ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Burkert 6106* at our website: ***Click HERE***

bürkert
FLUID CONTROL SYSTEMS

PTB 01 ATEX 2175

Device with II 2G EX i approval
Geräte mit II 2G EX i Zulassung
Appareils avec mode de protection II 2G EX i

Example / Beispiel / Exemple



Type 6106

Operating Instructions

Bedienungsanleitung
Manuel d'utilisation

MAN 1000010170 ML Version: OStatus: RL (released | freigegeben) printed: 22.09.2017
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

We reserve the right to make technical changes without notice.
Technische Änderungen vorbehalten.
Sous réserve de modifications techniques.

© Bürkert Werke GmbH & Co. KG, 2002 - 2017

Operating Instructions 1706/14_EU-EN_00804563 / Original DE

MAN 1000010170 ML Version: OStatus: RL (released | freigegeben) printed: 22.09.2017

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Contens:

1 OPERATING INSTRUCTIONS 4
1.1 Symbols 4
2 AUTHORIZED USE 5
2.1 Restrictions 5
2.2 EX approval 5
3 BASIC SAFETY INSTRUCTIONS 6
4 GENERAL INFORMATION 7
4.1 Contact addresses 7
4.2 Warranty 7
4.3 Information on the Internet 7
5 APPLICATION CONDITIONS OF THE DEVICES 7
5.1 Individual assembly, block assembly 7
5.2 Operating temperature range 7
6 TECHNICAL DATA 8
6.1 Conformity 8
6.2 Standards 8
6.3 Licences 8
6.4 Operating conditions 8
6.5 Electrical data 9
7 INSTALLATION 12
7.1 Safety instructions 12
7.2 Installation of Type 6106 13
7.3 Types of connection 13
8 MAINTENANCE, TROUBLESHOOTING 13
8.1 Safety instructions 13
8.2 Maintenance work 13
8.3 Troubleshooting 13
9 TRANSPORT, STORAGE, DISPOSAL 14

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

1 OPERATING INSTRUCTIONS

The operating instructions describe the entire life cycle of the device. Keep these instructions in a location which is easily accessible to every user and make these instructions available to every new owner of the device.

The operating instructions contain important safety information!

Failure to observe these instructions may result in hazardous situations.

- The operating instructions must be read and understood.

1.1 Symbols

DANGER!

Warns of an immediate danger!

- Failure to observe the warning may result in a fatal or serious injury.

WARNING!

Warns of a potentially dangerous situation!

- Failure to observe the warning may result in serious injuries or death.

CAUTION!

Warns of a possible danger!

- Failure to observe this warning may result in a medium or minor injury.

NOTE!

Warns of damage to property!

- Failure to observe the warning may result in damage to the device or the equipment.

Indicates important additional information, tips and recommendations.

Refers to information in these operating instructions or in other documentation.

→ designates a procedure which you must carry out.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

2 AUTHORIZED USE

Unauthorized use of the device Type 6106 may be dangerous to people, nearby equipment and the environment.

- The device is used exclusively as a solenoid valve for media permitted according to data sheet and for use in Group II Category 2 G and temperature class T4, T5 or T6 (see specifications on the Ex approval plate).
- The applied protection class is the intrinsic safety EX “i” for coils with circular plug connection, rectangular plug connection with or without protective collar as well as connection by pressed-in single wires and device socket connection in accordance with DIN 43650 Form C.
- The faultless and reliable operation of the system assumes correct transportation, correct storage and installation as well as careful operation and maintenance. Any other use is regarded as **unauthorized**. Bürkert is not liable for any resulting damage. The user alone bears the risk.
- Only use the device for its intended purpose.

2.1 Restrictions

If exporting the system/device, observe any existing restrictions.

2.2 EX approval

The EX approval is only valid if the modules and components authorized by Bürkert are used as described in these operating instructions.

Type 6106 may be used only in combination with the additional components released by Bürkert, otherwise the EX approval will be voided!

If any unauthorized changes are made to the device, modules or components, the EX approval will also be voided.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

3 BASIC SAFETY INSTRUCTIONS

These safety instructions do not make allowance for any

- Contingencies and events which may arise during the installation, operation and maintenance of the devices.
- Local safety regulations – the operator is responsible for observing these regulations, also with reference to the installation personnel.

Danger of explosion!

- The device is a closed system and must not be modified in any way.

A device which has already been used in a non-hazardous “i” circuit must no longer be used in the hazardous “i” circuit, as safety cannot be guaranteed.

