# Balanced spool pneumatic valves - K83 Series

Connections: 1/8" - 1/4"

**K SERIES**



- Balanced spool valves with static sealing
- Fast switching times
- Small footprint
- Anodised aluminium body and bases
- Pneumatically operated with external piloting
- Possibility of series assembly
- ATEX 2014/34/EU certificates available

| TECHNICAL FEATURES | | | |
|---|---|---|---|
| **Function** | | 5/2 - 5/3 | |
| **Operation** | | Pneumatic: External piloting - Monostable mechanical and pneumatic, bistable spring return,three positions | |
| **Materials** | | Body, base and cover in anodised aluminium alloy - Internal components in steel - aluminium - brass NBR gaskets | |
| **Note on materials** | | Compliant with REACH (1907/2006/EC and subsequent amendments) | |
| **Connections** | | 1/8" - 1/4" 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 actuation pressure** | | 2 bar | |
| **Air flow rate** | | 1/8" | 1/4" |
| Nominal diameter | | 5mm | 7.5mm |
| Supply pressure | 5 bar | 500 Nl/min | 1000 Nl/min |
| (with ΔP 1 bar) | 6 bar | 550 Nl/min | 1100 Nl/min |
| | 7 bar | 600 Nl/min | 1200 Nl/min |
| | | See flow diagram page 3.1.05.13 | |
| **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 Ⓔx II 2G Ex h IIC T6 Gb (Zone 1 and Zone 2)<br>CE Ⓔx 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) |

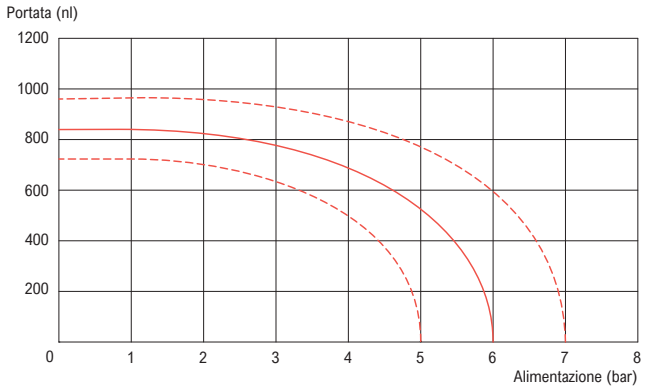




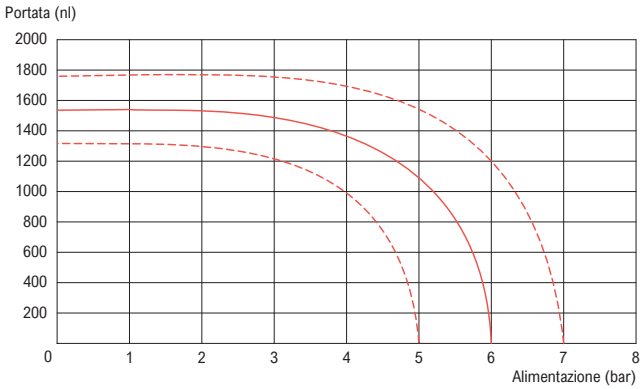
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## FLOW DIAGRAMS - PNEUMATICALLY OPERATED VALVES

