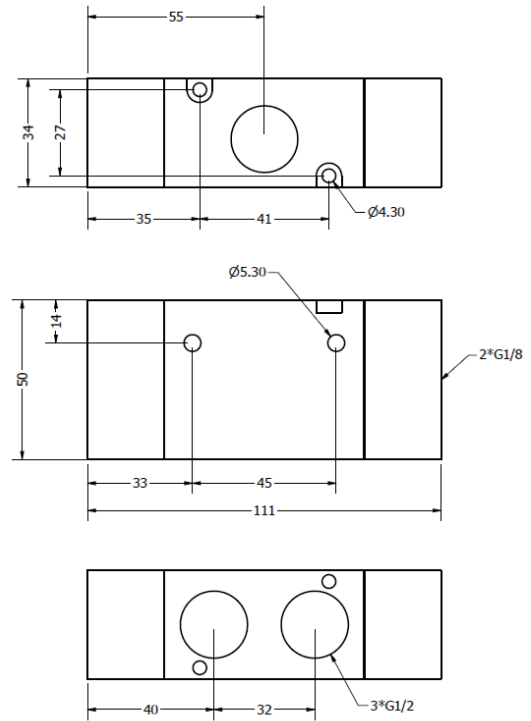




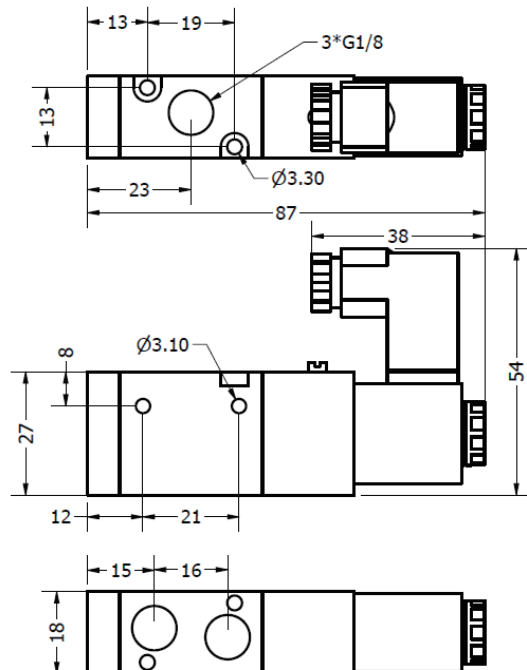
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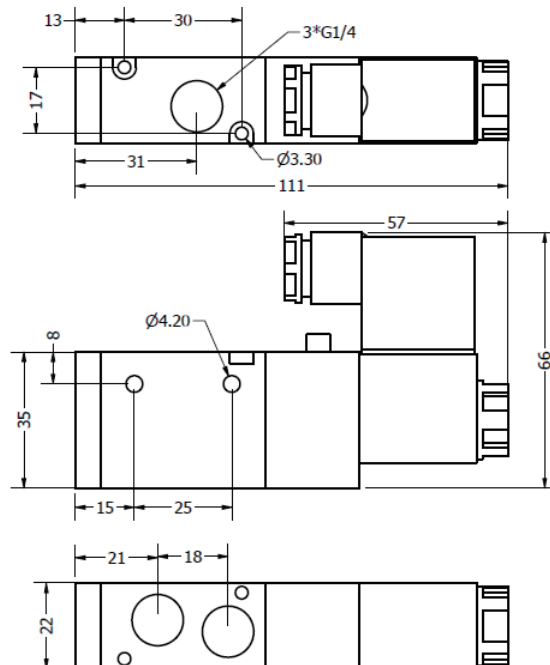
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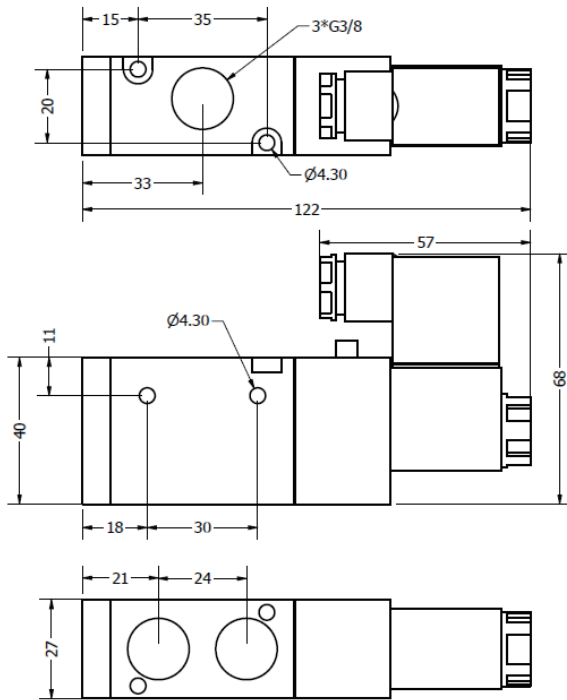
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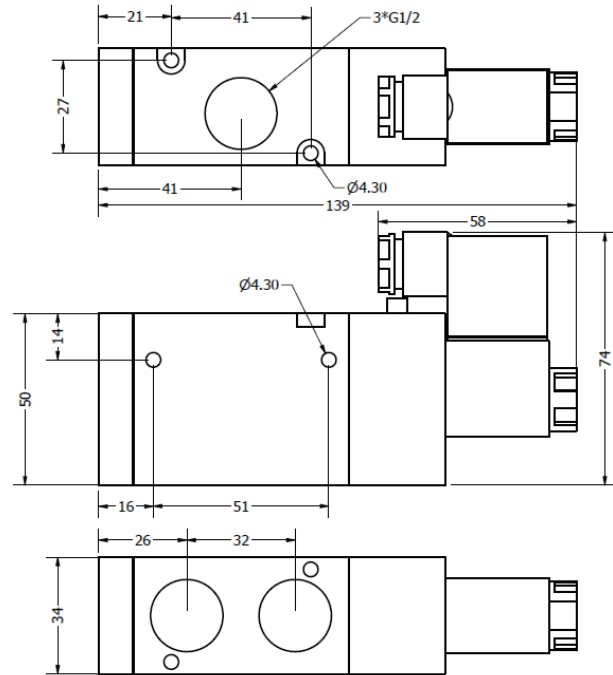
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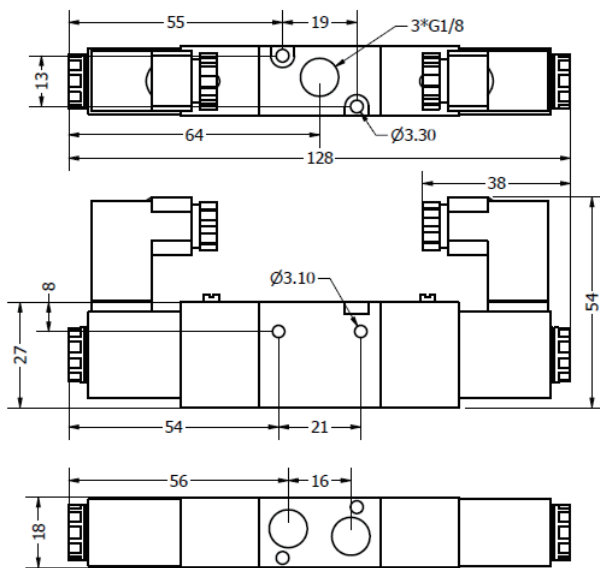
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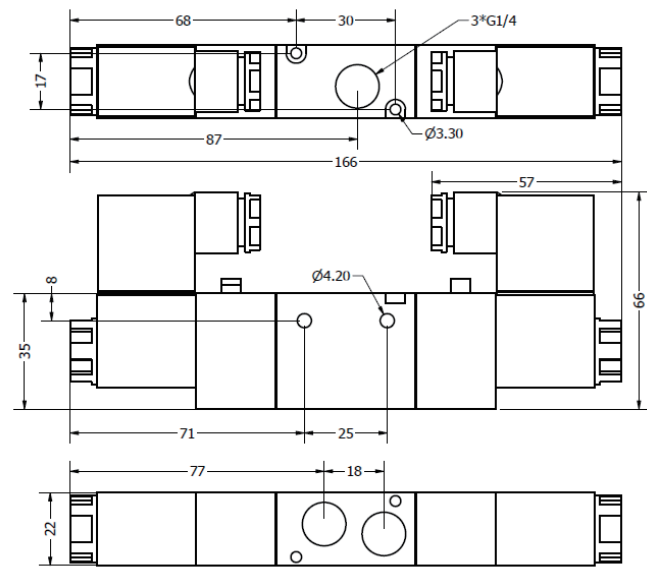
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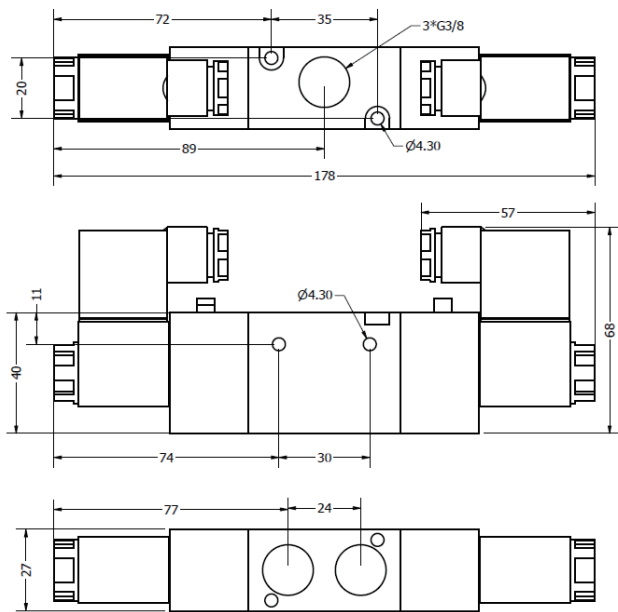


