Balanced spool pneumatic valves - C series(former. CETOP)

Connections: 1/8" - 1/4" - 3/8" - 1/2"

C SERIES



- Balanced spool valves
- Fast switching times
- High mechanical strength
- Anodised aluminium body
  Thermoplastic polymer or anodised aluminium bases
- 3/2 - 5/2 - 5/3 pneumatic operatOR
  External piloting
- Possibility of series assembly
- Available with ATEX 2014/34/EU certification

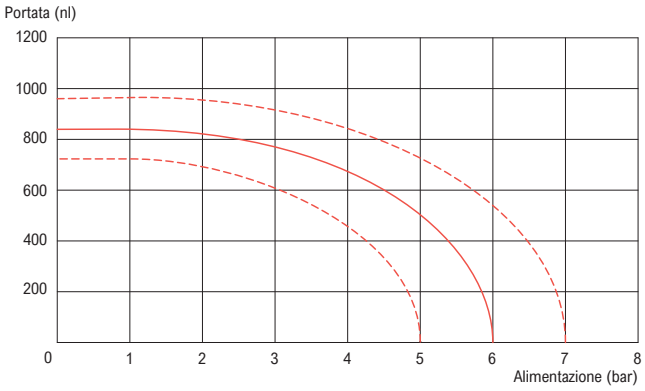
TECHNICAL CHARACTERISTICS				
Function		3/2 - 5/2 - 5/3		
Operation		Pneumatic: External pilot - Monostable mechanical or pneumatic spring return, bistable, three positions		
Materials		Anodised aluminium alloy body, thermoplastic polymer (PBT) / anodised aluminium alloy base and cover Internal components in steel - aluminium - brass - NBR gaskets		
Note on materials		Compliant with REACH (1907/2006/EC and subsequent amendments)		
Connections		Size A: 1/8" Gas (Available with 1/4" Gas connections) Size B: 1/4" Gas (Available with 3/8" Gas connections) Size C: 1/2" Gas		
Threads		Cylindrical gases (BSPP)		
Operating temperature		0°C ÷ +80°C (-20°C with dry air, to avoid ice formation)		
Operating pressure		0 ÷ 10 bar		
Pilot operation pressure		2 bar		
Air flow rate		Size A - 1/8", 1/4"	Size B - 1/4", 3/8"	Size C - 1/2"
Rated diameter		5mm	8mm	12mm
Supply pressure	5 bar	460 Nl/min	840 Nl/min	2100 Nl/min
(with ΔP 1 bar)	6 bar	500 Nl/min	930 Nl/min	2300 Nl/min
	7 bar	540 Nl/min	1020 Nl/min	2450 Nl/min
		See flow diagram page 3.3.05.2		
Fluid		Filtered air, lubrication-free, compliant with ISO 8573-1:2010 [7:4:4]		
Lubrication		Not required (if required in the pneumatic circuit, it must be continuous)		

ATEX CERTIFICATION	
Valve marking	CE Ex II 2G Ex h IIC T6 Gb (Zone 1 and Zone 2) CE Ex II 2D Ex h IIIC 85°C Db (Zone 21 and Zone 22)
Operating pressure in ATEX environment	0.5 ÷ 10 bar
ATEX ambient temperature	-20°C ≤ Ta ≤ +60°C
CE marking	In compliance with Directive 2014/34/EU (see declaration of conformity)

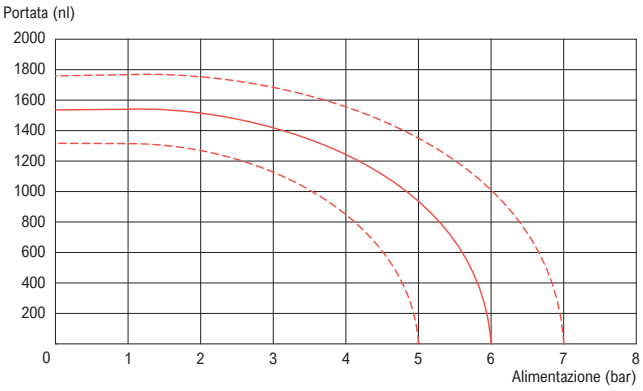
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FLOW DIAGRAMS - PNEUMATICALLY OPERATED VALVES