### FLOW RATE DIAGRAM - SIZE 1/8"

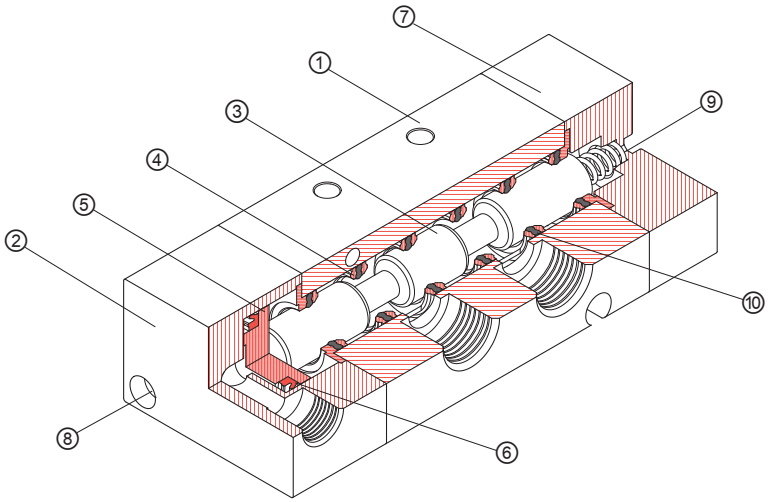



### FLOW RATE DIAGRAM - SIZE 1/4"




## MATERIALS - PNEUMATICALLY OPERATED VALVES

| POS | DESCRIPTION | MATERIALS | POS | DESCRIPTION | MATERIALS |
|---|---|---|---|---|---|
| ① | Body | Anodised drawn aluminium | ⑥ | Piston gasket | PUR 85 ShA |
| ② | Cover | Anodised drawn aluminium | ⑦ | Base | Anodised drawn aluminium |
| ③ | Spool | Anodised aluminium | ⑧ | Screw | Galvanised steel |
| ④ | Spacers | OT58 brass | ⑨ | Spring | Harmonic steel |
| ⑤ | Piston | Anodised aluminium | ⑩ | Sealing gasket | Nitrile rubber (NBR) |








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## CODING KEY - PNEUMATICALLY OPERATED VALVES

**Operation** — **DK**

- **DK** = Pneumatic External piloting

**Size** — **4**

- **8** = 1/8" Gas
- **4** = 1/4" Gas

**Function** — **5**

- **3** = 3/2 Normally closed
- **5** = 5/2
- **6** = 5/3 Open centres
- **7** = 5/3 Closed centres