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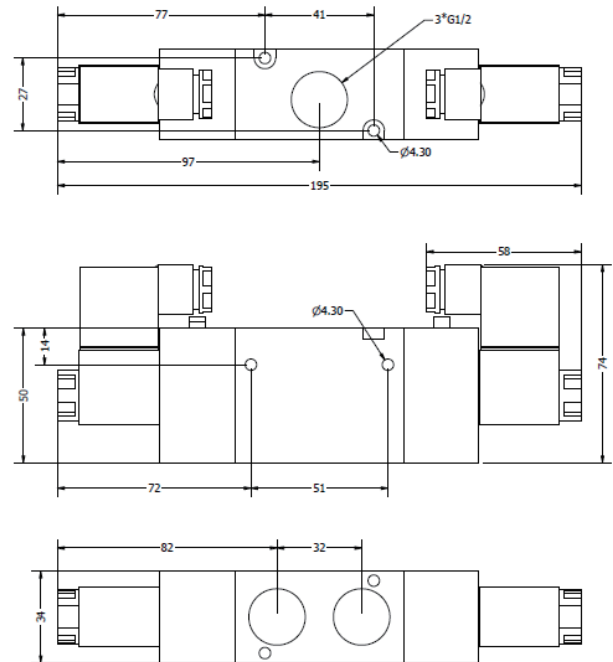