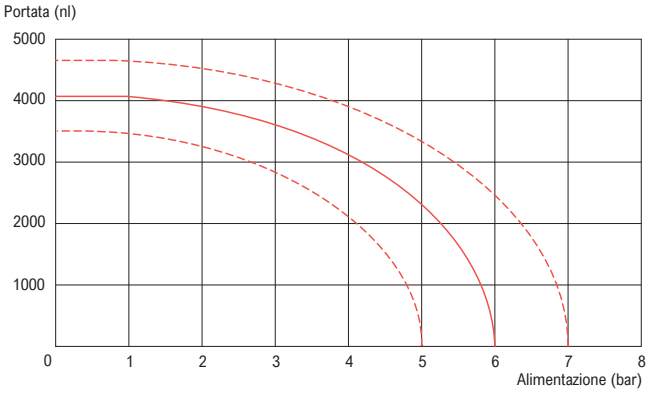
FLOW RATE DIAGRAM - SIZE "A" - 1/8", 1/4"



FLOW RATE DIAGRAM - SIZE "B" - 1/4", 3/8"

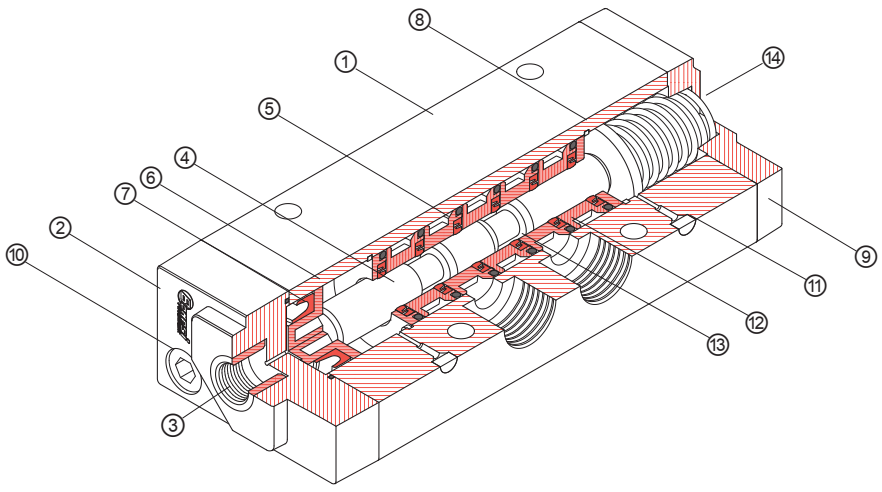


FLOW RATE DIAGRAM - SIZE "C" - 1/2"



MATERIALS - PNEUMATICALLY OPERATED VALVES

POS	DESCRIPTION	MATERIAL	POS	DESCRIPTION	MATERIAL
①	Body	Anodised drawn aluminium	⑧	Seeger ring	C75 steel
②	Cover	Polybutylene terephthalate PBT / Anodised aluminium	⑨	Base	Polybutylene terephthalate PBT / Anodised aluminium
③	Threaded insert	Brass OT58	⑩	Screw	Galvanised steel
④	Spool	Nickel-plated aluminium	⑪	Silencer	Sintered bronze
⑤	Spacers	Brass OT58	⑫	O-ring	Nitrile rubber (NBR)
⑥	Piston	Nylon	⑬	Sealing gasket	Nitrile rubber (NBR)
⑦	Piston gasket	Nitrile rubber (NBR)	⑭	Spring	AISI 302 steel (X10CrNi18-09)