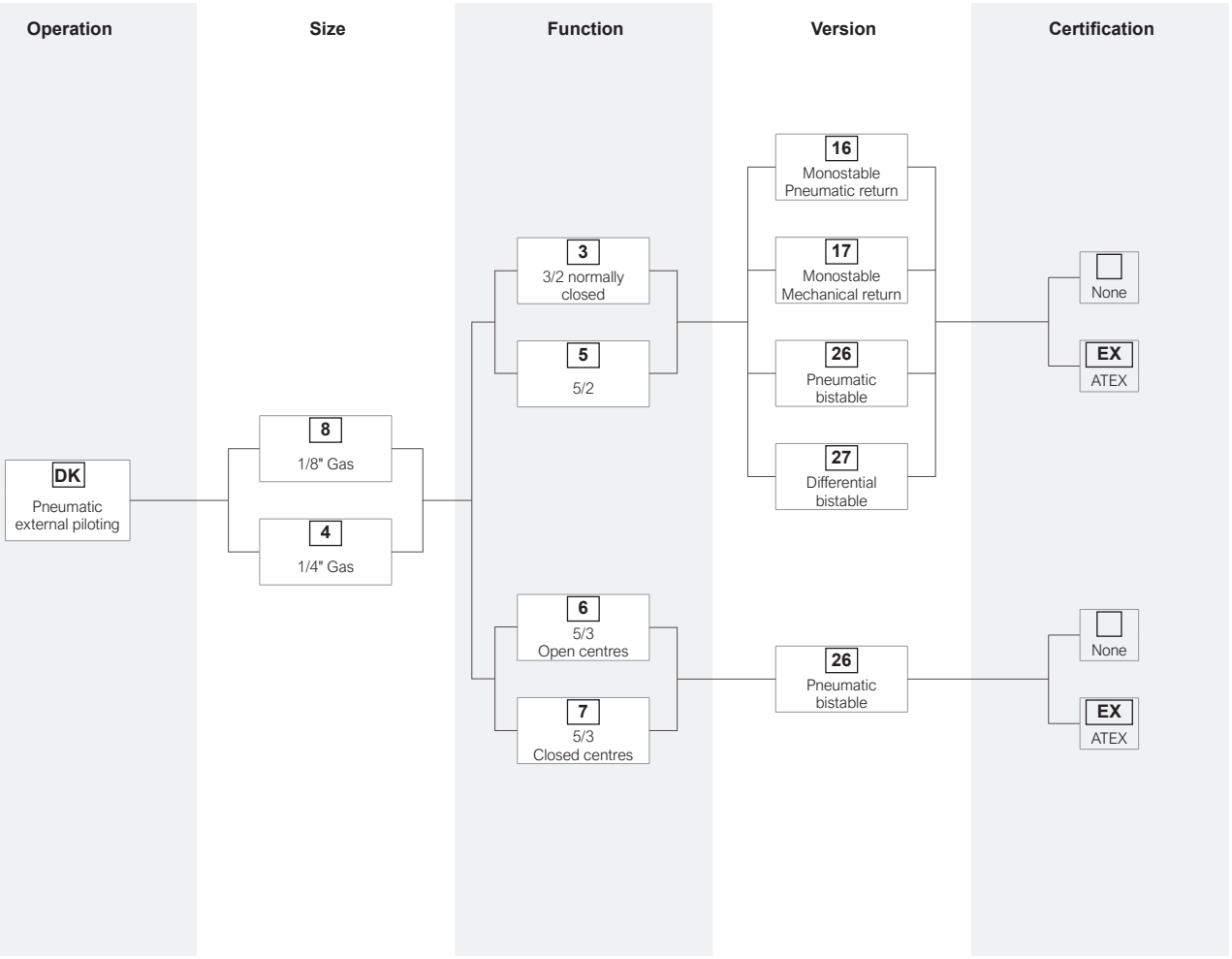
**Version** — **17**

- **16** = Monostable Pneumatic spring return
- **17** = Monostable Mechanical spring return
- **26** = Pneumatic bistable
- **27** = Differential bistable Pneumatics

**Certification**

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

## POSSIBLE CONFIGURATIONS




3

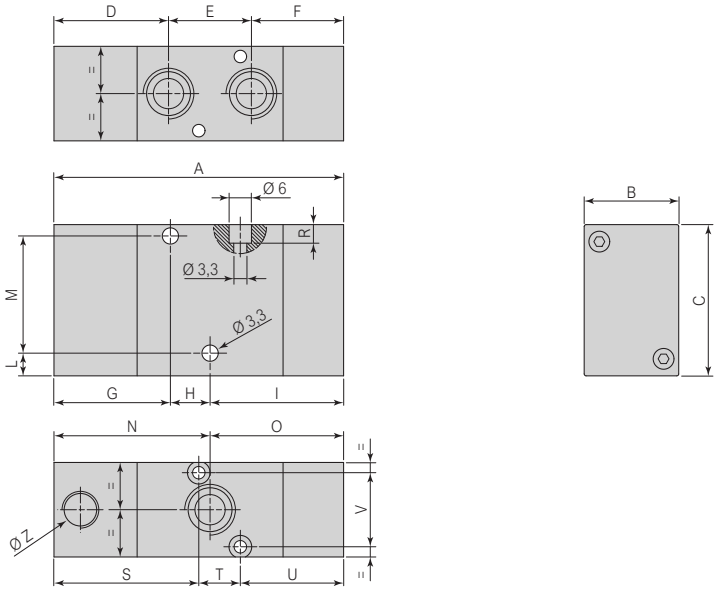
PNEUMATIC DISTRIBUTORS

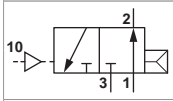
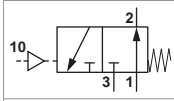


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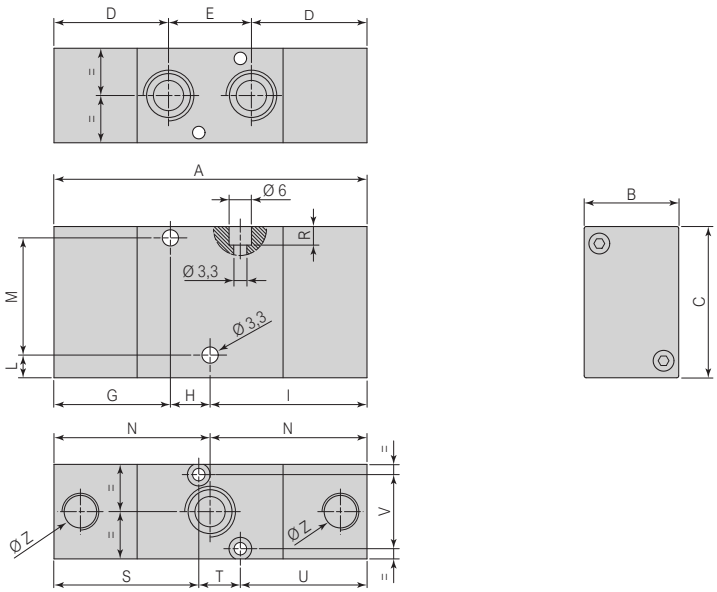
## DIMENSIONS - PNEUMATICALLY OPERATED 3/2 VALVES