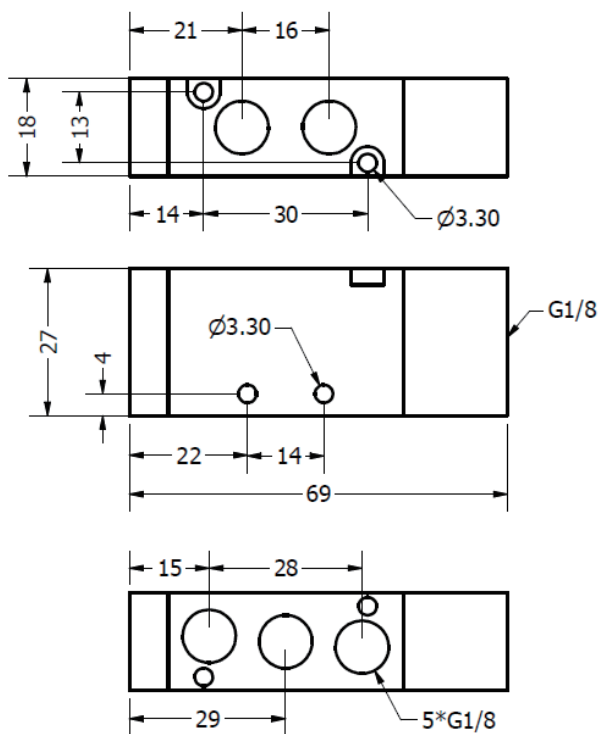
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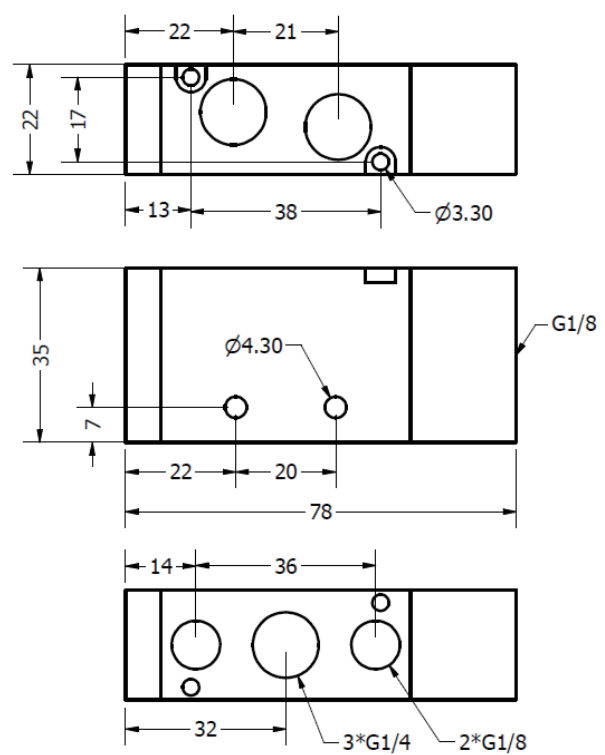
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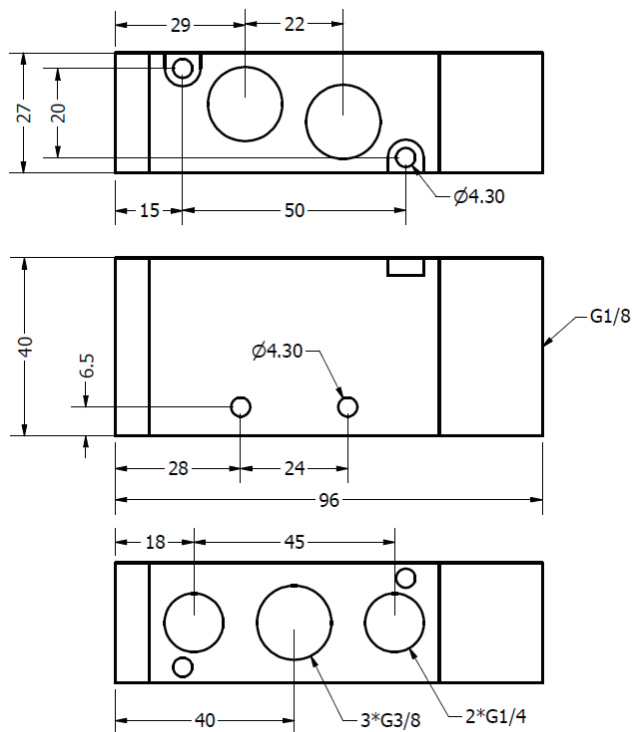
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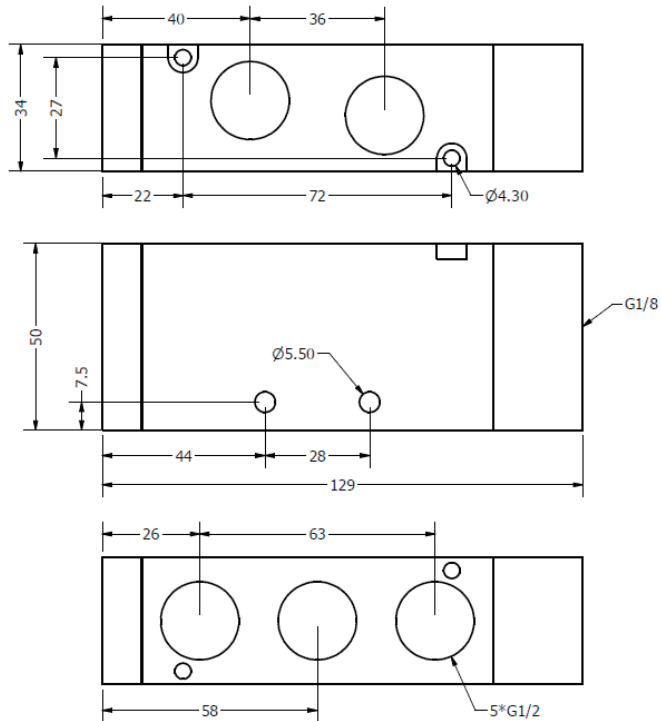
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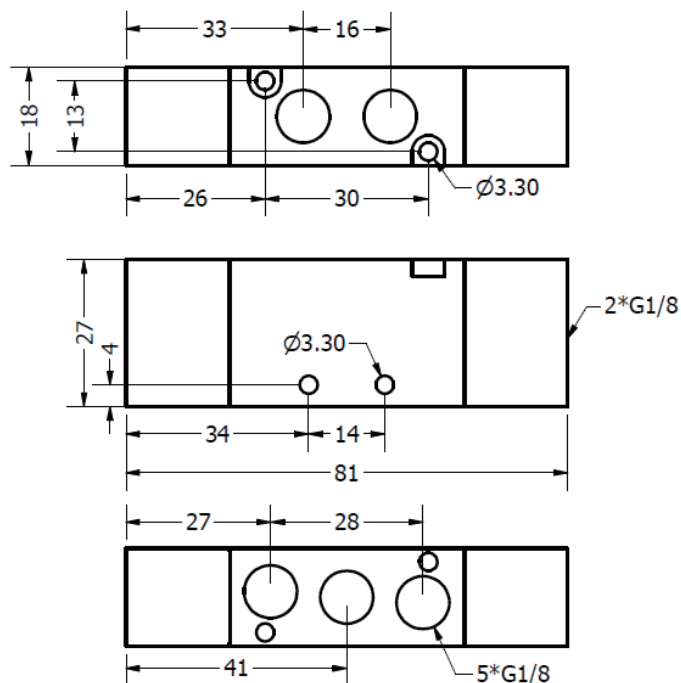
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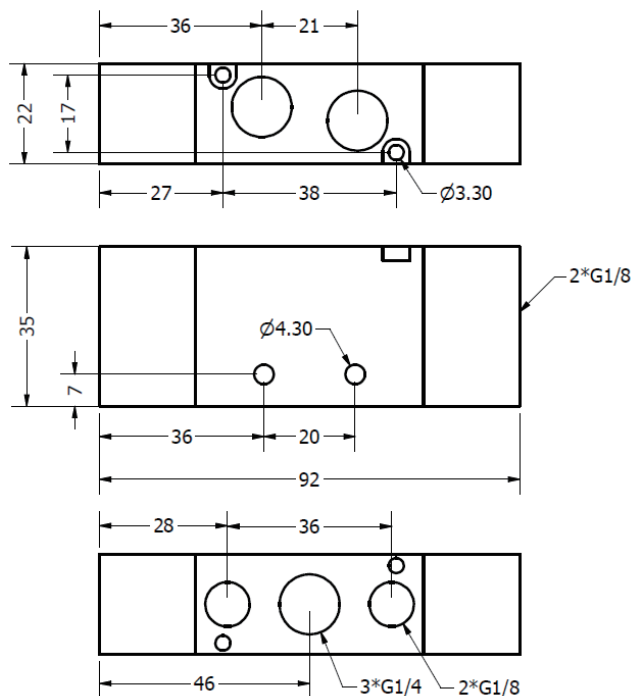