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CODING KEY - PNEUMATICALLY OPERATED VALVES

Operation

DC = Pneumatic External piloting

Function

31 = 3/2 Normally open

33 = 3/2 Normally closed

13 = 5/2 Monostable 5/2 Bistable

51 = 5/3 Closed centres

53 = 5/3 Open centres

Size

80 = Size A - Standard 1/8" Gas
40 = Size B - Standard 1/4" Gas
20 = Size C - Standard 1/2" Gas

Version

10 = Monostable Pneumatic spring return

40 = Monostable Mechanical spring return

20 = Pneumatic bistable Three-position monostable

Pneumatic connections

NULL = Standard
/4 = 1/4" Gas
/3 = 3/8" Gas

Certifications

NULL = None
EX = For compressed air in potentially explosive atmosphere (ATEX)

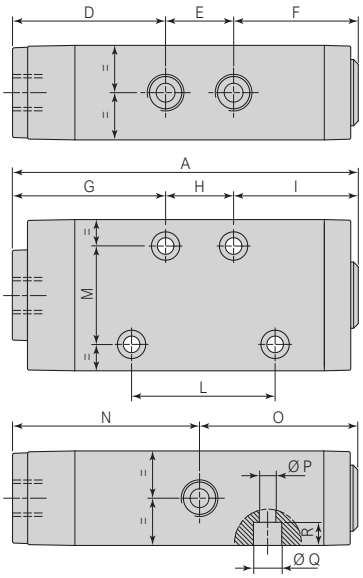
POSSIBLE CONFIGURATIONS

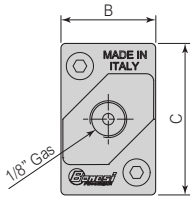
Operation	Function	Size	Version	Pneumatic connections	Certifications
DC Pneumatic external piloting	31 3/2 Normally open	80 Size A Standard 1/8" Gas	10 Monostable Pneumatic return	□ 1/8" Gas	□ None
			40 Monostable Mechanical return	/4 1/4" Gas	EX ATEX
			20 Pneumatic bistable Three-position monostable		
	33 3/2 Normally closed				
	13 5/2				
	51 5/3 Closed centres				
	53 5/3 Open centres	40 Size B Standard 1/4" Gas	10 Monostable Pneumatic return	□ 1/4" Gas	□ None
			40 Monostable Mechanical return	/3 3/8" Gas	EX ATEX
			20 Pneumatic bistable Three-position monostable		
	13 5/2	20 Size C Standard 1/2" Gas	10 Monostable Pneumatic return	□ 1/2" Gas	□ None
	51 5/3 Closed centres		40 Monostable Mechanical return		EX ATEX
	53 5/3 Open centres		20 Pneumatic bistable Three-position monostable		

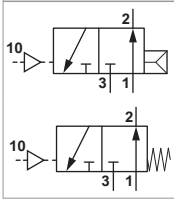
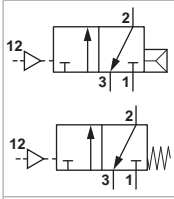
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DIMENSIONS - PNEUMATICALLY OPERATED 3/2 VALVES

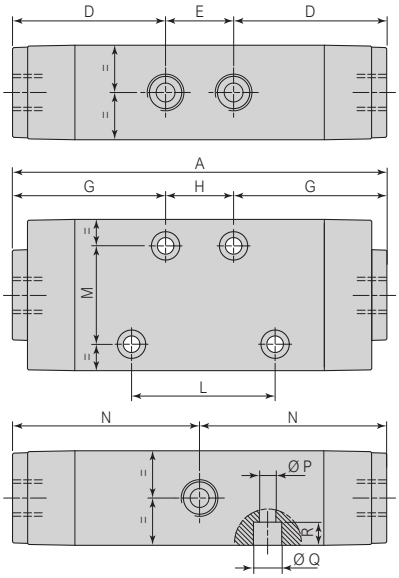
PNEUMATIC OPERATION - NORMALLY OPEN / CLOSED - MONOSTABLE WITH PNEUMATIC / MECHANICAL SPRING RETURN

