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V.A.T. No.: DE145551926






**HEINZMANN<sup>®</sup>**  
Digital Electronic Speed Governors

**Product Overview**

**Actuators**

**and**

**Solenoids for Electronic Fuel Injection**

 <p><b>Warning</b></p>	<p>Read this entire manual and all other publications appertaining to the work to be performed before installing, operating or servicing your equipment.</p> <p>Practise all plant and safety instructions and precautions.</p>
 <p><b>Danger</b></p>	<p>Failure to follow instructions may result in personal injury and/or damage to property.</p>
 <p><b>Danger! High Voltage</b></p>  <p><b>Danger</b></p>	<p><b>Please note before commissioning the installation:</b></p> <p>Before starting to install any equipment, the installation must have been switched dead!</p> <p>Be sure to use cable shieldings and power supply connections meeting the requirements of the <i>European Directive concerning EMI</i>.</p> <p>Check the functionality of the existing protection and monitoring systems.</p>
 <p><b>Danger</b></p>	<p><b>To prevent damages to the equipment and personal injuries, it is imperative that the following monitoring and protection systems have been installed:</b></p> <p>Overspeed protection acting independently of the speed governor</p> <p>Overtemperature protection</p> <p><b>Generator installation will in addition require:</b></p> <p>Overcurrent protection</p> <p>Protection against faulty synchronization due to excessive frequency, voltage or phase differences</p> <p>Reverse power protection</p>
	<p><b>Overspeeding can be caused by:</b></p> <p>Failure of the voltage supply</p> <p>Failure of the control unit or of any accessory device</p> <p>Failure of the actuator</p> <p>Sluggish and blocking linkage</p>



**Warning**

The examples, data and any other information in this manual are intended exclusively as instruction aids and should not be used in any particular application without independent testing and verification by the person making the application.



**Danger**

Independent testing and verification are especially important in any application in which malfunction might result in personal injury or damage to property.

**HEINZMANN** make no warranties, express or implied, that the examples, data, or other information in this volume are free of error, that they are consistent with industry standards, or that they will meet the requirements for any particular application.

**HEINZMANN** expressly disclaim the implied warranties of merchantability and of fitness for any particular purpose, even if **HEINZMANN** have been advised of a particular purpose and even if a particular purpose is indicated in the manual.

**HEINZMANN** also disclaim all liability for direct, indirect, incidental or consequential damages that result from any use of the examples, data, or other information contained in this manual.

**HEINZMANN** make no warranties for the conception and engineering of the technical installation as a whole. This is the responsibility of the user and of his planning staff and specialists. It is also their responsibility to verify whether the performance features of our devices will meet the intended purposes. The user is also responsible for correct commissioning of the total installation.

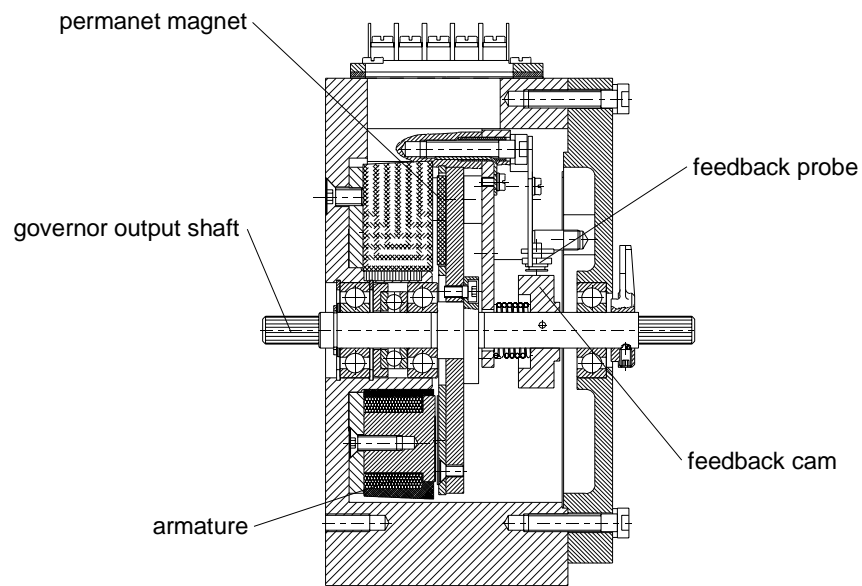
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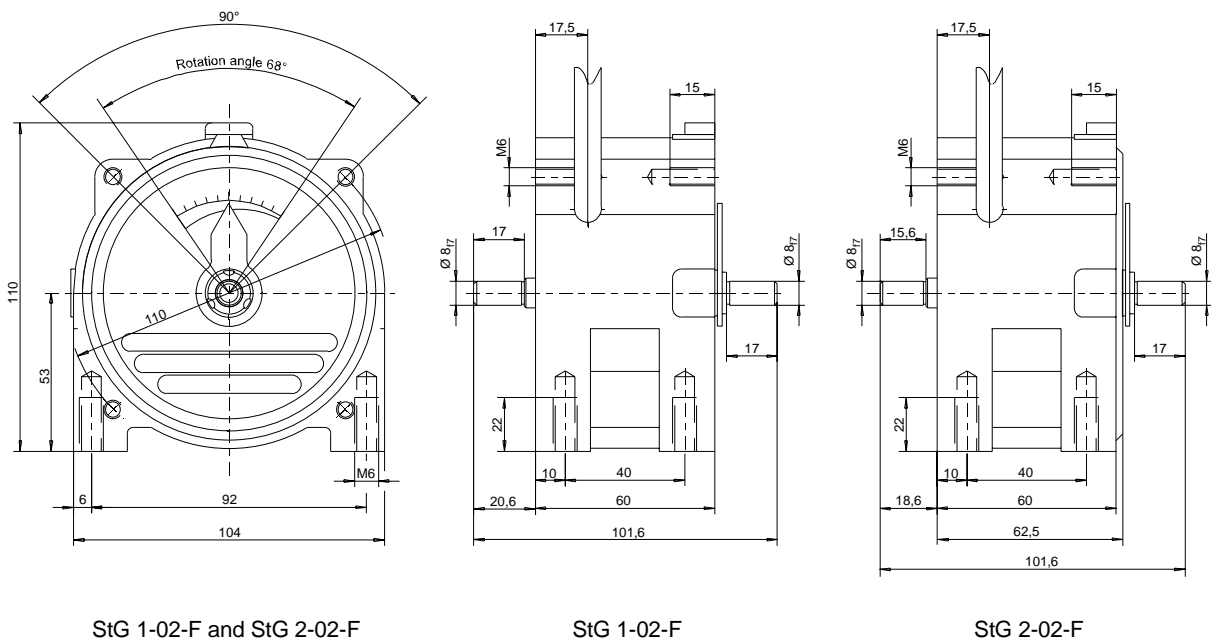
## 1. Product Group 1: Actuators

