

## General

This instruction covers valves and accessories to be supplied to ATEX applications.

Both mechanical and electrical equipment is covered by the ATEX directive and is included in this instruction. The instruction also describes how to handle a request for ATEX equipment.

Most of, but not all, Somas valves can be supplied to ATEX applications. These valves contain no effective ignition sources and are harmless. According to the directive rules it is not allowed to CE-mark such valves for ATEX.

Somas actuator type A in option -E (ATEX) can be supplied to ATEX applications. These actuators are CE-marked for ATEX. They have restrictions for use in the most dangerous zones.

Positioners, solenoid valves and other electrical equipment is CE-marked by our suppliers.

Different parts of our scope of supply have different ATEX-marking and we, or preferably the end user, must verify that the equipment can be used in the end user classified ATEX-zones. EX rules other than ATEX, applicable outside Europe can mostly be handled according to this instruction as well. Non-European EX rules focus on electrical equipment, but it is to recommend following this instruction also for mechanical equipment.



## How to handle a request for ATEX

- Equipment for use in an ATEX application shall be chosen according to this instruction.
- Tick the checkbox for ATEX in the order specification. This creates the ATEX declaration of conformity.
- Include a position with Somas maintenance instruction Mi-503 in deliveries of actuator A in option -E.
- Communicate the ATEX markings for the equipment in the offer to the customer.



# Equipment for use in ATEX applications

## Valves

Somas valves in the following configuration contain no effective ignition sources and are therefore harmless according to the ATEX directive. They are not CE-marked for ATEX.

- Valves in CF8M/1.4408 and other austenitic stainless steel.
- Metal seat or seat PTFE with 10% carbon or seat PTFE 53 with 50% stainless steel powder.
- Stuffing box in graphite or PTFE.
- Butterfly- and ball segment valves without bearings, or with conductive bearings without internal or external coating.
- Butterfly- and ball segment valves with non-conductive bearings in metal internally coated, polymer bearings or PTFE shaft seals only in combination with a stuffing box in graphite or as an antistatic valve.
- Ball valves with PTFE stuffing box only as an antistatic valve.
- Quick closing valves and special valves must be investigated upon request.



### Note!

Please observe that 3-piece full bore ball valve type H3 must not be used in ATEX applications.

### Note!

Actuator options for manual operation -HM and the lockable design -LC are not permitted in ATEX applications. The lockable design -LDC is permitted in ATEX applications.

## Actuators

Somas actuators type A in option -E for ATEX applications have the following ATEX marking;



### II Equipment group II

to be used above ground, not in mines, no mine gas.

### 2 Category 2

For use in gas atmosphere zones 1 and 2, dust atmosphere zones 21 and 22.

### G Gas atmosphere

Can be used in gas atmosphere.

### D Dust atmosphere

Can be used in dust atmosphere.

### Ex c Safe design

Ignition protection according to the standard for mechanical products "constructional safety".

### X Special conditions

Special conditions for SAFE use is available in the manual Mi-503 and in the "declaration of conformity". Both manual and declaration shall be included in the delivery.

### Notes!

Actuator option ATEX -E can be used in combination with options high temperature -H and high velocity -V.

- Actuators other than Somas shall be ATEX approved.
- The Somas actuator operating media shall be instrument air only. Other actuators operating media according to manufacturer instructions.





## Reduction gear

Rotork reduction gear type AB and type A is ATEX approved and have the following marking;



II 2 G Ex h IIC T3 Gb Ta≤120°C



II 2 D Ex h IIIC T200°C Db Ta≤120°C

### II Equipment group II

To be used above ground, not in mines, no mine gas.

### 2 Category 2

For use in gas atmosphere zones 1 and 2, dust atmosphere zones 21 and 22.

### G Gas atmosphere

Can be used in gas atmosphere.

### D Dust atmosphere

Can be used in dust atmosphere.

### Ex h Safe design

Ignition protection according to the standard for mechanical products “constructional safety”.

### IIC Explosion group gas

Can be used with media from gas explosion group IIC, IIB and IIA.

### IIIC Group dust

Can be used with dust from group IIIC, IIB and IIIA.

### T3 Temperature class gas

Surface temperature 200°C maximum, can be used in atmosphere temperature class T1, T2 and T3, and in atmospheres with ignition temperatures above 200°C.

### T200°C Surface temperature

Surface temperature 200°C maximum without dust layer.

### Gb Equipment protection level

EPL Gb is equivalent to category 2 G.

### Db Equipment protection level

EPL Db is equivalent to category 2 D.

### Ta≤120°C Ambient temperature

Ambient temperature 120°C maximum.

## Hand levers

Somas hand levers HK and HSR are available in special designs intended for ATEX applications.

The special designs contain no effective ignition sources and the levers are harmless according to the ATEX directive. They are not CE-marked for ATEX.

The special design hand levers intended for ATEX is different from the ordinary levers and have specific article numbers.



## Positioners, solenoid valves, electric actuators and switches

There are several positioners, solenoid valves, electric actuators and switches for ATEX applications. To recommend a suitable equipment, correct information about the application from the end user is vital. This information can then be used to decide the necessary performance of the equipment and the Ex marking.