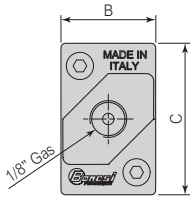


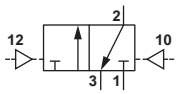


Symbol	Function	Size	Connections	Code	A	B	C	D	E	F	G	H	I	L	M	N	O	Ø P	Ø Q	R
	NA	A	Gas 1/8"	DC318010 DC318040	91.5	25	40	40.5	18	33	38.5	22	31	40	26	49.5	42	4.5	7.5	6
			Gas 1/4"	DC318010/4 DC318040/4	91.5	25	40	40.5	18	33	38.5	22	31	40	26	49.5	42	4.5	7.5	6
		B	Gas 1/4"	DC314010 DC314040	113.5	30	52	49.25	22	42.25	49.25	30	38.25	50	40	60.25	53.25	5.5	9	7
			Gas 3/8"	DC314010/3 DC314040/3	113.5	30	52	49.25	22	42.25	45.25	30	38.25	50	40	60.25	53.25	5.5	9	7
	NC	A	Gas 1/8"	DC338010 DC338040	91.5	25	40	40.5	18	33	38.5	22	31	40	26	49.5	42	4.5	7.5	6
			Gas 1/4"	DC338010/4 DC338040/4	91.5	25	40	40.5	18	33	38.5	22	31	40	26	49.5	42	4.5	7.5	6
		B	Gas 1/4"	DC334010 DC334040	113.5	30	52	49.25	22	42.25	49.25	30	38.25	50	40	60.25	53.25	5.5	9	7
			Gas 3/8"	DC334010/3 DC334040/3	113.5	30	52	49.25	22	42.25	45.25	30	38.25	50	40	60.25	53.25	5.5	9	7

PNEUMATIC OPERATION - BISTABLE



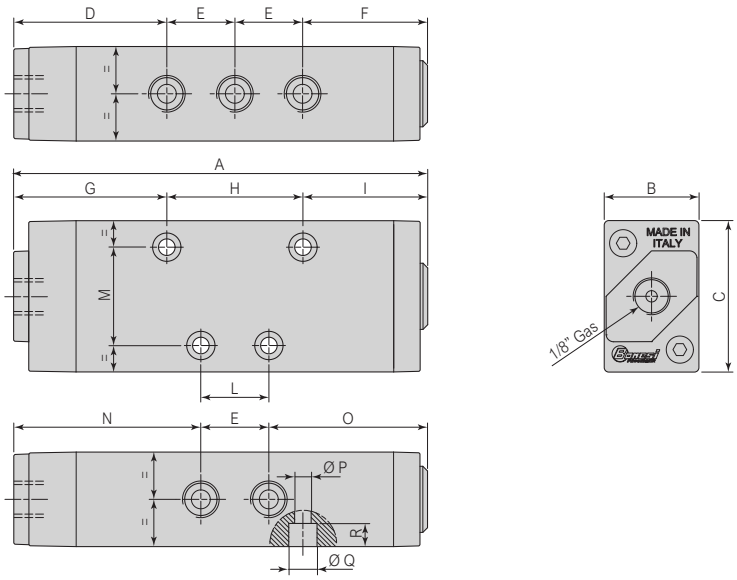


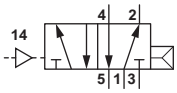
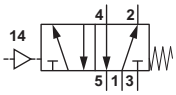
Symbol	Size	Connections	Code	A	B	C	D	E	G	H	L	M	N	Ø P	Ø Q	R
	A	Gas 1/8"	DC338020	99	25	40	40.5	18	38.5	22	40	26	49.5	4.5	7.5	6
		Gas 1/4"	DC338020/4	99	25	40	40.5	18	38.5	22	40	26	49.5	4.5	7.5	6
	B	Gas 1/4"	DC334020	120.5	30	52	49.25	22	49.25	30	50	40	60.25	5.5	9	7
		Gas 3/8"	DC334020/3	120.5	30	52	49.25	22	45.25	30	50	40	60.25	5.5	9	7