### 1.1. Direct working Actuators



**fig. 1: Sectional Drawing of Actuator**

### 1.1.1. Actuators StG 1 and StG 2



StG 1-02-F and StG 2-02-F

StG 1-02-F

StG 2-02-F

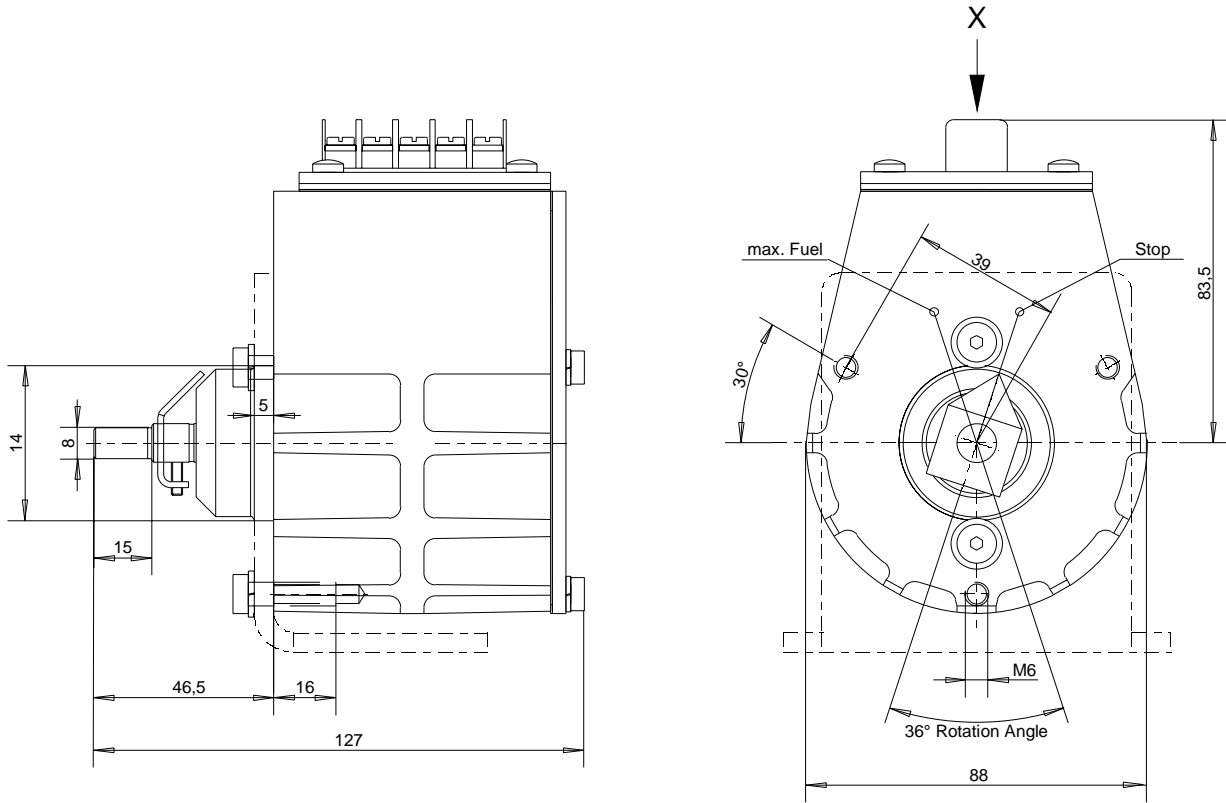
fig. 2: StG 1-02-F and StG 2-02-F

Actuator	StG 1 - 02 F	StG 2 - 02 F
EDV- No.	501-00-002-01	501-00-006-00
Rotation angle	68°	68°
Maximum torque	0,6 Nm	0,9 Nm
Holding torque	0,3 Nm	0,45 Nm

Note: Actuators without return spring. Operation with KG 1 - .. F resp. KG 2 - .. F only.

For further informations please refer the manuals E 82 001-e and E 83 010-e.