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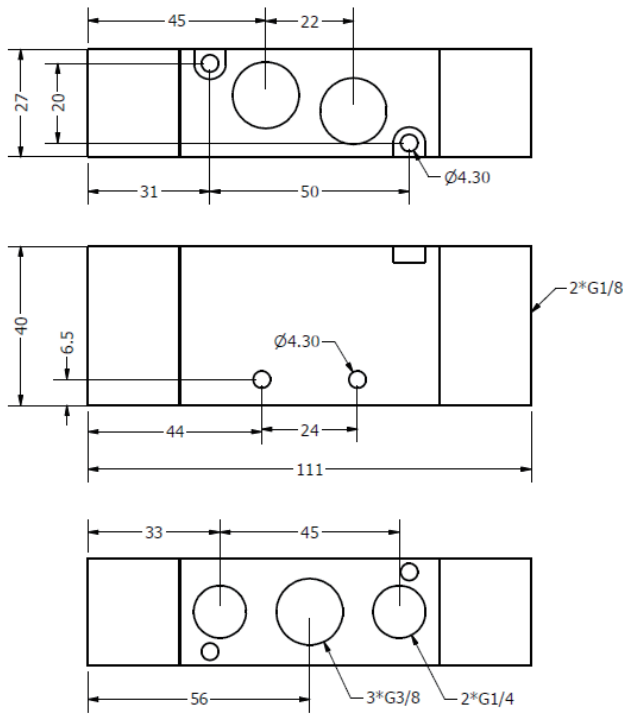
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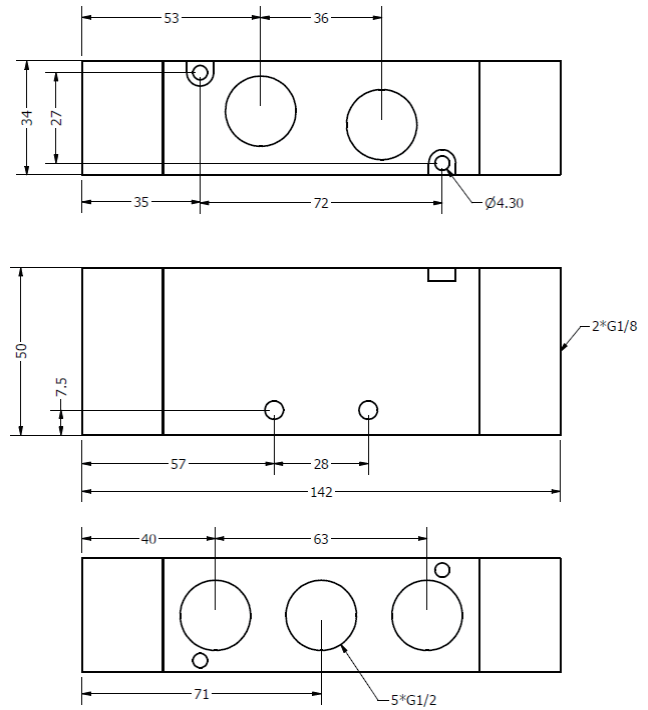
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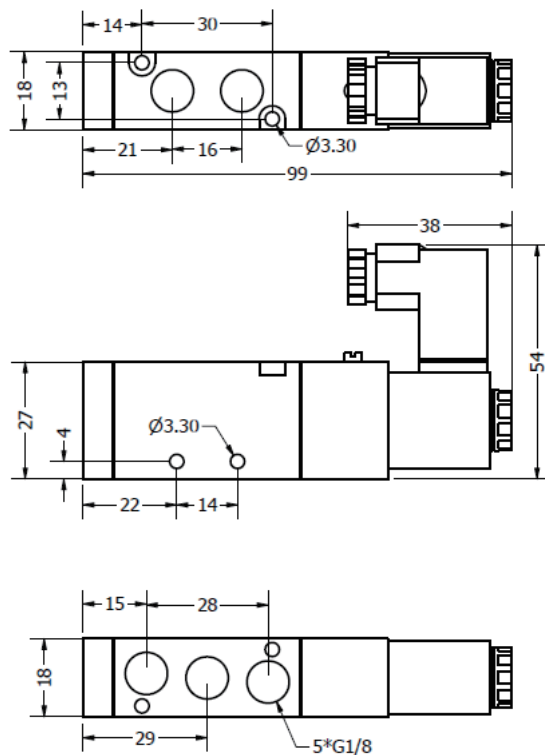
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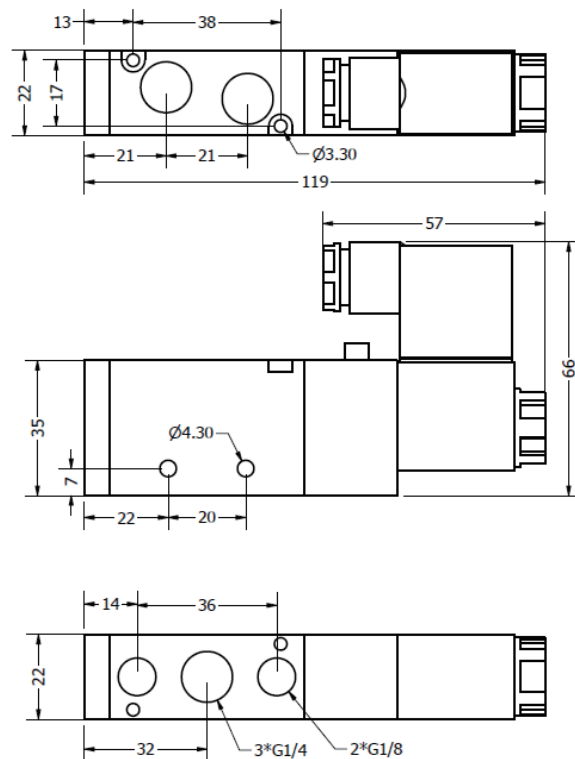
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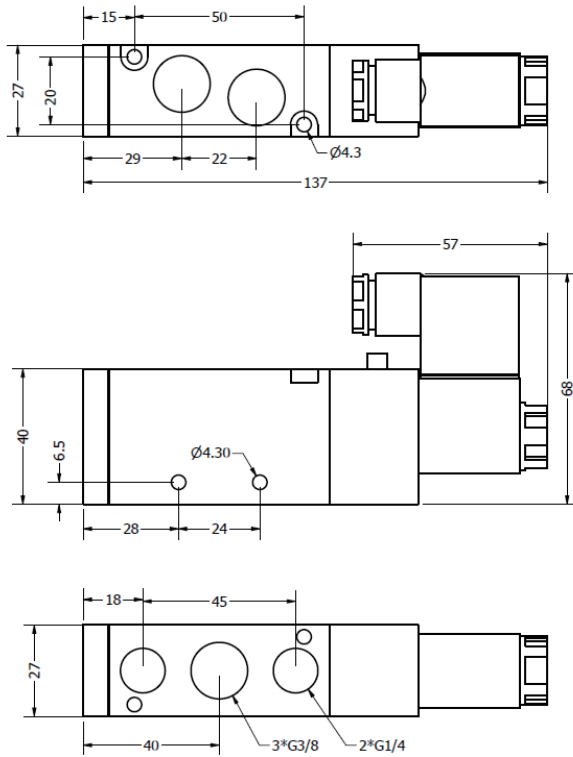
