

Control Unit



Nominal size 6
Air gap control
Single-block construction
Operating pressure 3 to 10 bar
(inlet pressure p_e)

Catalog Register
P 20

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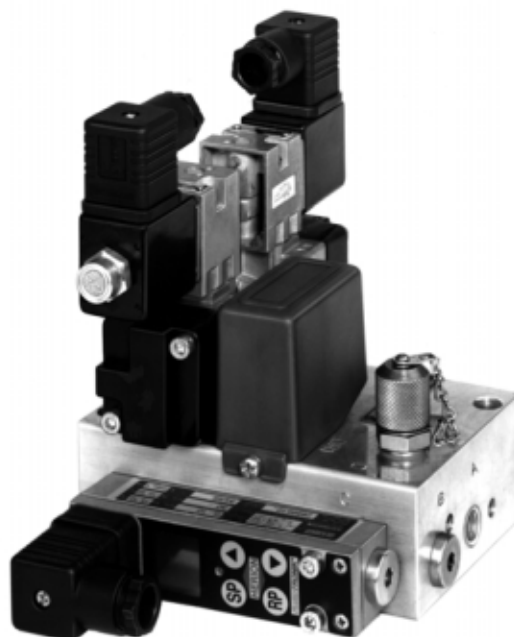
Description

The control unit is used for air gap control during the machining of workpieces. A working operation can only be triggered if the workpiece rests against the tool precisely. Their position is being controlled pneumatically. After release of the contact or bearing surface, the control nozzles are kept clear from chips and other impurities by an increased air pressure (blowoff pressure). Position and number of control nozzles may be varied.

Recommendation: Min. dia. 1.5 ... 2.5 mm
Max. number 4
Fluid: Filtered compressed air
Function: Low/high pressure system for air gap control and for control of blowoff pressure
Nozzles: Variable in dimensions and in distance to control unit

Features

- Air gap control block in variable modular design
- For max. accuracy of measurement, please see parameters below
- Safe functioning thanks to well-tried components
- Compact design
- Independent of size and material of workpiece



Parameters

Designation	Nominal size	Pressure switches	Connection		Operating pressure [bar]		Accuracy of measurement ¹⁾	Dimensional drawing No.	Cat. No.
			P	A	min.	max.			
Control unit in standard design	6	18 D	G 1/4	G 1/8	3	10	< 0.04	01	1028094.0247 ²⁾
Control unit with pressure reducing valve for blowoff pressure and FLUIDTRONIK pressure switch	6	31 D	G 1/4	G 1/8	3	10	< 0.03	02	1028098.0247 ²⁾
Control unit with FLUIDTRONIK pressure switch	6	31 D	G 1/4	G 1/8	3	10	< 0.02	03	1028101.0247 ²⁾

Please order separately:

- nozzle dia. 0.5 mm Cat. No. **0540642**
- nozzle dia. 0.6 mm Cat. No. **0541337**
- nozzle dia. 0.7 mm Cat. No. **0541338**
- nozzle dia. 0.8 mm Cat. No. **0541339**
- nozzle dia. 1.5 mm Cat. No. **0541353**

¹⁾ Dependent on the viscosity of the coolant and quality of the surface of the workpiece to be measured

²⁾ Control voltage 24 VDC

Function

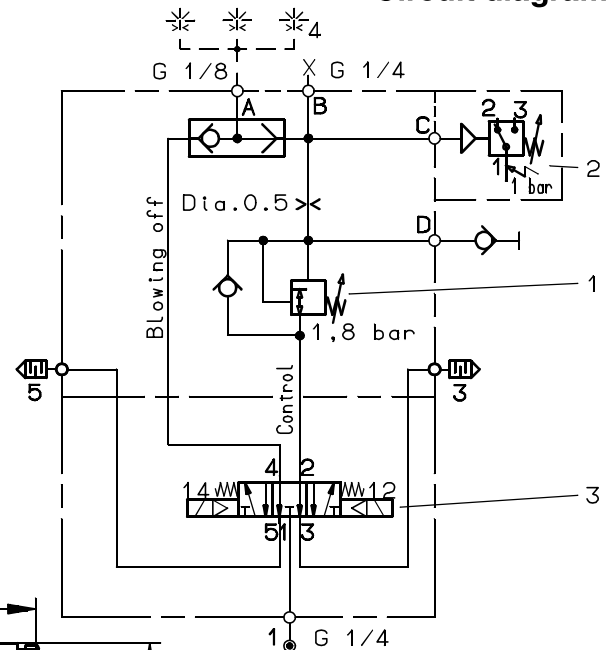
Air gap control

The test pressure p_2 (1 ... 3 bar) is set at the pressure control valve (1) and controlled by the pressure switches (2). If the workpiece is in the correct position, a back pressure is building up. It actuates the pressure switches as soon as it has reached the size of the test pressure. The workpiece can now be machined.