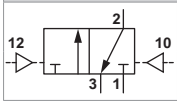
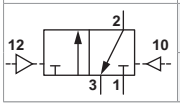
### PNEUMATIC OPERATION - NORMALLY CLOSED - MONOSTABLE WITH PNEUMATIC / MECHANICAL SPRING RETURN




| Symbol | Connections | Code | A | B | C | D | E | F | G | H | I | L | M | N | O | R | S | T | U | V | Ø Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Gas 1/8" | DK8316 | 78.5 | 22 | 32 | 32.75 | 18 | 27.75 | 33.5 | 8.25 | 36.75 | 4.5 | 20.1 | 41.75 | 36.75 | 3 | 39.5 | 7.75 | 31.25 | 17.4 | M5 |
| | Gas 1/4" | DK4316 | 82.6 | 25 | 40 | 30.3 | 22 | 30.3 | 30.8 | 10.5 | 41.3 | 6 | 31 | 41.3 | 41.3 | 4 | 38.3 | 11 | 33.3 | 11 | Gas 1/8" |
|  | Gas 1/8" | DK8317 | 73.5 | 22 | 32 | 32.75 | 18 | 22.75 | 33.5 | 8.25 | 31.75 | 4.5 | 20.1 | 41.75 | 31.75 | 3 | 39.5 | 7.75 | 26.25 | 17.4 | M5 |
| | Gas 1/4" | DK4317 | 76.6 | 25 | 40 | 30.3 | 22 | 24.3 | 30.8 | 10.5 | 35.5 | 6 | 31 | 41.3 | 35.3 | 4 | 38.3 | 11 | 27.3 | 11 | Gas 1/8" |

### PNEUMATIC OPERATION - BISTABLE - DIFFERENTIAL BISTABLE




| Symbol | Connections | Code | A | B | C | D | E | G | H | I | L | M | N | R | S | T | U | V | Ø Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Gas 1/8" | DK8326 | 83.5 | 22 | 32 | 32.75 | 18 | 33.5 | 8.25 | 41.75 | 4.5 | 20.1 | 41.75 | 3 | 39.5 | 7.75 | 36.25 | 17.4 | M5 |
| | Gas 1/4" | DK4326 | 82.6 | 25 | 40 | 30.3 | 22 | 30.8 | 10.5 | 41.3 | 6 | 31 | 41.3 | 4 | 38.3 | 11 | 33.3 | 11 | Gas 1/8" |
|  | Gas 1/8" | DK8327 | 83.5 | 22 | 32 | 32.75 | 18 | 33.5 | 8.25 | 41.75 | 4.5 | 20.1 | 41.75 | 3 | 39.5 | 7.75 | 36.25 | 17.4 | M5 |
| | Gas 1/4" | DK4327 | 82.6 | 25 | 40 | 30.3 | 22 | 30.8 | 10.5 | 41.3 | 6 | 31 | 41.3 | 4 | 38.3 | 11 | 33.3 | 11 | Gas 1/8" |