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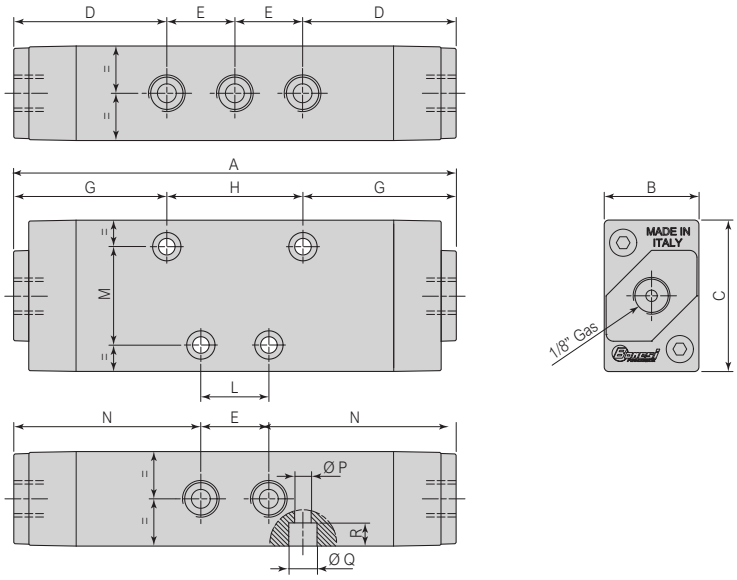
DIMENSIONS - PNEUMATICALLY OPERATED 5/2 VALVES

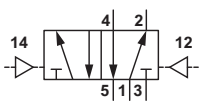
PNEUMATIC OPERATION - MONOSTABLE WITH PNEUMATIC / MECHANICAL SPRING RETURN



Symbol	Size	Connections	Code	A	B	C	D	E	F	G	H	I	L	M	N	O	Ø P	Ø Q	R
	A	Gas 1/8"	DC138010 DC138040	109.5	25	40	40.5	18	33	40.5	36	33	18	26	49.5	42	4.5	7.5	6
		Gas 1/4"	DC138010/4 DC138040/4	109.5	25	40	40.5	18	33	38.5	40	31	57	26	49.5	42	4.5	7.5	6
	B	Gas 1/4"	DC134010 DC134040	135.5	30	52	49.25	22	42.25	41.25	60	34.25	22	40	60.25	53.25	5.5	9	7
		Gas 3/8"	DC134010/3 DC134040/3	135.5	30	52	49.25	22	42.25	46.25	50	39.25	70	40	60.25	53.25	5.5	9	7
	C	Gas 1/2"	DC132010	168	70	35	51	33	51	39	90	39	33	50	67.5	67.5	6.5	10.5	8
			DC132040	175	70	35	51	33	58	39	90	46	33	50	67.5	74.5	6.5	10.5	8