- Use the device in the hazardous “i” circuit only.
- Devices which were used in a non-hazardous “i” circuit must be identified after they have been removed, denoting that their use is prohibited in the hazardous “i” circuit.

Danger – high pressure!

When reaching into the system, there is an acute risk of injury.

- Before dismounting pneumatic lines and valves, turn off the pressure and vent the lines.
- During the installation, make certain the flow direction is correct.
- Observe applicable accident prevention and safety regulations for pressurized devices.

Danger of explosion caused by electrostatic charge!

If there is a sudden discharge from electrostatically charged devices or persons, there is a danger of explosion in the EX area.

- Using suitable measures, ensure that no electrostatic charges can occur in the EX area.
- Clean the device surface by gently wiping it with a damp or anti-static cloth only.

General Hazardous Situations.

To prevent injuries:

- Ensure that the system cannot be activated unintentionally.
- Installation and maintenance work may be carried out only by authorized technicians with the appropriate tools.
- After an interruption in the power supply or pneumatic supply, ensure that the process is restarted in a defined or controlled manner.
- The device may be operated only when in perfect condition and in consideration of the operating instructions.
- The general rules of technology must be observed for application planning and operation of the device.

Failure to observe this operating manual and its operating instructions as well as unauthorized tampering with the device release us from any liability and also invalidate the warranty covering the devices and accessories!

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

4 GENERAL INFORMATION

4.1 Contact addresses

Germany

Bürkert Fluid Control Systems
Sales Center
Christian-Bürkert-Str. 13-17
D-74653 Ingelfingen
Tel. + 49 (0) 7940 - 10 91 111
Fax + 49 (0) 7940 - 10 91 448
E-mail: info@de.buerkert.com

International

Contact addresses can be found on the final pages of the printed operating instructions.

And also on the Internet at: www.burkert.com

4.2 Warranty

The warranty is only valid if the device is used as intended in accordance with the specified application conditions.

4.3 Information on the Internet

The operating instructions and data sheets for Type 6106 can be found on the Internet at: www.burkert.com

5 APPLICATION CONDITIONS OF THE DEVICES

5.1 Individual assembly, block assembly

The solenoid coils type AC21 are suitable for individual assembly and for block assembly.

5.2 Operating temperature range

For each type observe the operating temperature range specified in the Electrical Data.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

6 TECHNICAL DATA

6.1 Conformity

The device conforms to the EC directives according to the EC Declaration of Conformity.

6.2 Standards

The conformity with EC guidelines is guaranteed in accordance with standards:

- EN 60079-0, EN 60079-11

6.3 Licences

The EC type-examination certificate PTB 01 ATEX 2175 was issued by the

PTB (Physikalisch Technische Bundesanstalt)
Bundesallee 100
38116 Braunschweig

which also audits production (CE 102).

The EC type-examination certificate can be found on the Internet at: www.burkert.com

6.4 Operating conditions

WARNING!

Danger of explosion!

It is highly risky to exceed the technical data indicated on the rating plate!

- Never exceed the technical data indicated on the rating plate.