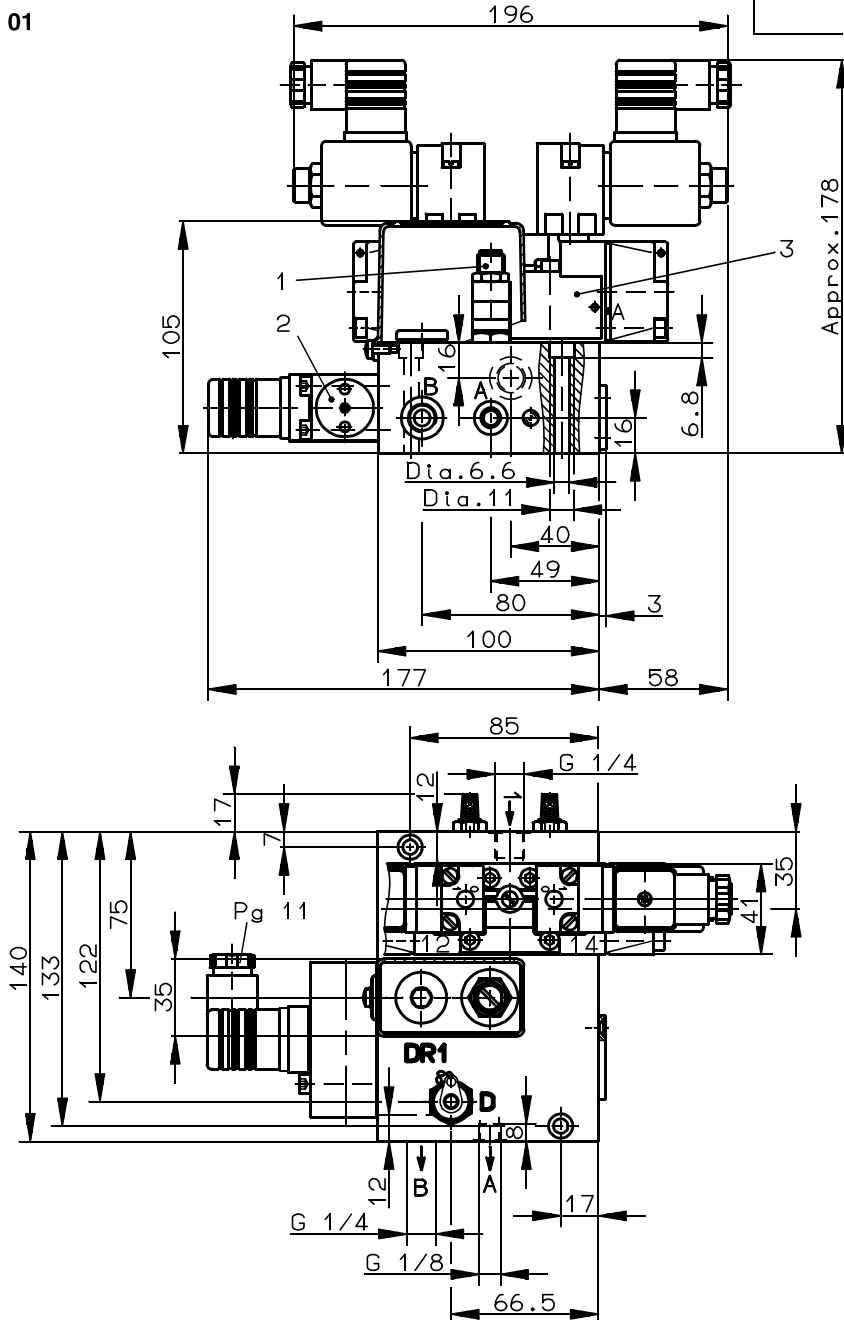
Blowoff pressure

As soon as the workpiece has released the contact surface, the 5/3 directional control valve ISO-size 1 (3) switches to a higher pressure p_1 ($p_{max.} = 8$ bar). By means of this blowoff pressure the control nozzles (4) are kept clear from impurities.

Circuit diagram



Dimensional drawing [mm]



Dimensional drawing [mm]

Circuit diagram

02