1.1.2. Actuators StG 2005 up to 2080



view X with terminal strip  
(shown without output shaft and pointer)

view X with plug-in connector  
(shown without output shaft and pointer)

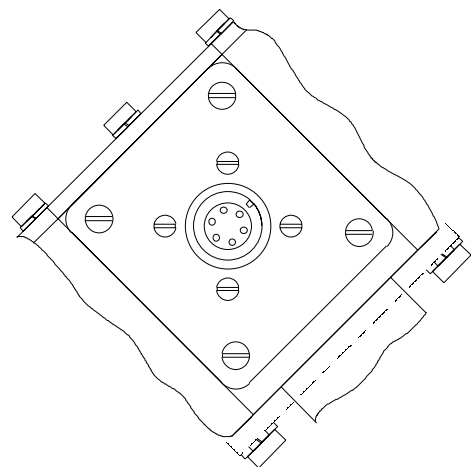
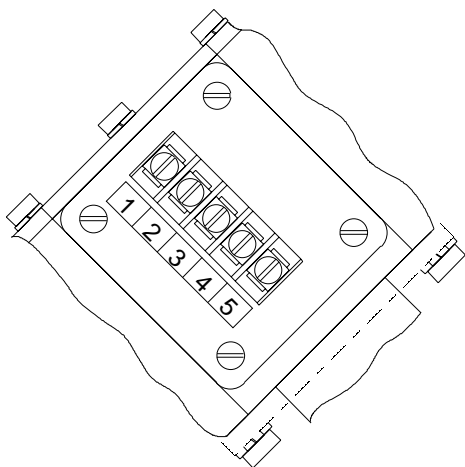
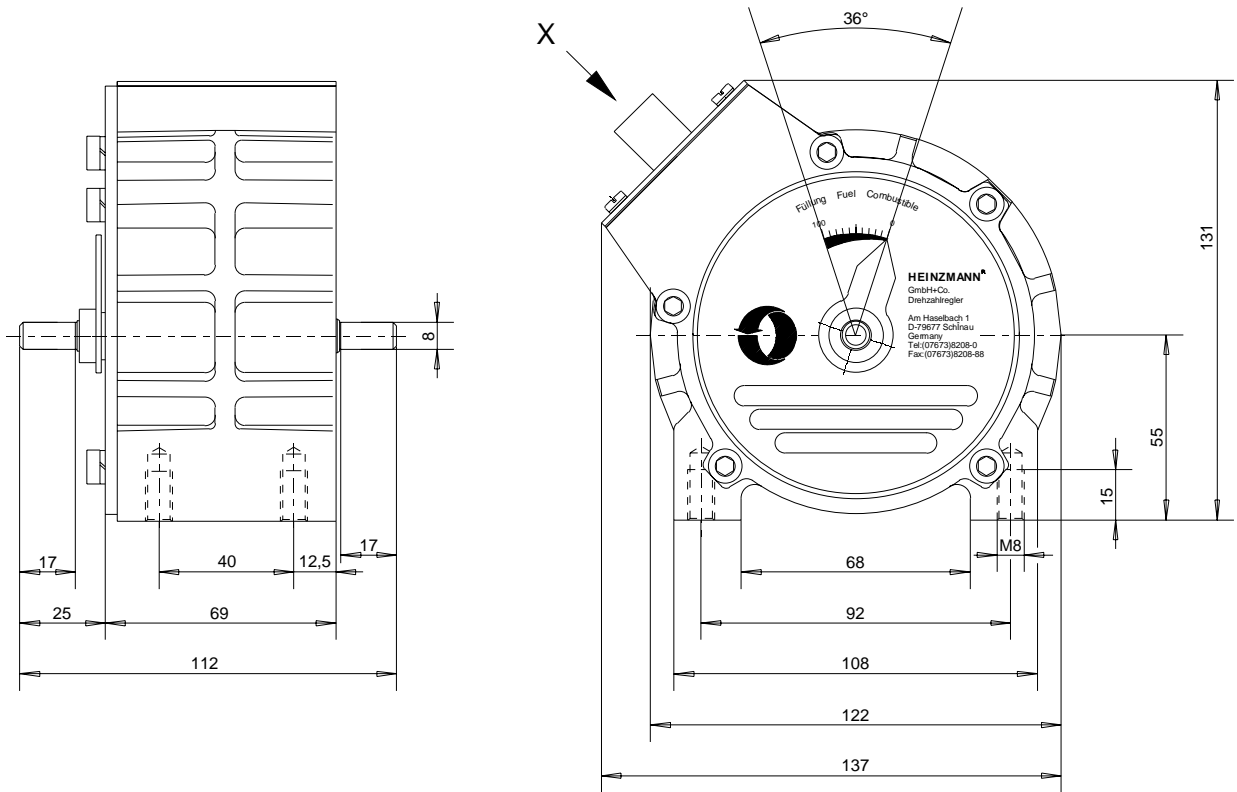


fig. 3: Actuator StG 2005 - 01



view X with terminal strip  
(shown without output shaft and pointer)

view X with plug-in connector  
(shown without output shaft and pointer)