### Gas atmosphere or dust atmosphere

Gas atmosphere requires equipment marking G, dust atmosphere requires equipment marking D.

### Zone classification 0, 1 or 2 (20, 21 or 22) or required category 1, 2 or 3

- Category 1 equipment can be used in gas atmosphere zone 0, 1 and 2, or dust atmosphere zone 20, 21 and 22.
- Category 2 equipment can be used in gas atmosphere zone 1 and 2, or dust atmosphere zone 21 and 22.
- Category 3 equipment can be used in gas atmosphere zone 2, or dust atmosphere zone 21 and 22.

### Explosion group IIA, IIB or IIC for gas atmosphere

- Explosion group IIA requires equipment marking IIA, IIB or IIC.
- Explosion group IIB requires equipment marking IIB or IIC.
- Explosion group IIC requires equipment marking IIC.

### Group IIIA, IIIB or IIIC for dust atmosphere

- Group IIIA requires equipment marking IIIA, IIIB or IIIC.
- Group IIIB requires equipment marking IIIB or IIIC.
- Group IIIC requires equipment marking IIIC.

### Temperature class T1, T2, T3, T4, T5 or T6 for gas atmosphere

- Temperature class T1 requires equipment marking T1, T2, T3, T4, T5, T6 or T450°C (maximum surface temperature).
- Temperature class T2 requires equipment marking T2, T3, T4, T5, T6 or T300°C (maximum surface temperature).
- Temperature class T3 requires equipment marking T3, T4, T5, T6 or T200°C (maximum surface temperature).
- Temperature class T4 requires equipment marking T4, T5, T6 or T135°C (maximum surface temperature).
- Temperature class T5 requires equipment marking T5, T6 or T100°C (maximum surface temperature).
- Temperature class T6 requires equipment marking T6 or T85°C (maximum surface temperature).

### Protection form Ex i, Ex d, Ex n, Ex m etc.

- The protection form can be of interest to the customer, there is sometimes a requirement for a specific protection form which must be observed when choosing equipment.



**Note!**

Please observe that 3-piece full bore ball valve type H3 must not be used in ATEX applications.



**Note!**

Please observe that Somas valve positioner SP/E 405 and is not permitted to use in ATEX applications.



**Note!**

For direct mounted proximity switches with a puck, the puck is available in a version intended for ATEX applications. It contains no effective ignition source and is harmless according to the ATEX directive. The puck is not CE-marked for ATEX.



**Note!**

Actuator options for manual operation -HM and the lockable design -LC are not permitted in ATEX applications. The lockable design -LDC is permitted in ATEX applications.



**Note!**

Enclosed please find a checklist for information about positioners, electric actuators, solenoid valves and switches. The checklist is intended to be completed by the customer, with as much information as possible. This will help Somas to make a relevant proposal.





## Checklist for EX applications for accessories like positioners, switches and solenoid valves

General	Notes	Comments
End customer / Country		<i>EAC may need information about end customer before order</i>
EX according to standard		ATEX, IECEx, CSA, UL, FM, EAC, NEPSI, CCOE, Inmetro etc.
<b>Positioner / Electric actuator</b>		
Protection form		Ex i, Ex d, Ex n, Ex m, Etc.
Required category or zone		Category/ zone or class/ division/ group etc.
Gas- or dust atmosphere		G, D or GD
Temperature class gas atmosphere		T1, T2, T3, T4, T5, T6
Maximum surface temperature		Below the ignition temperature
Explosion group gas		IIA, IIB, IIC
Group dust		IIIA, IIIB, IIIC
Voltage/signals		24V, 4-20mA etc.
SIL application		Yes or No
IP/NEMA rate		IP65, IP66, Nema 4X, Etc.
Ambient temperature range		
<b>Switches</b>		
Protection form		Ex i, Ex d, Ex n, Ex m etc.
Required category or zone		Category/ zone or class/ division/ group etc
Gas- or dust atmosphere		G, D or GD
Temperature class gas atmosphere		T1, T2, T3, T4, T5, T6
Maximum surface temperature		Below the ignition temperature
Explosion group gas		IIA, IIB, IIC
Group dust		IIIA, IIIB, IIIC
Voltage/signals		24V, 4-20mA etc.
SIL application		Yes or No
IP/NEMA rate		IP65, IP66, Nema 4X, Etc.
Ambient temperature range		
Switch type		SPDT, Namur, DC etc
<b>Solenoid valve</b>		
Protection form		Ex i, Ex d, Ex n, Ex m etc.
Required category or zone		Category/ zone or class/ division/ group etc.
Gas- or dust atmosphere		G, D or GD
Temperature class gas atmosphere		T1, T2, T3, T4, T5, T6
Maximum surface temperature		Below the ignition temperature
Explosion group gas		IIA, IIB, IIC
Group dust		IIIA, IIIB, IIIC
Voltage/signals		24V, 4-20mA etc.
SIL application		Yes or No
IP/NEMA rate		IP65, IP66, Nema 4X, Etc.
Ambient temperature range		





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