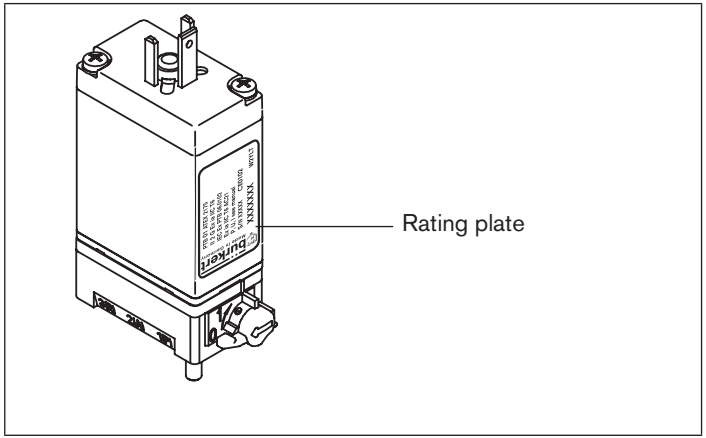


Fig. 1: Location of the rating plate

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

6.4.1 Rating plate

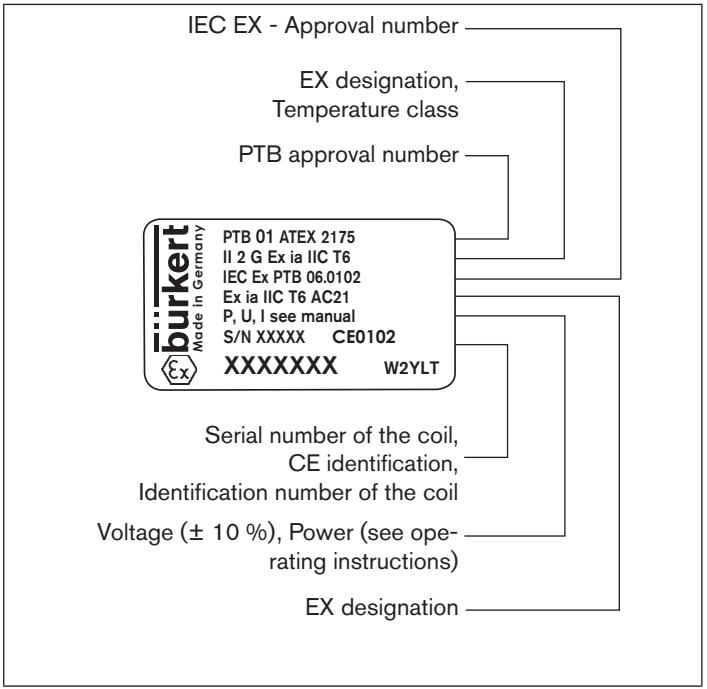


Fig. 2: Description of the rating plate

6.5 Electrical data

6.5.1 Coil dimensions

Length (mm)	Width (mm)	Height (mm)	Mass (g)	Electrical connection
27	15.5	34	42	ohne Angaben
27	15.5	28	39	JF80

Approval code:

PD88	Ex ia II C T6
PD39	Ex ia II C T5
PE92	Ex ia II C T4

Electrical connection:

JC09	Pressed-in single wires 0.2 mm2 (AWG 24)
JF79	Circular plug connection M8, 3-pole
JF80	Rectangular plug connection, 2-pole
JF82	Rectangular plug connection, 2-pole without protective collar
Not specified	Appliance socket connection in accordance with DIN 43650 form C

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

6.5.2 Use in temperature class T6

Ignition protection type Ex ia, Gas group II C

Temperature class	Max. permitted ambient temperature [°C]	Assembly	Max. permitted power consumption [W]
T6	-40 ... +60	Block assembly	0.4
	-40 ... +55		0.5
	-40 ... +50		0.7
	-40 ... +45		0.9
	-40 ... +40		1.1
	-40 ... +60	Individual	0.7
	-40 ... +55		0.9
	-40 ... +50		1.1

The maximum permitted power depends on the max. ambient temperature, the temperature class and the installation.

6.5.3 Use in temperature class T5

Ignition protection type Ex ia, Gas group II C

Temperature class	Max. permitted ambient temperature [°C]	Assembly	Max. permitted power consumption [W]
T5	-40 ... +75	Block assembly	0.4
	-40 ... +70		0.5
	-40 ... +65		0.7
	-40 ... +60		0.9
	-40 ... +55		1.1
	-40 ... +75	Individual	0.7
	-40 ... +70		0.9
	-40 ... +65		1.1

6.5.4 Use in temperature class T4

Ignition protection type Ex ia, Gas group II C

Temperature class	Max. permitted ambient temperature [°C]	Assembly	Max. permitted power consumption [W]
T4	-40 ... +100	Block assembly	0.7

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

6.5.5 Safety data

Group:	II C
Ignition protection type:	Ex ia
Temperature class:	T4, T5 or T6
Max. permitted input voltage (U_i):	35 V
Max. permitted input current (I_i):	0.9 A
Inductance (L_i):	~ 0
Capacity (C_i):	~ 0

The maximum permitted voltages and the associated short-circuit currents can be found in Table A1 in the standard EN 60079-11 for the corresponding gas group.

Ignition protection type Ex ia II C: Coil Type AC21 (example):

U_i	15	18	20	22	25	28	30	35
I_i	0.9	0.44	0.309	0.224	0.158	0.12	0.101	0.073

The coils of type AC21 are available in two versions:

- Version for use with 300 Ω supply module (300 Ω barrier),
- High-resistance version for use with other authorized supply modules (e.g. 8 x remote I/O from Stahl).