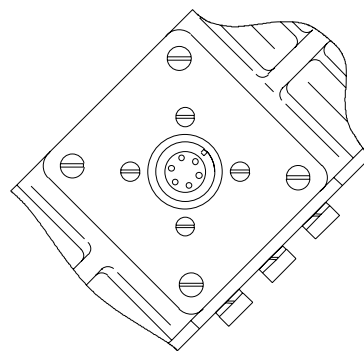
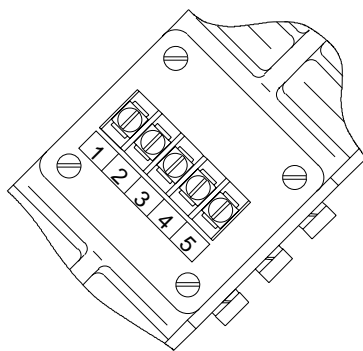
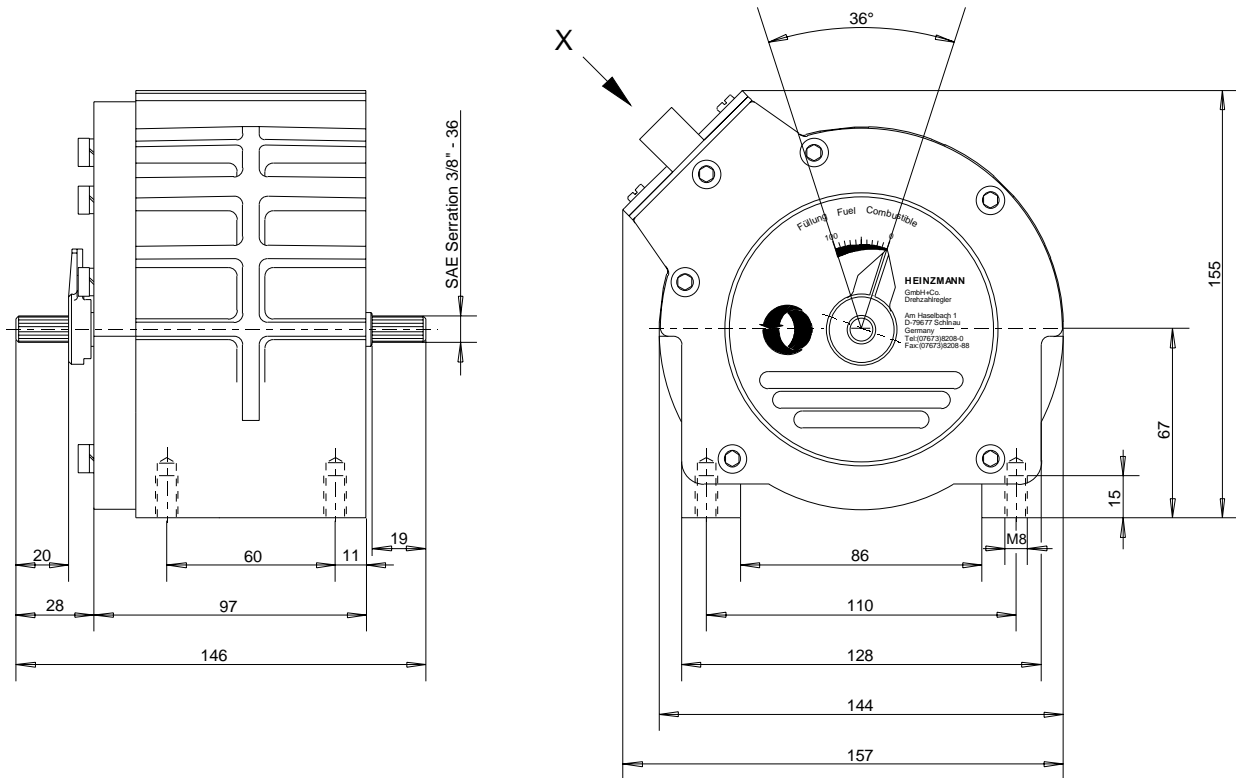


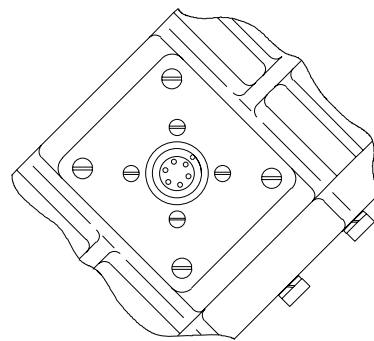
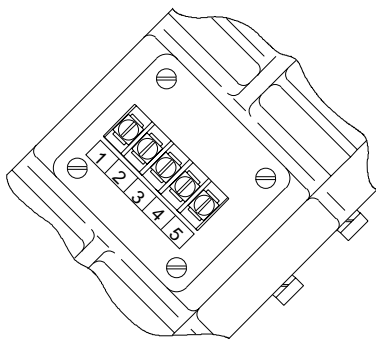
fig. 4: Actuator StG 2010 - 01



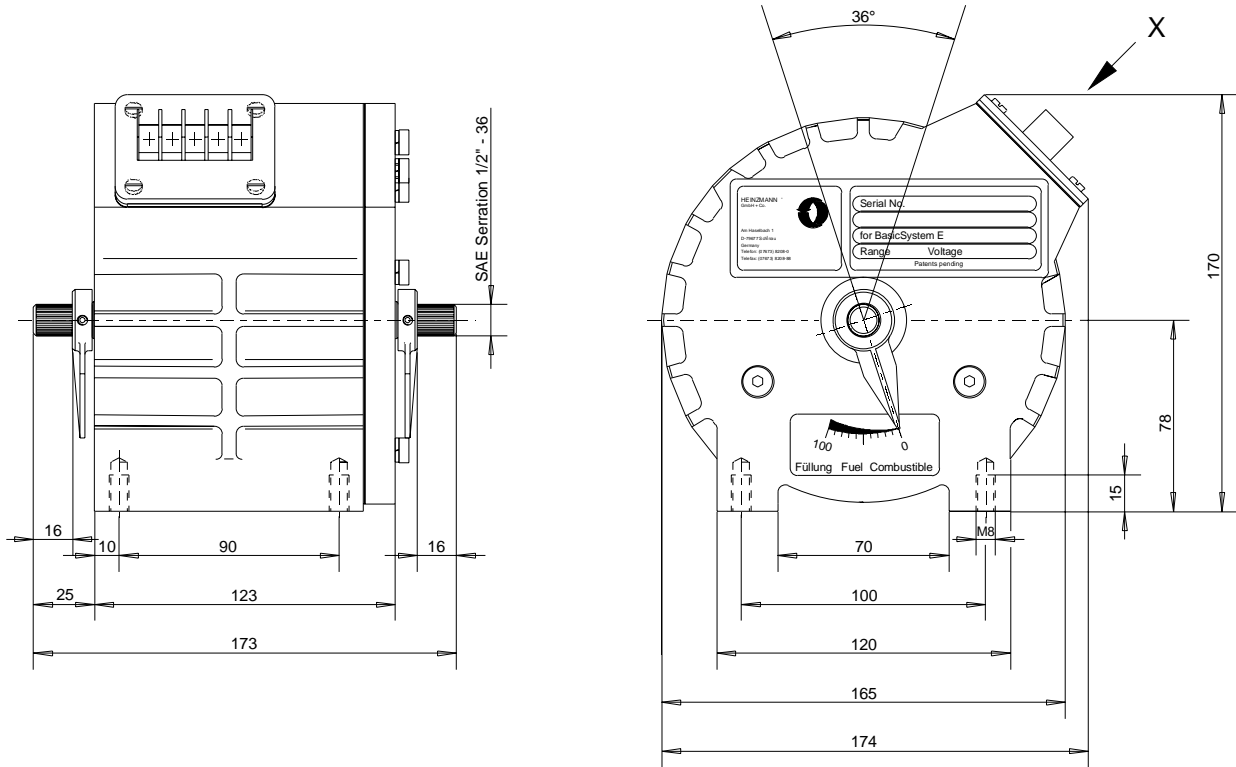


view X with terminal strip  
(shown without output shaft and pointer)

view X with plug-in connector  
(shown without output shaft and pointer)



**fig. 5: Actuator StG 2040 - 01**



view X with terminal strip

view X with plug-in connector

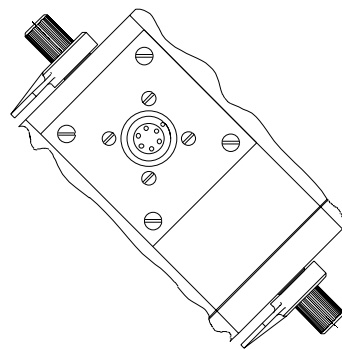
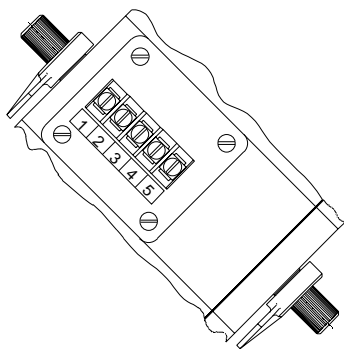


fig. 6: ActuatorStG 2080 - 01

Actuator with plug	<b>StG 2005 - 01 SV</b>	<b>StG 2010 - 01 SV</b>	<b>StG 2040 - 01 SV</b>
EDV- No.	511-00-009-01	511-00-010-01	512-00-011-02
Actuator with terminal strip	<b>StG 2005 - 01 KV</b>	<b>StG 2010 - 01 KV</b>	<b>StG 2040 - 01 KV</b>
EDV- No.	511-00-009-00	511-00-010-00	512-00-011-01
Rotation angle	36°	36°	36°
Maximum torque	0,8 Nm	1,4 Nm	6,5 Nm
Holding torque	0,4 Nm	0,7 Nm	3,2 Nm

Actuator with plug	<b>StG 2040 - 02 SV</b>	<b>StG 2080 - 01 SV</b>	<b>StG 2080 - 02 SV</b>
EDV- No.	512-00-012-01	514-00-002-01	514-00-009-00
Actuator with terminal strip	<b>StG 2040 - 02 KV</b>	<b>StG 2080 - 01 KV</b>	<b>StG 2080 - 02 KV</b>
EDV- No.	512-00-012-00	514-00-002-00	514-00-010-00
Rotation angle	68°	36°	68°
Maximum torque	4,5 Nm	11 Nm	7 Nm
Holding torque	2,2 Nm	5,5 Nm	3,5 Nm

For further informations please refer the manual E 94 004-e.

### 1.1.3. Actuators for special Application

#### 1.1.3.1. Actuator StG 2005 P

(EDV- No.: 511 00 011 04)