PNEUMATIC OPERATION - BISTABLE

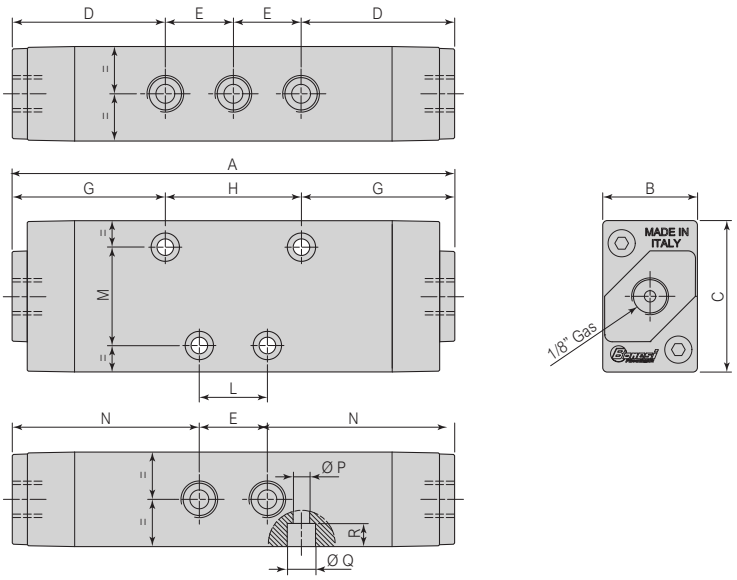


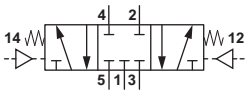
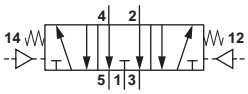
Symbol	Size	Connections	Code	A	B	C	D	E	G	H	L	M	N	Ø P	Ø Q	R
	A	Gas 1/8"	DC138020	117	25	40	40.5	18	40.5	36	18	26	49.5	4.5	7.5	6
		Gas 1/4"	DC138020/4	117	25	40	40.5	18	38.5	40	57	26	49.5	4.5	7.5	6
	B	Gas 1/4"	DC134020	142.5	30	52	49.25	22	41.25	60	22	40	60.25	5.5	9	7
		Gas 3/8"	DC134020/3	142.5	30	52	49.25	22	46.25	50	70	40	60.25	5.5	9	7
	C	Gas 1/2"	DC132020	168	70	35	51	33	39	90	33	50	67.5	6.5	10.5	8