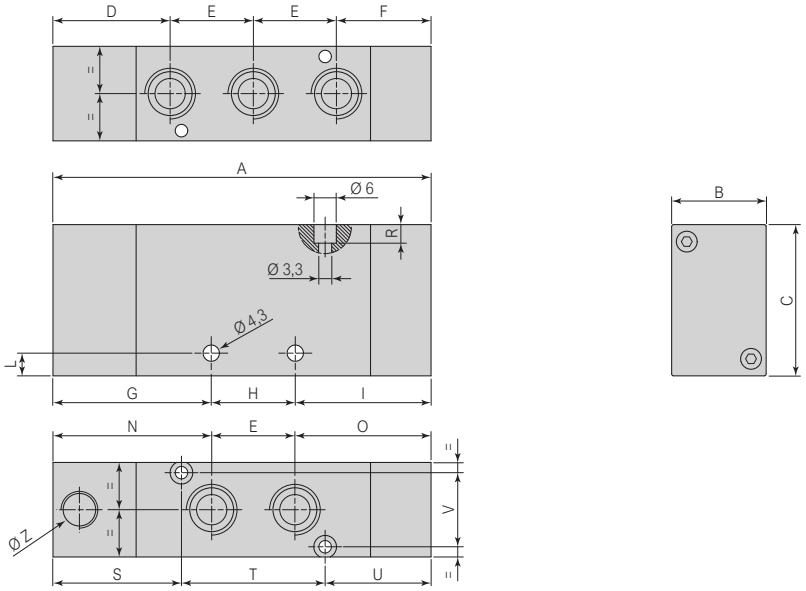


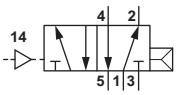
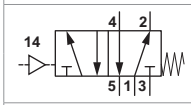


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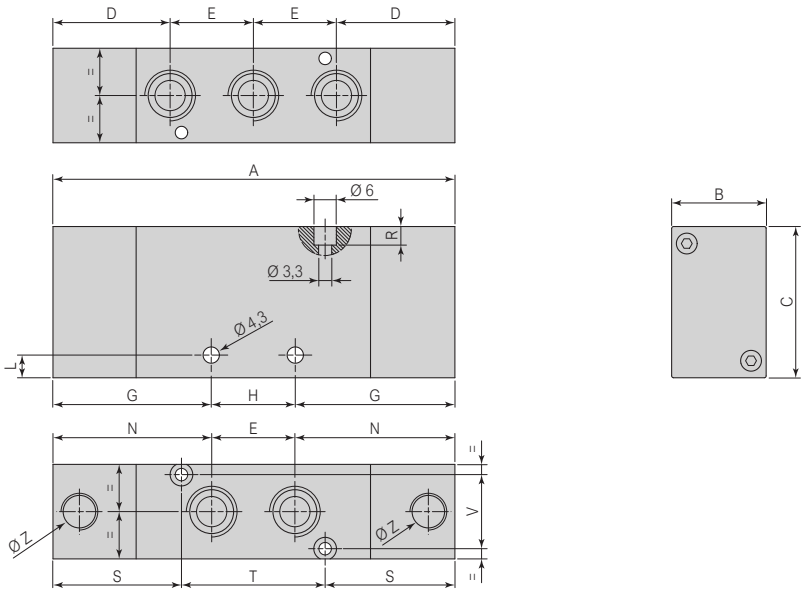
# DIMENSIONS - PNEUMATICALLY OPERATED 5/2 VALVES

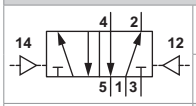
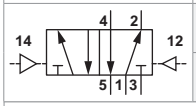
## PNEUMATIC OPERATION - MONOSTABLE WITH PNEUMATIC / MECHANICAL SPRING RETURN




| Symbol | Connections | Code | A | B | C | D | E | F | G | H | I | L | N | O | R | S | T | U | V | Ø Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Gas 1/8" | DK8516 | 96.5 | 22 | 32 | 32.75 | 18 | 27.75 | 41.75 | 18 | 36.75 | 4.5 | 41.75 | 36.75 | 3 | 35.75 | 30 | 30.75 | 17.4 | M5 |
| | Gas 1/4" | DK4516 | 106 | 25 | 40 | 31 | 22 | 31 | 42 | 22 | 42 | 6 | 42 | 42 | 4.5 | 34 | 38 | 34 | 19.6 | Gas 1/8" |
|  | Gas 1/8" | DK8517 | 91.5 | 22 | 32 | 32.75 | 18 | 22.75 | 41.75 | 18 | 31.75 | 4.5 | 41.75 | 31.75 | 3 | 35.75 | 30 | 25.75 | 17.4 | M5 |
| | Gas 1/4" | DK4517 | 100 | 25 | 40 | 31 | 22 | 25 | 42 | 22 | 36 | 6 | 42 | 36 | 4.5 | 34 | 38 | 28 | 19.6 | Gas 1/8" |