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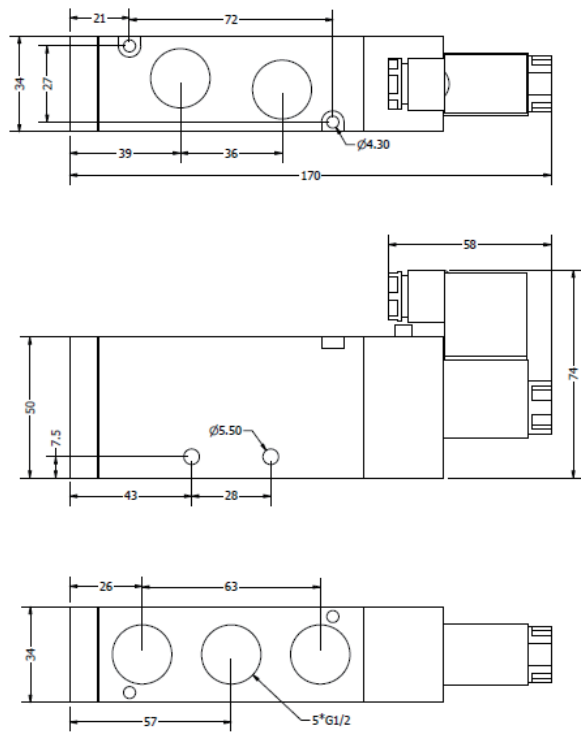
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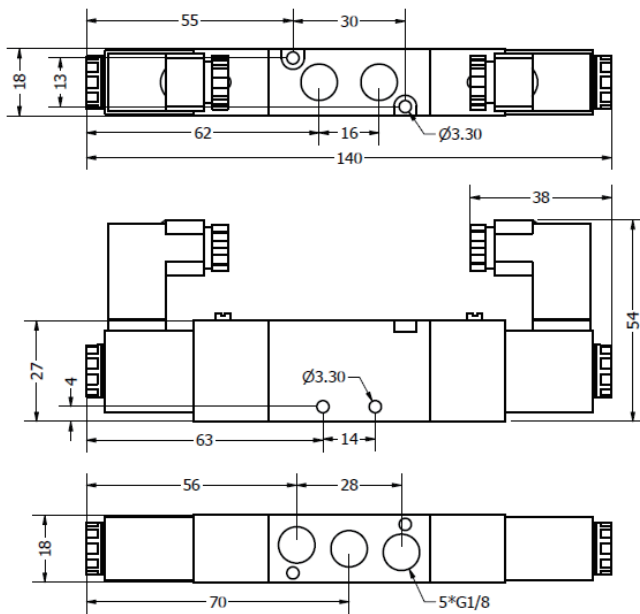
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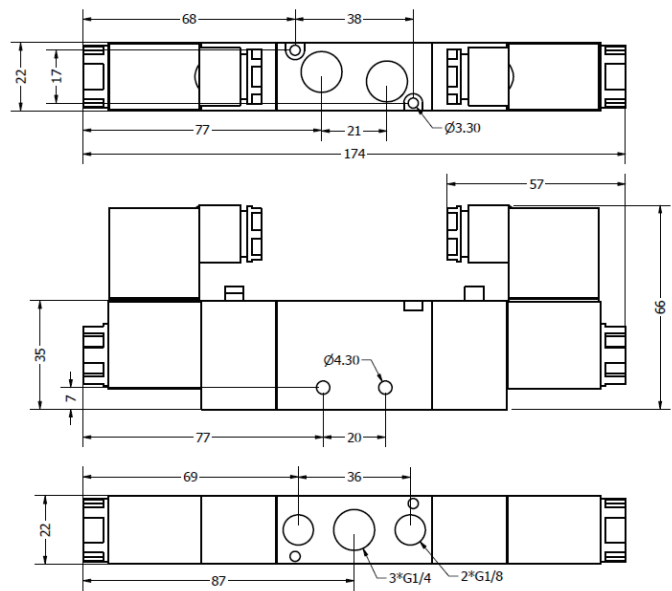
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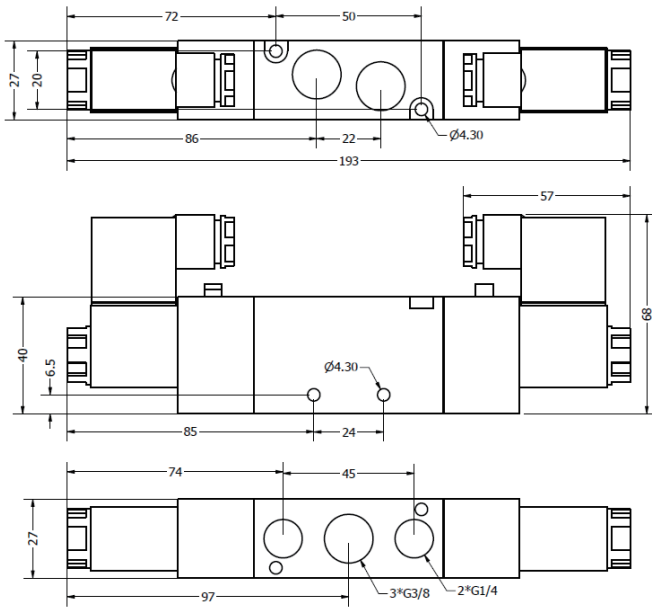
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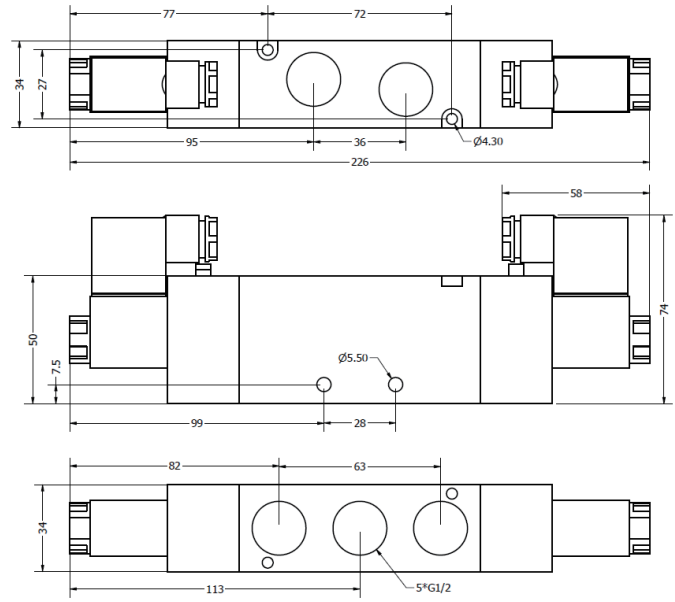
30