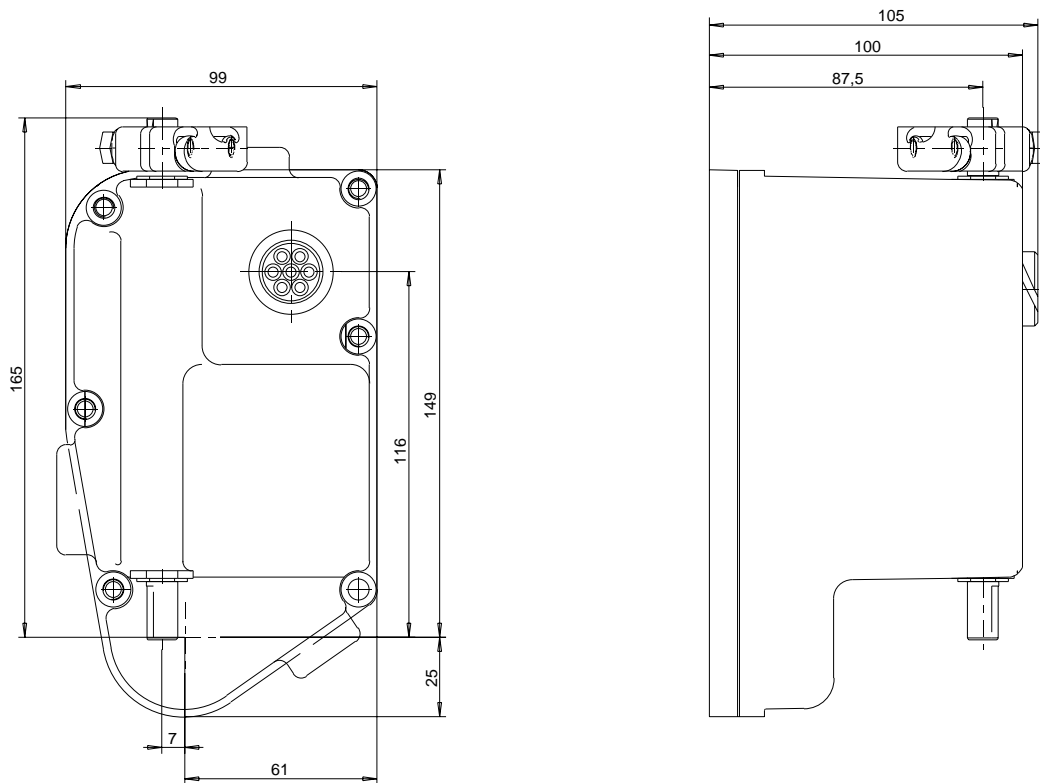
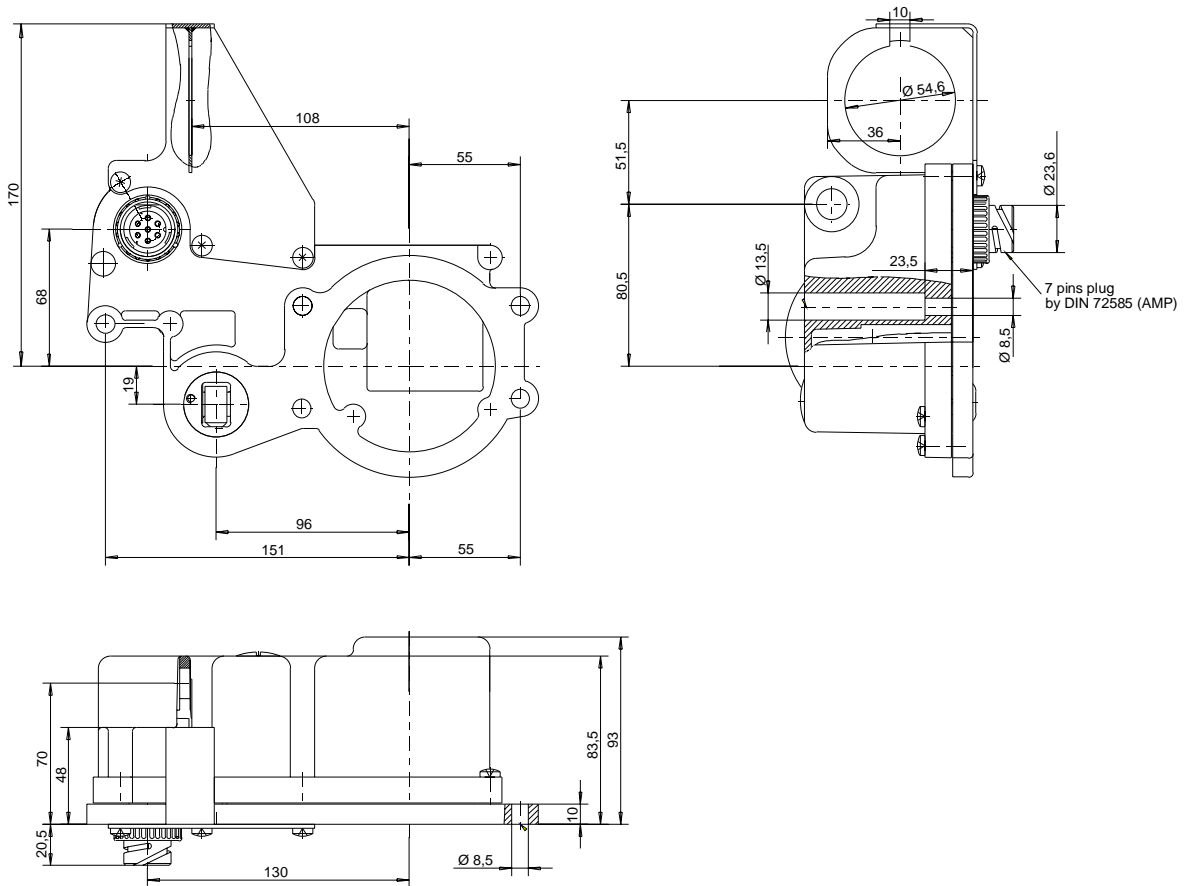


fig. 7: Actuator StG 2005 P

Actuator for direct assembly at block injection pump of type A and P.

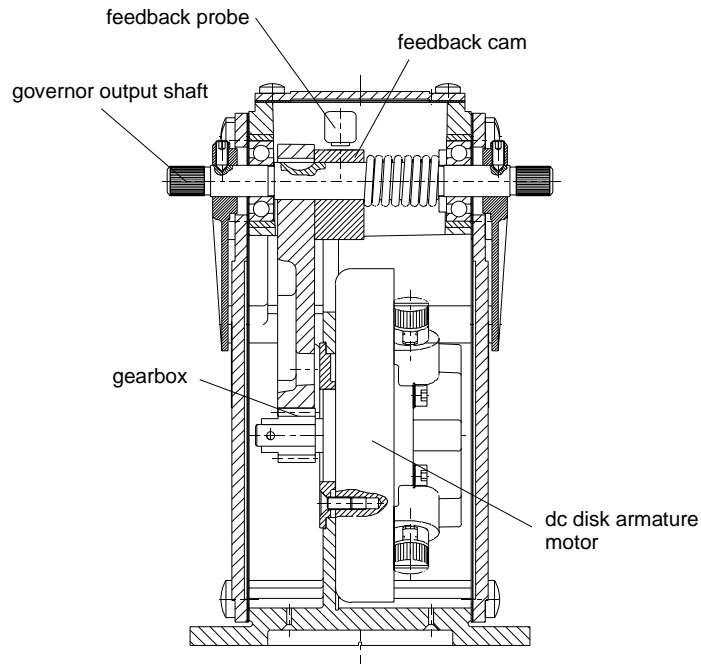
**1.1.3.2. EMR - Actuator**  
(EDV- No.: 521 00 005 00)