## PNEUMATIC OPERATION - BISTABLE - DIFFERENTIAL BISTABLE




| Symbol | Connections | Code | A | B | C | D | E | G | H | L | N | R | S | T | V | Ø Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Gas 1/8" | DK8526 | 101.5 | 22 | 32 | 32.75 | 18 | 41.75 | 18 | 4.5 | 41.75 | 3 | 35.75 | 30 | 17.4 | M5 |
| | Gas 1/4" | DK4526 | 106 | 25 | 40 | 31 | 22 | 42 | 22 | 6 | 42 | 4.5 | 34 | 38 | 19.6 | Gas 1/8" |
|  | Gas 1/8" | DK8527 | 101.5 | 22 | 32 | 32.75 | 18 | 41.75 | 18 | 4.5 | 41.75 | 3 | 35.75 | 30 | 17.4 | M5 |
| | Gas 1/4" | DK4527 | 106 | 25 | 40 | 31 | 22 | 42 | 22 | 6 | 42 | 4.5 | 34 | 38 | 19.6 | Gas 1/8" |

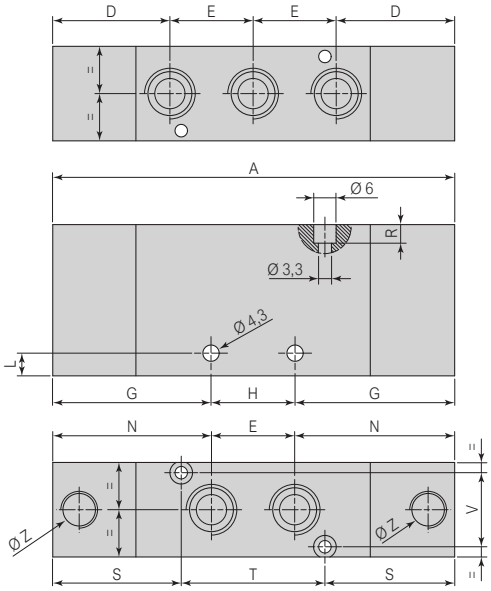


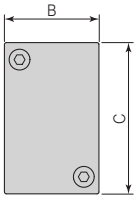


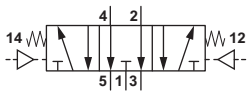
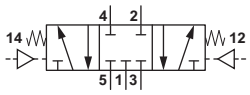
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## DIMENSIONS - PNEUMATICALLY OPERATED 5/3 VALVES