**31**

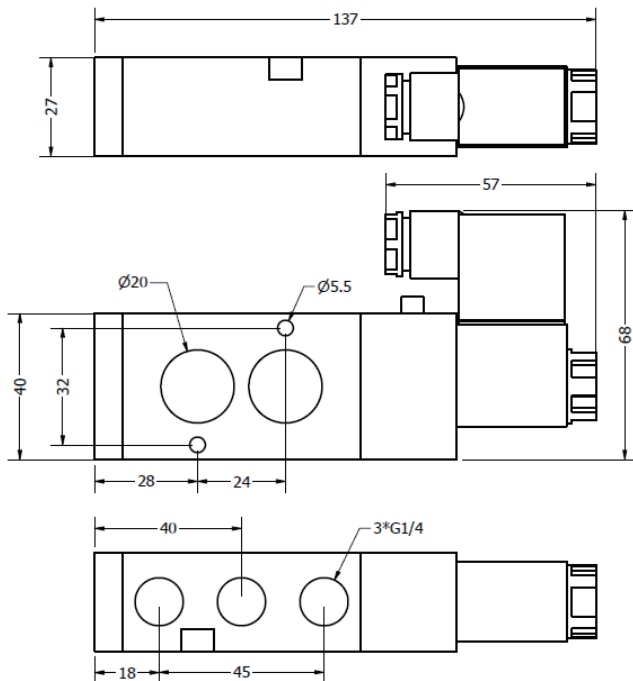


**32**



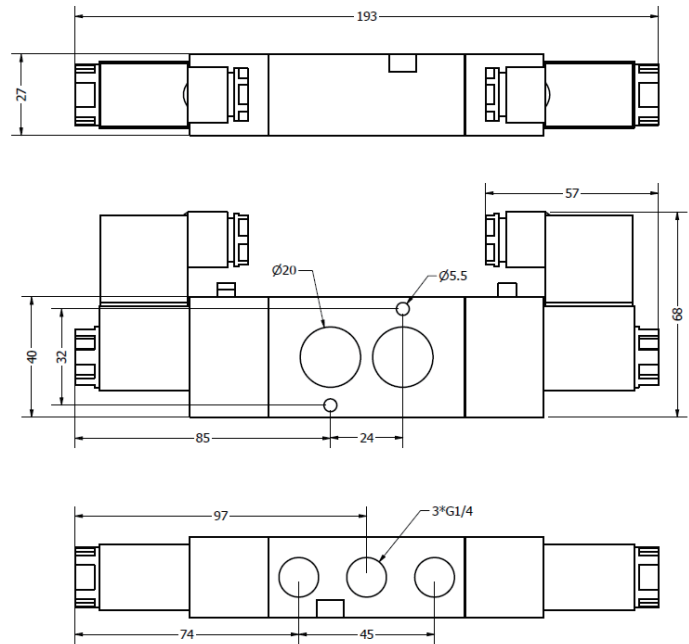
**33**

\* Válvula Namur - Tamanho 3/8"

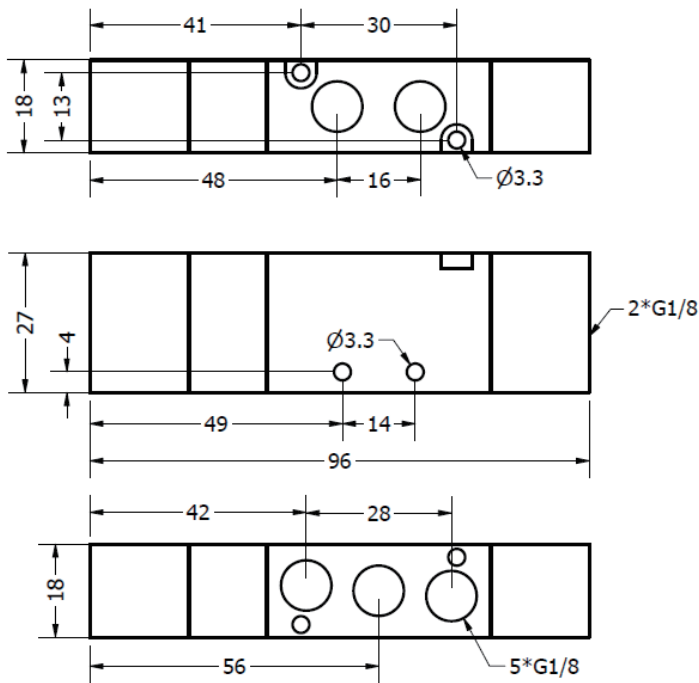


**34**

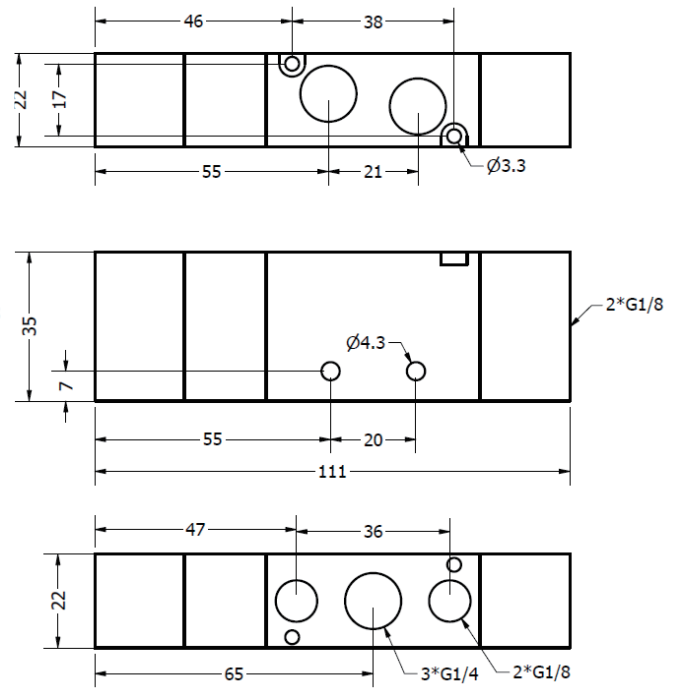
\* Válvula Namur - Tamanho 3/8"



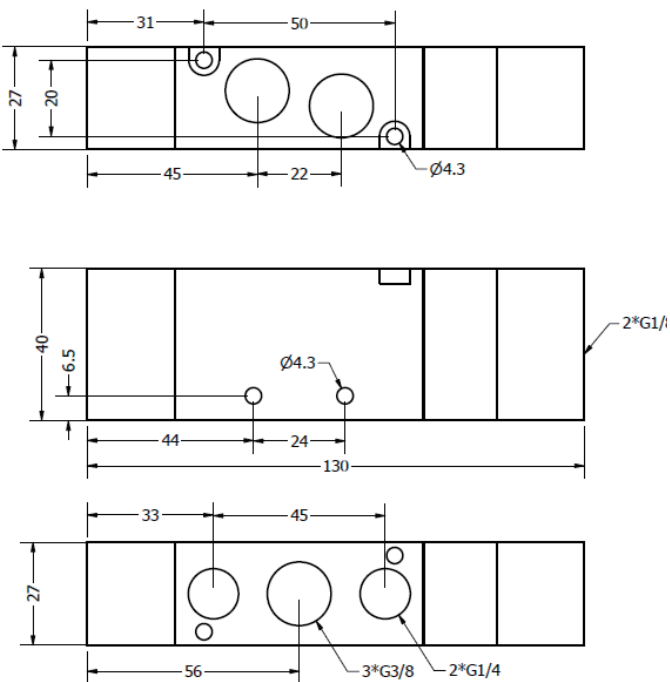
**35**



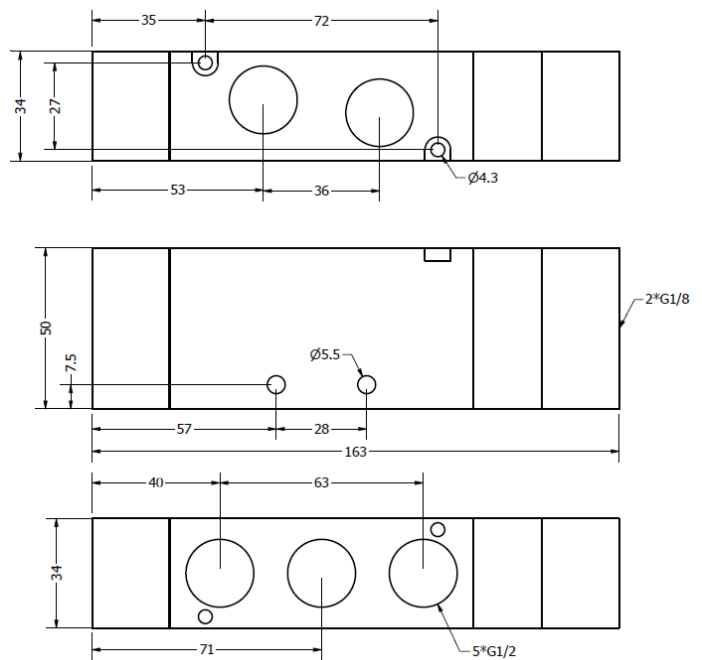
**36**



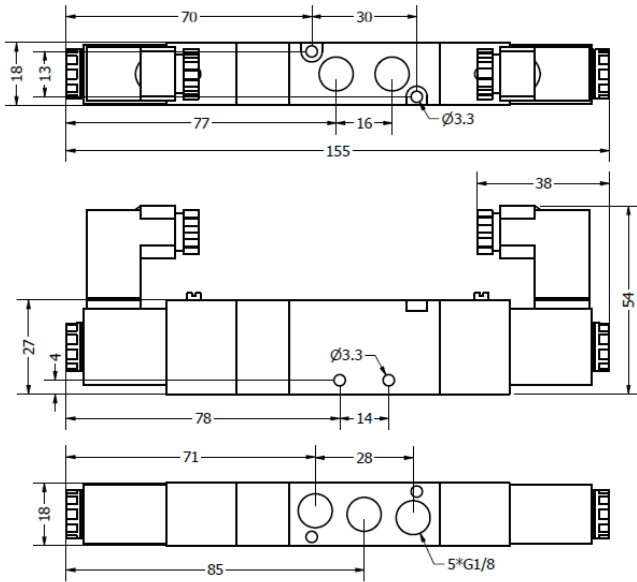
**37**



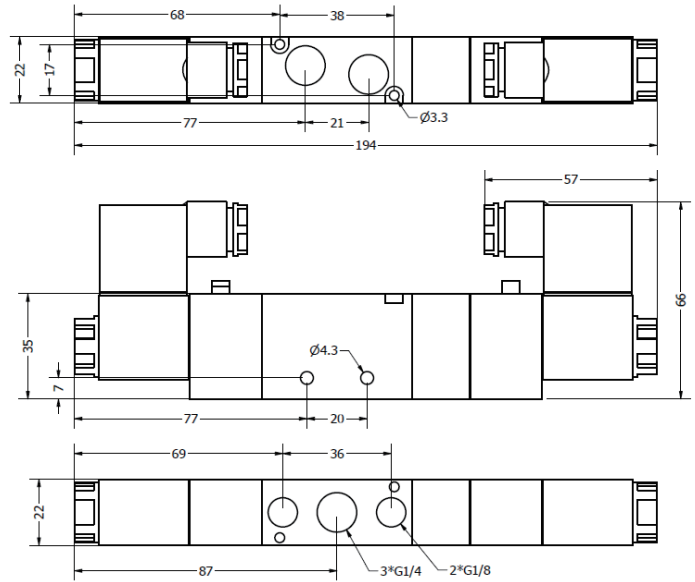
**38**



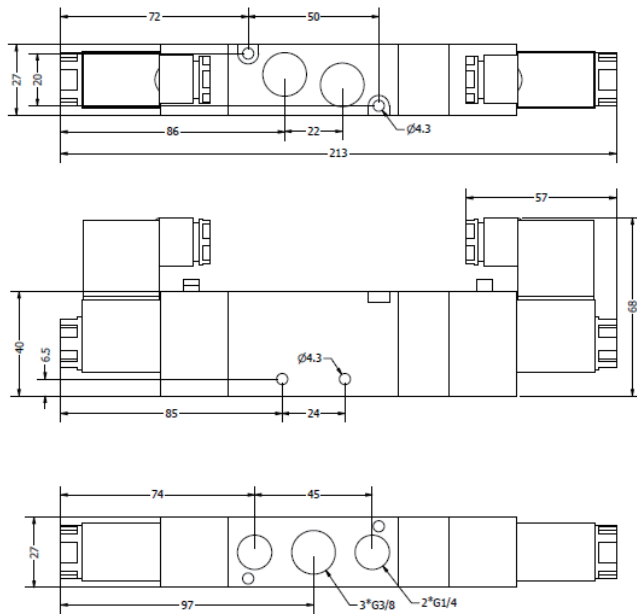
39



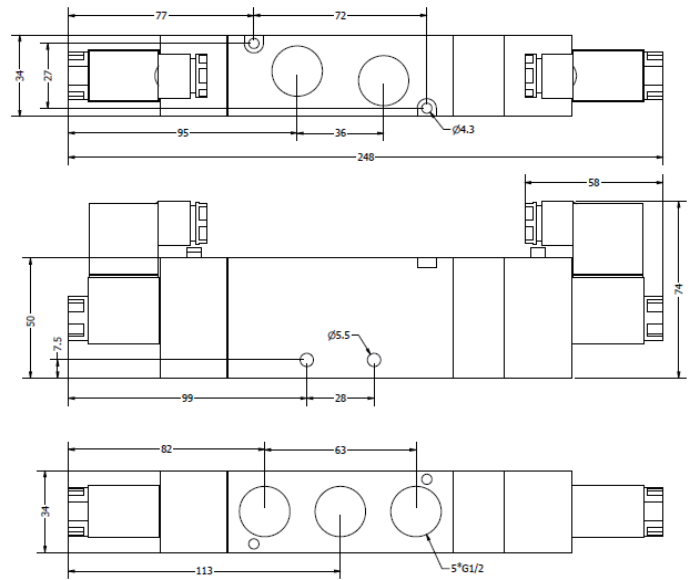
40



41

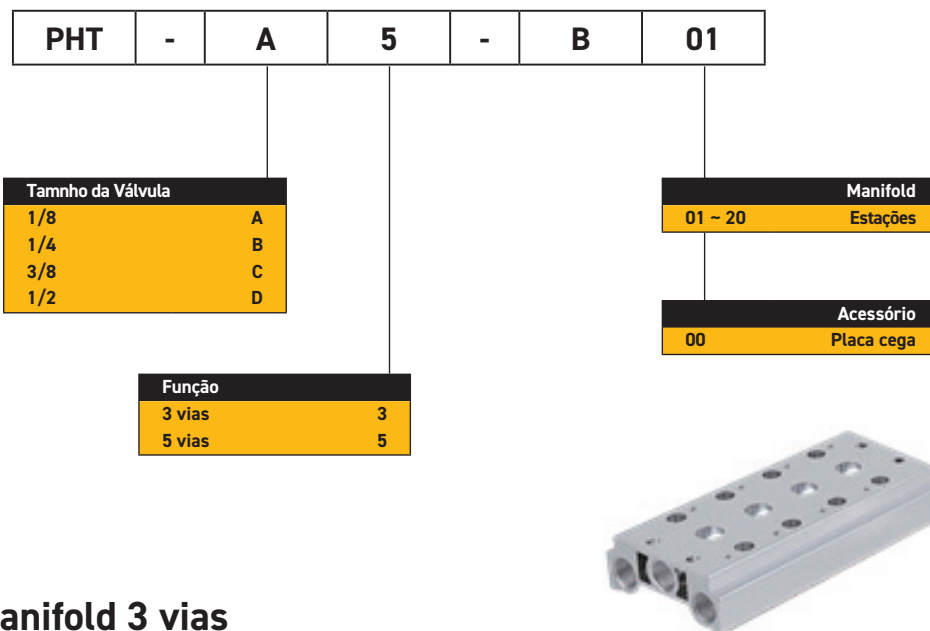


42

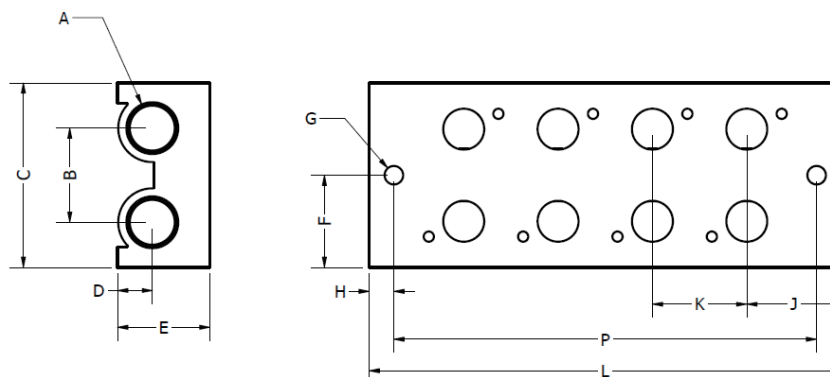




## Gabarito de Codificação - Base Manifold



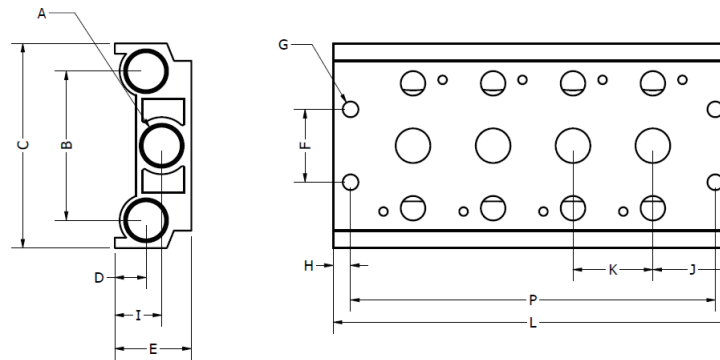
## Dimensionais - Manifold 3 vias



A	B	C	D	E	F	ø G
G1/8	17.5	31	6	19	15.5	4.5
G1/4	23	45	8.5	22.5	22.5	4.5
G3/8	29	50	12	28	25	4.5
G1/2	35.5	62.5	16	35	31	5.5

H	J	K	L	P	Código
4.5	19.5	19	18+(** x 19)	9+(** x 19)	<b>PHT-A3-B**</b>
6	23	23	23+(** x 23)	11+(** x 23)	<b>PHT-B3-B**</b>
6	27	28	26+(** x 28)	14+(** x 28)	<b>PHT-C3-B**</b>