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DIMENSIONS - PNEUMATICALLY OPERATED 5/3 VALVES

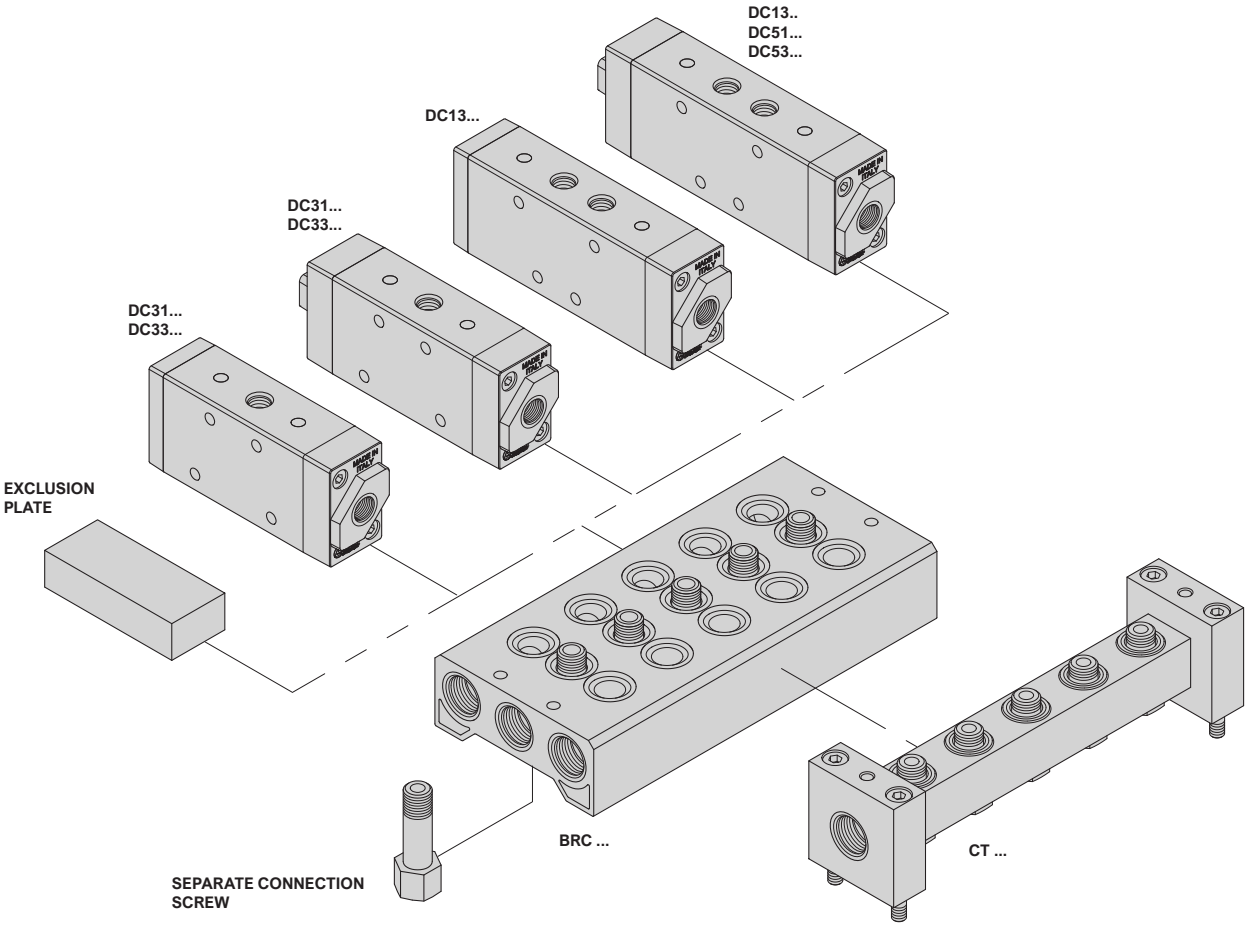
PNEUMATIC OPERATION - THREE POSITIONS - CLOSED / OPEN CENTRES



Symbol	Size	Connections	Code	A	B	C	D	E	G	H	L	M	N	Ø P	Ø Q	R
	A	Gas 1/8"	DC518020	117	25	40	40.5	18	40.5	36	18	26	49.5	4.5	7.5	6
		Gas 1/4"	DC518020/4	117	25	40	40.5	18	38.5	40	57	26	49.5	4.5	7.5	6
	B	Gas 1/4"	DC514020	142.5	30	52	49.25	22	41.25	60	22	40	60.25	5.5	9	7
		Gas 3/8"	DC514020/3	142.5	30	52	49.25	22	46.25	50	70	40	60.25	5.5	9	7
	C	Gas 1/2"	DC512020	174.5	35	70	50.5	33	38.5	90	33	50	67	6.5	10.5	8
	A	Gas 1/8"	DC538020	117	25	40	40.5	18	40.5	36	18	26	49.5	4.5	7.5	6
		Gas 1/4"	DC538020/4	117	25	40	40.5	18	38.5	40	57	26	49.5	4.5	7.5	6
	B	Gas 1/4"	DC534020	142.5	30	52	49.25	22	41.25	60	22	40	60.25	5.5	9	7
		Gas 3/8"	DC534020/3	142.5	30	52	49.25	22	46.25	50	70	40	60.25	5.5	9	7
	C	Gas 1/2"	DC532020	174.5	35	70	50.5	33	38.5	90	33	50	67	6.5	10.5	8

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ACCESSORIES



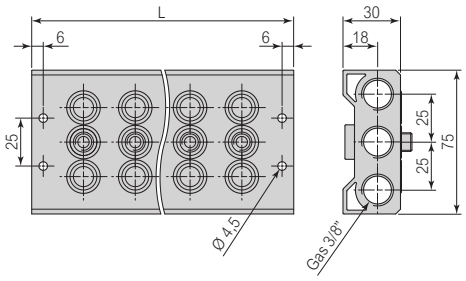
		CONNECTING SCREWS separate power supply For BRC sub-base...	EXCLUSION PLATE For BRC sub-base...	
				