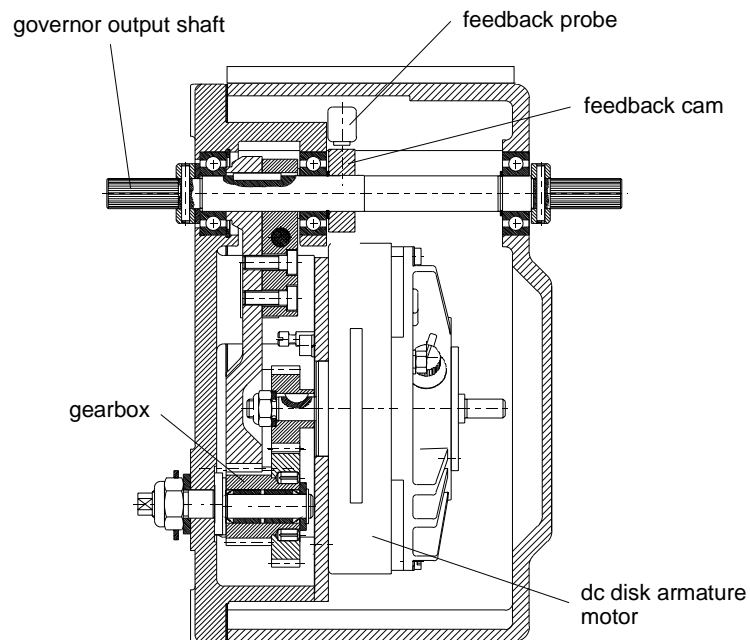
**fig. 8: EMR- Actuator**

Electronic engine governor, special application for Deutz. Usage at the engine types 1012 and 1013.

## 1.2. Actuators with Gears



**fig. 9: Sectional Drawing of the Actuators StG 6 up to StG 10**



**fig. 10: Sectional Drawing of the Actuators StG 16 up to StG 90**

### 1.2.1. Actuators StG 6

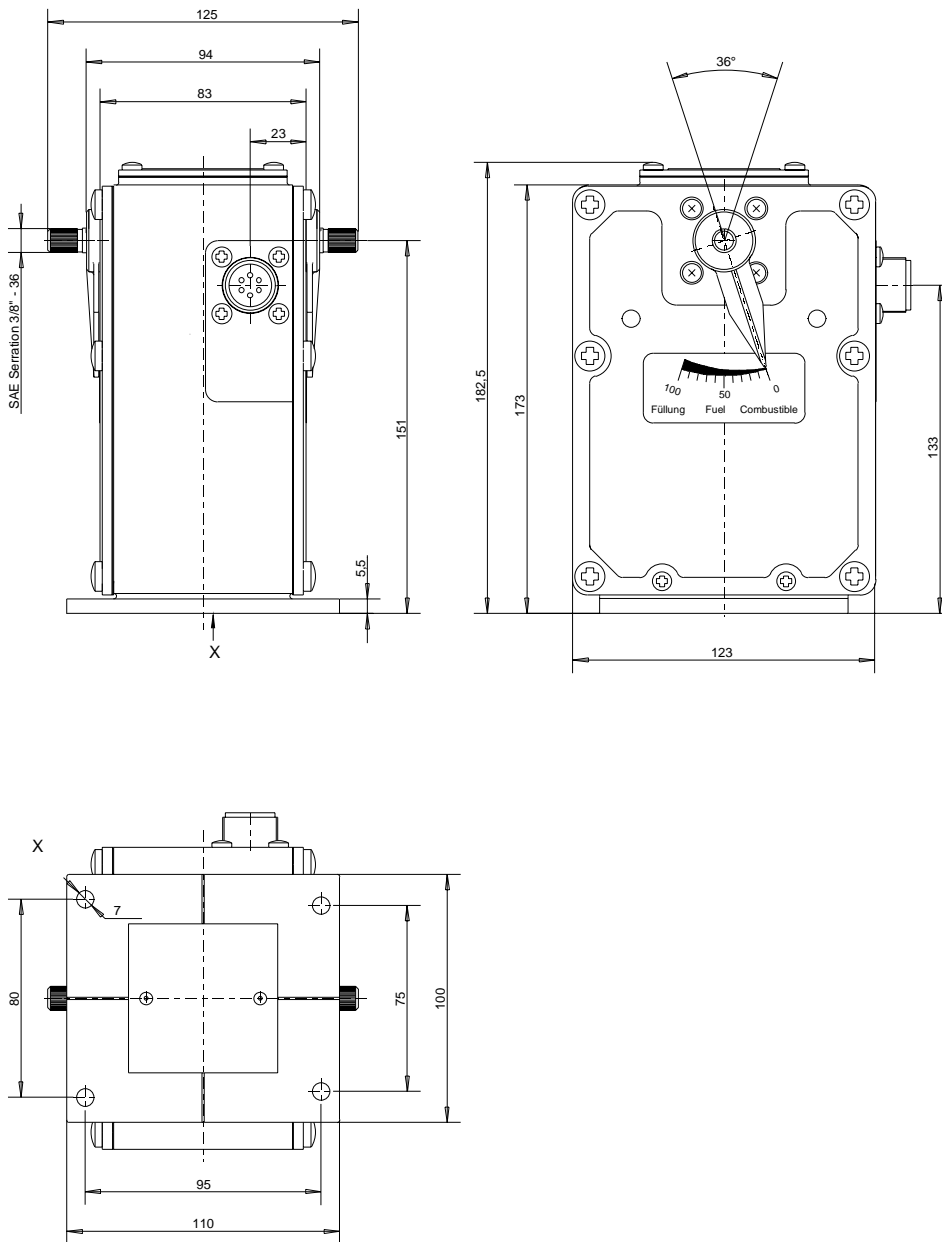


fig. 11: Actuators StG 6 - 01 and StG 6 - 02 - V

Standard Actuator

EDV- No.