Version	Resistance R20 [Ω]	Minimum clamping voltage [V]	Minimum current [mA]	Type
Version which uses 300 Ω supply module	320	9.3	29	EX I / 21
High-resistance version	475	10.9	23	EX I / 22
Version for Type 8650	125	6.1	49	EX I / 23

The maximum voltage and current values are specified by the permitted electrical equipment.

6.5.6 Permitted ambient temperature

The maximum permitted ambient temperature depends on the power fed in, the temperature class and the installation.

For the appropriate values see chapters “6.5.2” “6.5.3” and “6.5.4”.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

6.5.7 Protection class

Electrical connection	Protection class	
	without matching plug connector	with matching plug connector
Appliance socket connection in accordance with DIN 43650 form C	IP20	IP65
Circular plug connection M8, 3-pole		
2 pressed-in single wires 0.2 mm² (AWG 24)	IP65	-
Rectangular plug connection, 2-pole	IP20	IP20
Rectangular plug connection, 2-pole without protective collar		

7 INSTALLATION

7.1 Safety instructions

DANGER!

Danger of explosion!

The device is a closed system. It must not be removed.

Risk of electric shock!

- Before reaching into the device or the equipment, switch off the power supply and secure to prevent reactivation!
- Live terminals in the terminal box may cause an electric shock, short-circuit or explosion. Switch off the power supply. Only then open the terminal box.
- The connection lines of the electromagnets must be permanently installed in such a way that they are adequately protected from mechanical damage.
- Observe applicable accident prevention and safety regulations for electrical equipment!

WARNING!

Danger – high pressure!

When reaching into the system, there is an acute risk of injury.

- Before dismounting pneumatic lines and valves, turn off the pressure and vent the lines.
- During the installation, make certain the flow direction is correct.
- Observe applicable accident prevention and safety regulations for pressurized devices.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

7.2 Installation of Type 6106

Any installation position.
Preferably with magnet system face up.

1. Clean pipelines.
2. Any installation position

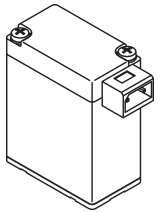
→ Preferential direction with actuator face up.

3. Connect dirt trap upstream

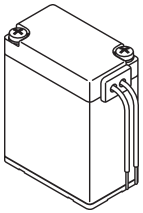
→ Observe direction of flow!

4. Fluidic connection.
5. Install - ⏚ Always connect protective conductor!

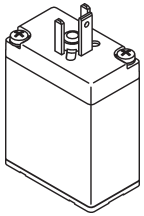
7.3 Types of connection



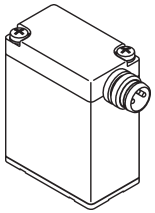
Rectangular connector with or without protective collar



2 single wires



Appliance socket connection face up in accordance with DIN 43650 Form C



Circular connector

8 MAINTENANCE, TROUBLESHOOTING

8.1 Safety instructions

WARNING!

Danger of explosion caused by electrostatic charge!

If there is a sudden discharge from electrostatically charged devices or persons, there is a danger of explosion in the EX area.

- Using suitable measures, ensure that no electrostatic charges can occur in the EX area.
- Clean the device surface by gently wiping it with a damp or anti-static cloth only.

Risk of injury from improper servicing, repairs and maintenance!

- The device may be serviced and maintained by authorized technicians only and with the appropriate tools!
- The unit may be repaired by the manufacturer only!

8.2 Maintenance work

The devices are maintenance-free when operated under the conditions described in this manual.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

8.3 Troubleshooting

If malfunctions occur, ensure that:

→ the device has been installed correctly,

→ the device is not damaged,

→ all screws have been tightened,

→ the polarity is correct (to ensure proper function, the appropriate connection on the connector terminal is marked with “+”),

→ the pipelines are free.

9 TRANSPORT, STORAGE, DISPOSAL

NOTE!

Transport damages!

Inadequately protected equipment may be damaged during transport.

- During transportation protect the device against wet and dirt in shock-resistant packaging.
- Avoid exceeding or dropping below the allowable storage temperature.

Incorrect storage may damage the device.

- Store the device in a dry and dust-free location!
- Storage temperature: -40 … +55 °C.

Damage to the environment caused by device components contaminated with media.

- Ensure the device and packaging are disposed of in an environmentally sound manner.
- Observe applicable regulations relating to refuse disposal and the environment.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

bürkert
FLUID CONTROL SYSTEMS

www.burkert.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP