

# FINE CONTROLS (UK) LTD



Fine Controls have been supplying process controls & instrumentation equipment since 1994, & now serves an ever expanding customer base, both in the UK & globally.

We offer a full range of valve & instrumentation products & services, with our product range representing leading technologies & brands:

**Flow:** Flow Meters & Transmitters, Flow Switches, Flow Control Valves & Batch Control Systems

**Temperature:** Temperature Probes & Thermowells, Temperature transmitters, Temperature Regulators & Temperature Displays

**Level:** Level Transmitters & Switches

**Pressure:** Pressure Gauges & Transmitters, Precision & High Pressure Regulators & I-P Converters, Volume boosters.

**Precision Pneumatics:** Pressure Regulators, I-P Converters, Volume Boosters, Vacuum Regulators

**Valves:** Solenoid & Pneumatic Valves, Control Valves & Positioners, Actuated Ball, Globe or Diaphragm Valves & Isolation Valves

**Services:** Repair, Calibration, Panel Build, System Design & Commissioning

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**FAIRCHILD**



**bürkert**



**SIEMENS**



**alcon**  
SOLENOID VALVES

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**MIDLAND-ACS**  
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**Honeywell**



**Bourdon**  
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**SOLDO**  
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3/2-Way; Service port: G 1/8, G 1/4; Supply port: G 1/4  
Flow rate: up to 120 l/min



### Advantages/Benefits

- ▶ II 2G EEx-em-II T4 / T6  
II 2D IP65 T135°C / T85  
PTB 00 ATEX 2129X  
approval
- ▶ Lower  
Total Cost of Ownership  
due to easy installation
- ▶ Direct and quick mounting  
onto process valves
- ▶ Low power consumption,  
direct connection to  
PLC possible
- ▶ Any desired mounting  
position
- ▶ Coil can be locked in  
4 x 90° positions or  
freely moved in between,  
as required
- ▶ Compact design

### Design/Function

The banjo valve types are pneumatic single pilot valves designed for a quick mounting onto pneumatic actuators e.g. process valves. Simply screwed into the pressure port of the actuator the banjo valve can take up any position as the valve body as well as the pressure inlet are turnable.

In addition the banjo valve type 6014, based on a modular concept, has a push-over coil, which can be locked in any position.

The banjo valve concept provides flexibility to meet any kind of application requirements:  
The air flow rate varies from 55 l/min to 120 l/min, the pressure range from 0 bar up to 16 bar.

The valve body is made of polyamide or brass, the banjo coupler is anodized aluminium and the internal parts are made of stainless steel.

Our banjo valve 6014 can be delivered as EEx m II T4 / T6 or as EEx me II T4 / T6 version, both with moulded cable or with terminal box.

### Applications

#### Fluids

Neutral gases, compressed air

#### Applications

- In hazardous areas
- Pneumatic control
  - Pilot control valve for pneumatic controlled process valves

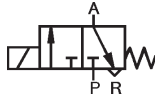
**bürkert**  
Easy Fluid Control Systems

**Technical Data Type 6014 banjo Ex**

**Circuit function**

**Symbol**

**C** 3/2-way valve,  
when de-energized, outlet A  
pressure relieved



**Operating Data (Valve)**

Pressure range	0-16 bar max. (see specifications)
Port connection	See specifications
Orifice	DN 1.5 - DN 2.0 mm
Materials	
Valve body	Polyamide (PA) or brass
Banjo coupler	Aluminium, anodized
Banjo bolt	Brass, nickel-plated
Seal	FKM
Fluid	Neutral gases, e.g. compressed air
Medium temperature	-10° up to +90°C
Max. ambient temperature	-30° up to +60°C
Max. viscosity	21 mm <sup>2</sup> /s
Response times [ms]	
Opening <sup>3)</sup>	10 - 15
Closing <sup>3) 4)</sup>	15 - 20

<sup>3)</sup> Measured at connection 2; time from electrical switching to pressure increase to 90 % (opening) or pressure drop to 10 % (closing) of operational pressure of 6 bar.

<sup>4)</sup> When using electronics (diodes for controlling LEDs or for rectifying), the closing time is delayed 8 up to 10 ms.

**Flow rates**

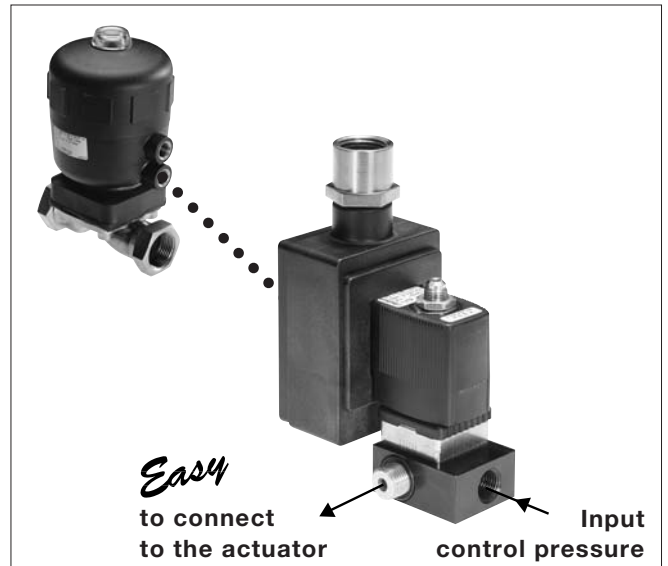
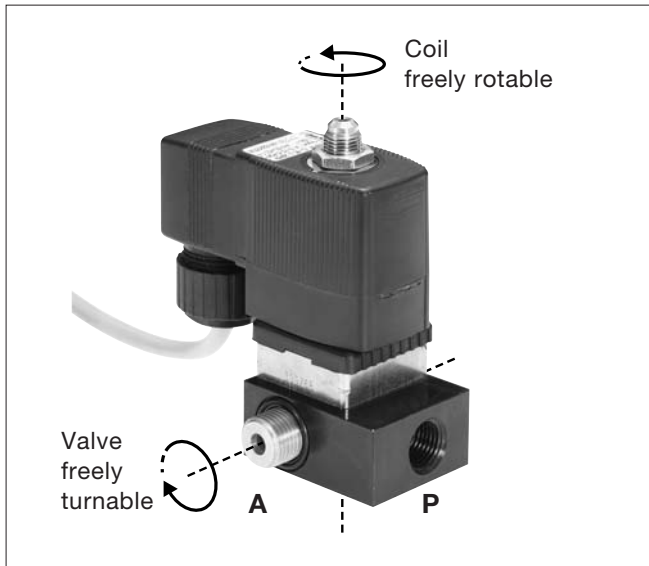
DN [mm]	1.2	1.5	2.0
QNn [l/min]	55	75	120

Installation As required, but preferably with solenoid system upright

**Operating Data (Actuator)**

Operating voltages	24, 110, and 230 V/UC						
Voltage tolerance	±10 %						
Power consumption	<table border="1"> <tr> <td>T4 coil</td> <td>T6 coil</td> </tr> <tr> <td>40 mm</td> <td>40 mm</td> </tr> <tr> <td>9 W</td> <td>1.8 W</td> </tr> </table>	T4 coil	T6 coil	40 mm	40 mm	9 W	1.8 W
T4 coil	T6 coil						
40 mm	40 mm						
9 W	1.8 W						
Duty cycle	100% continuously rated						
Protection class	IP 65						
Electr. connection	With cable (3 m length) or with terminal box						
Ex-approval	II 2G EEx-em-II T4 / T6 and II 2D IP65 T135°C / 85°C PTB 00 ATEX 2129X						

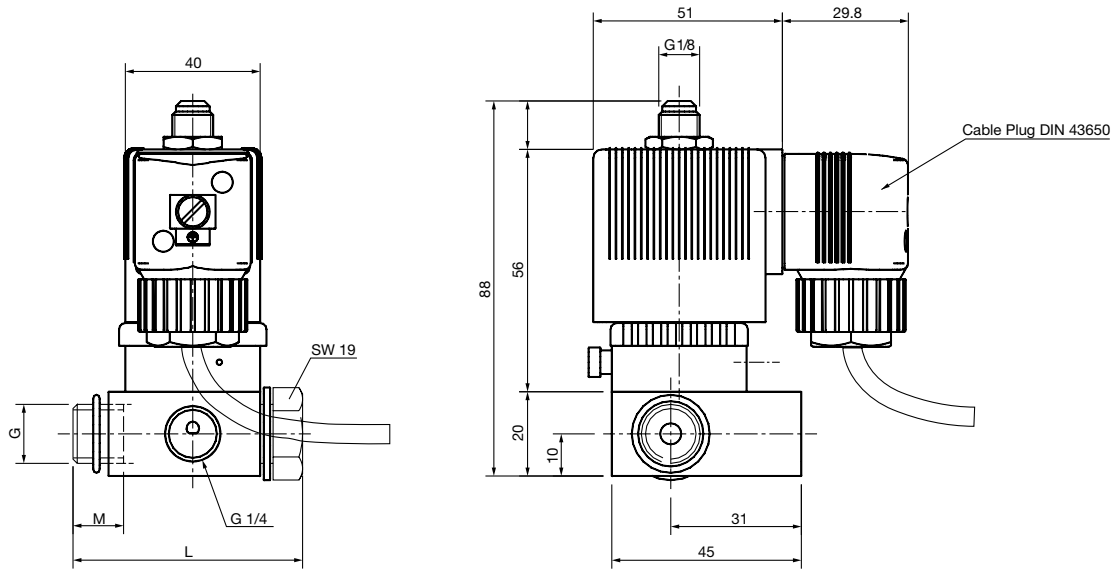
### Installation



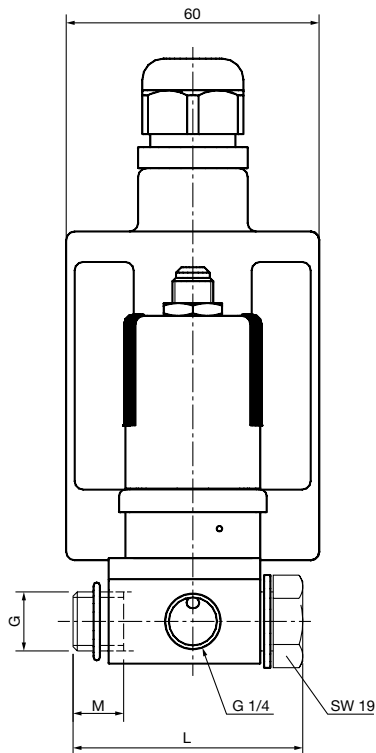
### Specifications - Ordering Chart (Other Versions on Request)

Circuit function	Orifice [mm]	Port connection P	Port connection A	Coil [mm]	Power consumption [W]	Pressure range [bar]	Seal material	Ex approval	Item-No.		
									024 V AC/DC	110 V AC/DC	230 V AC/DC
Type 6014 banjo Ex with PA body											
with moulded-in cable (3000 mm length)											
C	1.5	G 1/4	G 1/8	40.0	1.8	0 - 6	FKM	EEx m II T6	431 430 M	431 431 A	431 432 B
C	1.5	G 1/4	G 1/4	40.0	1.8	0 - 6	FKM	EEx m II T6	431 400 Y	431 401 M	431 402 N
with terminal box											
C	1.5	G 1/4	G 1/8	40.0	1.8	0 - 6	FKM	EEx me II T6	431 433 C	431 434 D	431 435 E
C	1.5	G 1/4	G 1/4	40.0	1.8	0 - 6	FKM	EEx me II T6	431 403 P	431 404 Q	431 405 R
Type 6014 banjo Ex with Brass body											
with moulded-in cable (3000 mm length)											
C	2.0	G 1/4	G 1/8	40.0	1.8	0 - 3.5	FKM	EEx m II T6	431 424 B	431 425 C	431 426 D
C	2.0	G 1/4	G 1/4	40.0	1.8	0 - 3.5	FKM	EEx m II T6	431 394 M	431 395 N	431 396 P
C	1.5	G 1/4	G 1/8	40.0	9.0	0 - 16	FKM	EEx m II T4	431 406 J	431 407 K	431 408 U
C	1.5	G 1/4	G 1/8	40.0	1.8	0 - 6	FKM	EEx m II T6	431 418 M	431 419 N	431 420 K
C	1.5	G 1/4	G 1/4	40.0	9.0	0 - 16	FKM	EEx m II T4	431 376 S	431 377 T	431 378 C
C	1.5	G 1/4	G 1/4	40.0	1.8	0 - 6	FKM	EEx m II T6	431 388 X	431 389 Y	431 390 V
C	2.0	G 1/4	G 1/8	40.0	9.0	0 - 10	FKM	EEx m II T4	431 412 F	431 413 G	431 414 H
C	2.0	G 1/4	G 1/4	40.0	9.0	0 - 10	FKM	EEx m II T4	431 382 R	431 383 J	431 384 K
with terminal box											
C	2.0	G 1/4	G 1/8	40.0	1.8	0 - 3.5	FKM	EEx me II T6	431 427 E	431 428 P	431 429 Q
C	2.0	G 1/4	G 1/4	40.0	1.8	0 - 3.5	FKM	EEx me II T6	431 397 Q	431 398 Z	431 399 S
C	1.5	G 1/4	G 1/8	40.0	9.0	0 - 16	FKM	EEx me II T4	431 409 V	431 410 R	431 411 E
C	1.5	G 1/4	G 1/8	40.0	1.8	0 - 6	FKM	EEx me II T6	431 421 G	431 422 H	431 423 A
C	1.5	G 1/4	G 1/4	40.0	9.0	0 - 16	FKM	EEx me II T4	431 379 D	431 380 T	431 381 Q
C	1.5	G 1/4	G 1/4	40.0	1.8	0 - 6	FKM	EEx me II T6	431 391 J	431 392 K	431 393 L
C	2.0	G 1/4	G 1/8	40.0	9.0	0 - 10	FKM	EEx me II T4	431 415 A	431 416 B	431 417 C
C	2.0	G 1/4	G 1/4	40.0	9.0	0 - 10	FKM	EEx me II T4	431 385 L	431 386 M	431 387 N

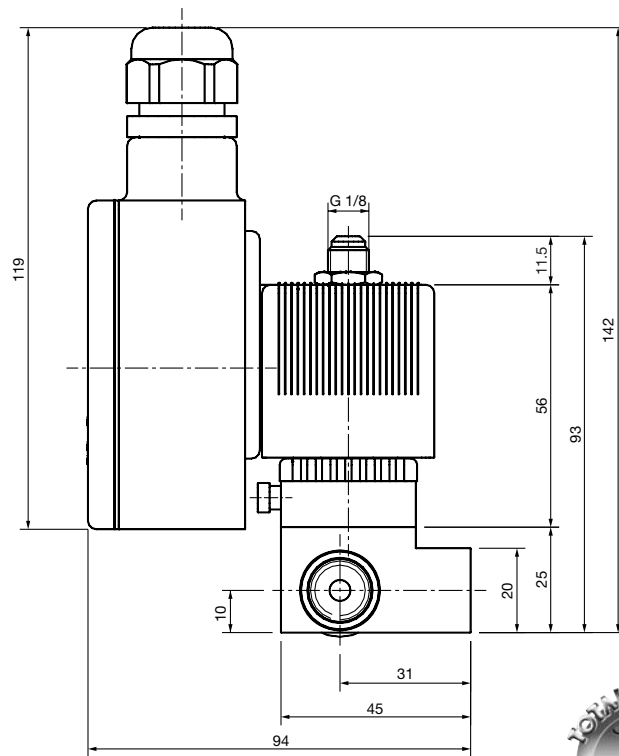
Dimensions [mm]



G 1/4	54	9.5
G 1/8	51	6.5
<b>G</b>	<b>L</b>	<b>M</b>



G 1/4	54	9.5
G 1/8	51	6.5
<b>G</b>	<b>L</b>	<b>M</b>



DTS 1000011038 EN Version: E Status: RL (released | freigegeben | validé) printed: 03.07.2008