7	31.5	32	28+(** x 35)	14+(** x 35)	<b>PHT-D3-B**</b>

## Dimensionais - Manifold 5 vias



A	B	C	D	E	F	Ø G	H
G1/8	40	56,5	9	22	20	4,5	5
G1/4	43	59	9	22	21	4,5	6
G3/8	53	73	11,7	27	26	4,5	6
G1/2	70	98	16,5	36	32	5,5	7

I	J	K	L	P	Código
13,5	19	19	19+(**x 19)	9+(**x 19)	PHT-A5-B**
13,5	23	23	23+(**x 23)	11+(**x 23)	PHT-B5-B**
17	27	28	26+(**x 28)	14+(**x 28)	PHT-C5-B**
24	31,5	35	28+(**x 35)	14+(**x 35)	PHT-D5-B**

## Conjunto Solenoide

Solenoide	Potência	Tensão	Tamanho da Válvula	Código
	2.5W	24VDC	1/8	PHTCB449-1
	3W	24VDC	1/4, 3/8, 1/2	PHTCB449-2
	2.5W	12VDC	1/8	PHTCB445-1
	3W	12VDC	1/4, 3/8, 1/2	PHTCB445-2
	2.5VA	24VAC	1/8	PHTCB442-1
	3.5VA	24VAC	1/4, 3/8, 1/2	PHTCB442-2
	2.5VA	110VAC	1/8	PHTCB453-1
	3.5VA	110VAC	1/4, 3/8, 1/2	PHTCB453-2
	2.5VA	220VAC	1/8	PHTCB457-1
	3.5VA	220VAC	1/4, 3/8, 1/2	PHTCB457-2