### PNEUMATIC OPERATION - THREE POSITIONS - CLOSED / OPEN CENTRES



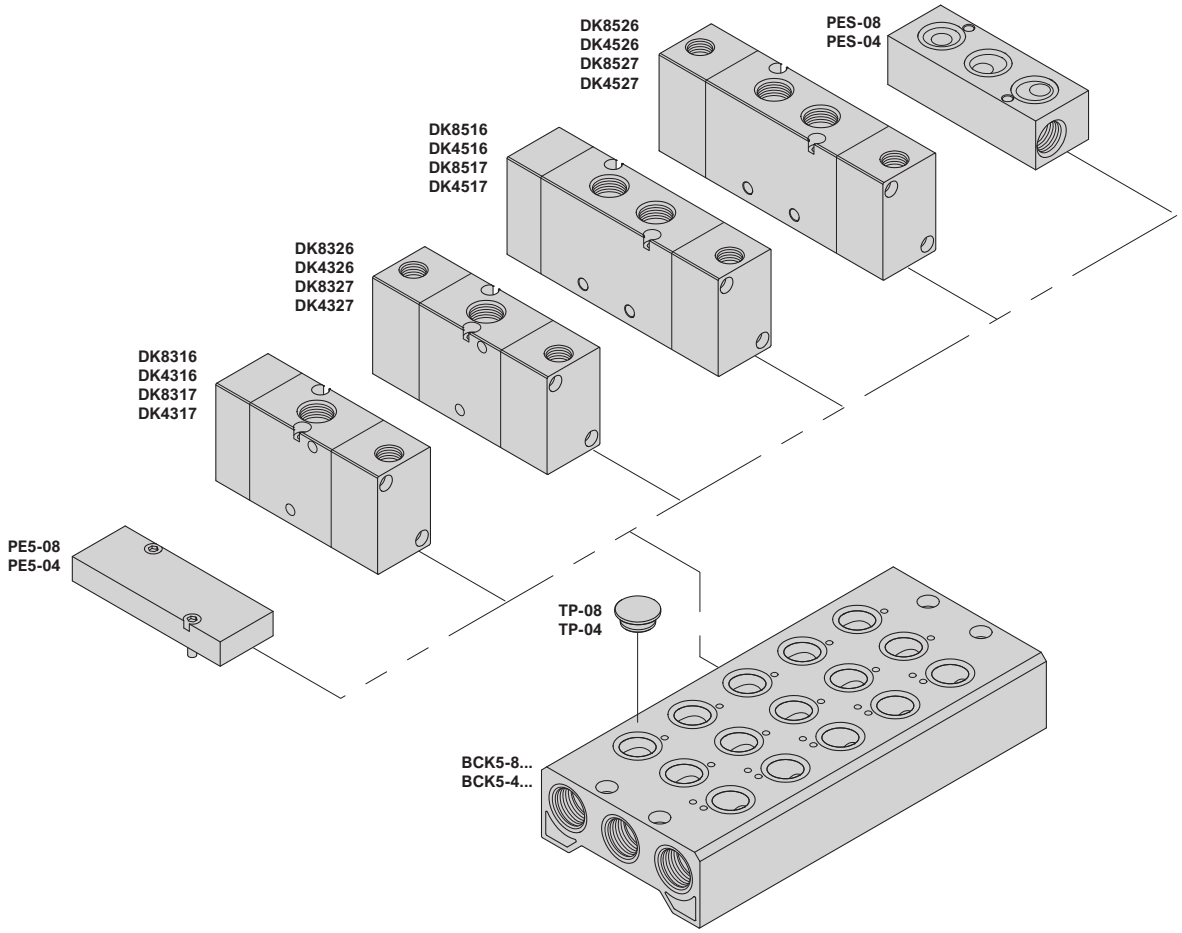

| Symbol | Connections | Code | A | B | C | D | E | G | H | L | N | R | S | T | V | Ø Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Gas 1/8" | DK8621/C | 101.5 | 22 | 32 | 32.75 | 18 | 41.75 | 18 | 4.5 | 41.75 | 3 | 35.75 | 30 | 17.4 | M5 |
| | Gas 1/4" | DK4621/C | 106 | 25 | 40 | 31 | 22 | 42 | 22 | 6 | 42 | 4.5 | 34 | 38 | 19.6 | Gas 1/8" |
|  | Gas 1/8" | DK8721/C | 101.5 | 22 | 32 | 32.75 | 18 | 41.75 | 18 | 4.5 | 41.75 | 3 | 35.75 | 30 | 17.4 | M5 |
| | Gas 1/4" | DK4721/C | 106 | 25 | 40 | 31 | 22 | 42 | 22 | 6 | 42 | 4.5 | 34 | 38 | 19.6 | Gas 1/8" |

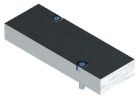




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## K83 SERIES ACCESSORIES




| SUB-BASES<br>BCK5... | | | | | | | | | | CAP<br>For BCK5 sub-base... | EXCLUSION PLATE<br>For BCK5 sub-base... | SEPARATE SUPPLY<br>For BCK5 sub-base... |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | | | | | | | | | |  |  |  |
| Page 3.1.05.19 | | | | | | | | | | Page 3.1.05.19 | Page 3.1.05.19 | Page 3.1.05.19 |
| Size | 2 seats | 3 seats | 4 seats | 5 seats | 6 seats | 7 seats | 8 seats | 9 seats | 10 seats | | | |
| 1/8" | BCK5-82 | BCK5-83 | BCK5-84 | BCK5-85 | BCK5-86 | BCK5-87 | BCK5-88 | BCK5-89 | BCK5-810 | TP-08 | PE5-08 | PES-08 |
| 1/4" | BCK5-42 | BCK5-43 | BCK5-44 | BCK5-45 | BCK5-46 | BCK5-47 | BCK5-48 | BCK5-49 | BCK5-410 | TP-04 | PE5-04 | PES-04 |
| Anodised aluminium sub-base<br>Zinc-plated steel fixing screws - NBR gaskets | | | | | | | | | | Cap: Anodised aluminium<br>NBR gasket | Plate: Anodised aluminium<br>Screws: Galvanised steel | Plate: Anodised aluminium<br>NBR gasket |