Size	**Connections**	Page 3.3.05.8	Page 3.3.05.8	
A	Gas 1/8"	10243	10240	
	Gas 1/4"	10481		
B	Gas 1/4"	10249	10246	
	Gas 3/8"	10482		
C	Gas 1/2"	✗	✗	
		Nickel-plated brass	Anodised aluminium	

		BCR .. Sub-bases								CT ... Line collectors				
														
Size	**Connections**	Page 3.3.05.8								Page 3.3.05.8				
		2 seats	3 seats	4 seats	5 seats	6 seats	7 seats	8 seats	9 seats	2 seats	3 seats	4 seats	5 seats	6 seats
A	Gas 1/8"	BCR 82	BCR 83	BCR 84	BCR 85	BCR 86	BCR 87	BCR 88	BCR 89	CT 602	CT 603	CT 604	CT 605	CT 606
	Gas 1/4"	BCR 12	BCR 13	BCR 14	BCR 15	BCR 16	BCR 17	BCR 18	BCR 19	CT 612A	CT 613A	CT 614A	CT 615A	CT 616A
B	Gas 1/4"	BCR 42	BCR 43	BCR 44	BCR 45	BCR 46	BCR 47	BCR 48	BCR 49	CT 612B	CT 613B	CT 614B	CT 615B	CT 616B
	Gas 3/8"	✗	✗	✗	✗	✗	✗	✗	✗	CT 622	CT 623	CT 624	CT 625	CT 626
C	Gas 1/2"	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
		Anodised aluminium sub-base Nickel-plated brass connection screw NBR gaskets								Anodised aluminium collector Nickel-plated brass connection screw NBR gaskets				

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ACCESSORIES

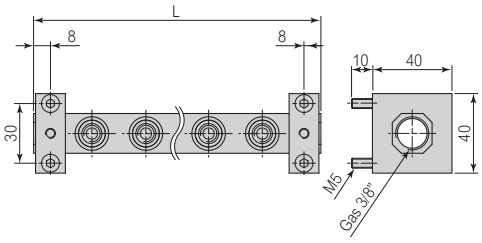
BCR ..
Sub-base



Size	Connections	L							
		2 seats	3 seats	4 seats	5 seats	6 seats	7 seats	8 seats	9 seats
A	Gas 1/8" / Gas 1/4"	81	108	135	162	189	216	243	270
B	Gas 1/4"	86.5	119	151.5	184	216.5	249	281.5	314

Anodised aluminium sub-base - Nickel-plated brass connection screw - NBR gaskets / 1 piece per pack

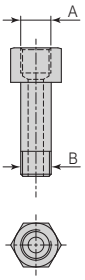
CT ..
In-line collector



Size	Connections	L				
		2 seats	3 seats	4 seats	5 seats	6 seats
A	Gas 1/8" / Gas 1/4"	86	113	140	167	194
B	Gas 1/4" / Gas 3/8"	97	130	163	196	229

Anodised aluminium sub-base - Nickel-plated brass connection screw - NBR gaskets / 1 piece per pack

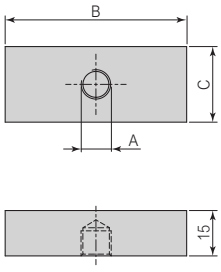
CONNECTING SCREWS
For separate power supply on BCR sub-bases...



Size	Connections	Code	A	B
A	Gas 1/8"	10243	Gas 1/8"	Gas 1/8"
	Gas 1/4"	10481	Gas 1/4"	Gas 1/4"
B	Gas 1/4"	10249	Gas 1/4"	Gas 1/4"
	Gas 3/8"	10482	Gas 3/8"	Gas 3/8"

Nickel-plated brass connecting screw - 1 piece per pack

EXCLUSION PLATE
For BCR sub-bases ..



Size	Connections	Code	A	B	C
A	Gas 1/8" / Gas 1/4"	10240	Gas 1/8"	60	25
B	Gas 1/4" / Gas 3/8"	10246	Gas 1/4"	70	30

Anodised aluminium plate / 1 piece per pack

General terms and conditions of sale available on the website www.bonesipneumatik.it