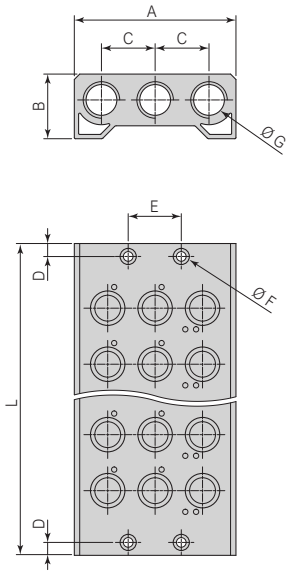




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## ACCESSORIES

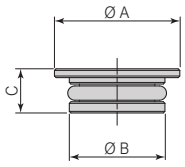
### BCK5...
Sub-base




| Size | Code | Seats | L | A | B | C | Ø D |
|---|---|---|---|---|---|---|---|
| Gas 1/8" | BCK5-82 | 2 | 71 | 60 | 20 | 20.5 | Gas 1/4" |
| | BCK5-83 | 3 | 94 | | | | |
| | BCK5-84 | 4 | 117 | | | | |
| | BCK5-85 | 5 | 140 | | | | |
| | BCK5-86 | 6 | 163 | | | | |
| | BCK5-87 | 7 | 186 | | | | |
| | BCK5-88 | 8 | 209 | | | | |
| | BCK5-89 | 9 | 232 | | | | |
| | BCK5-810 | 10 | 255 | | | | |
| Gas 1/4" | BCK5-42 | 2 | 86 | 75 | 30 | 22 | Gas 3/8" |
| | BCK5-43 | 3 | 112 | | | | |
| | BCK5-44 | 4 | 138 | | | | |
| | BCK5-45 | 5 | 164 | | | | |
| | BCK5-46 | 6 | 190 | | | | |
| | BCK5-47 | 7 | 216 | | | | |
| | BCK5-48 | 8 | 242 | | | | |
| | BCK5-49 | 9 | 268 | | | | |
| | BCK5-410 | 10 | 294 | | | | |

Anodised aluminium sub-base - Zinc-plated steel fixing screws - NBR gaskets / 1 piece per pack

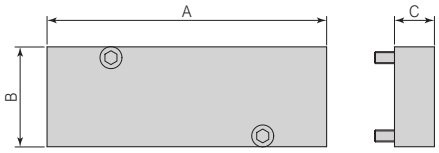
### TP ..
Cap for BCK5 sub-base...




| Size | Code | Ø A | Ø B | C |
|---|---|---|---|---|
| Gas 1/8" | TP-08 | 12.6 | 7.9 | 6 |
| Gas 1/4" | TP-04 | 15.5 | 11.9 | 5.5 |

Anodised aluminium cap - NBR gasket / 1 piece per pack

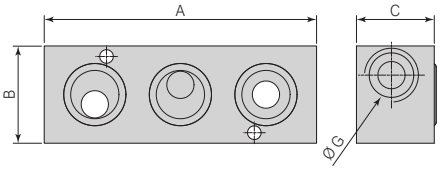
### EXCLUSION PLATE
For BCK5 sub-bases...




| Size | Code | A | B | C |
|---|---|---|---|---|
| Gas 1/8" | PE5-08 | 60 | 22 | 10 |
| Gas 1/4" | PE5-04 | 70 | 25 | 15 |

Anodised aluminium plate - Zinc-plated steel fixing screws / 1 piece per pack

### SEPARATE POWER PLATE
For BCK5 sub-bases...




| Size | Code | A | B | C | Ø G |
|---|---|---|---|---|---|
| Gas 1/8" | PES-08 | 60 | 22 | 10 | Gas 1/8" |
| Gas 1/4" | PES-04 | 70 | 25 | 15 | Gas 1/4" |

Anodised aluminium plate - NBR gaskets / 1 piece per pack





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