Actuator with displaced plug

EDV- No.

Rotation angle

Maximum torque

Holding torque

<b>StG 6 - 01</b>	<b>StG 6 - 02 V</b>
502-00-001-00	502-00-001-03
<b>StG 6 - 03</b>	<b>StG 6 - 06 - V</b>
502-00-001-02	502-00-001-05
36°	36°
4 Nm	6 Nm
2 Nm	3 Nm

For further informations please refer the manuals E 87 012-e und DG 95 102-e.

### 1.2.2. Actuator StG 10

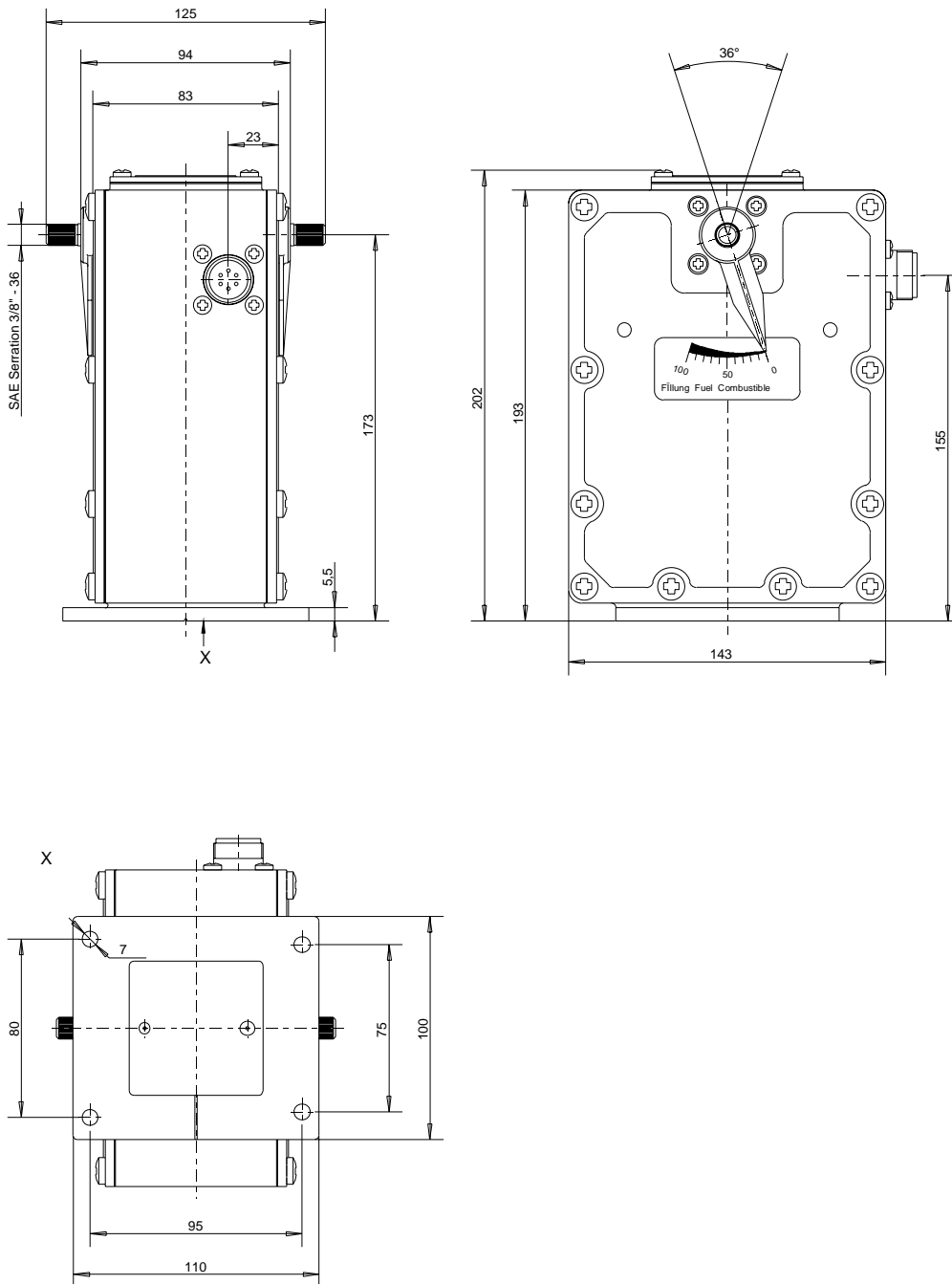


fig. 12: Actuator StG 10 - 01

Actuator	<b>StG 10 - 01</b>
EDV- No.	502-00-015-00
Rotation angle	36°
Maximum torque	10 Nm
Holding torque	5 Nm

For further informations please refer the manuals E 87 012-e und DG 95 102-e.



### 1.2.3. Actuators StG 16, StG 30 and StG 40

#### 1.2.3.1. Standard Type

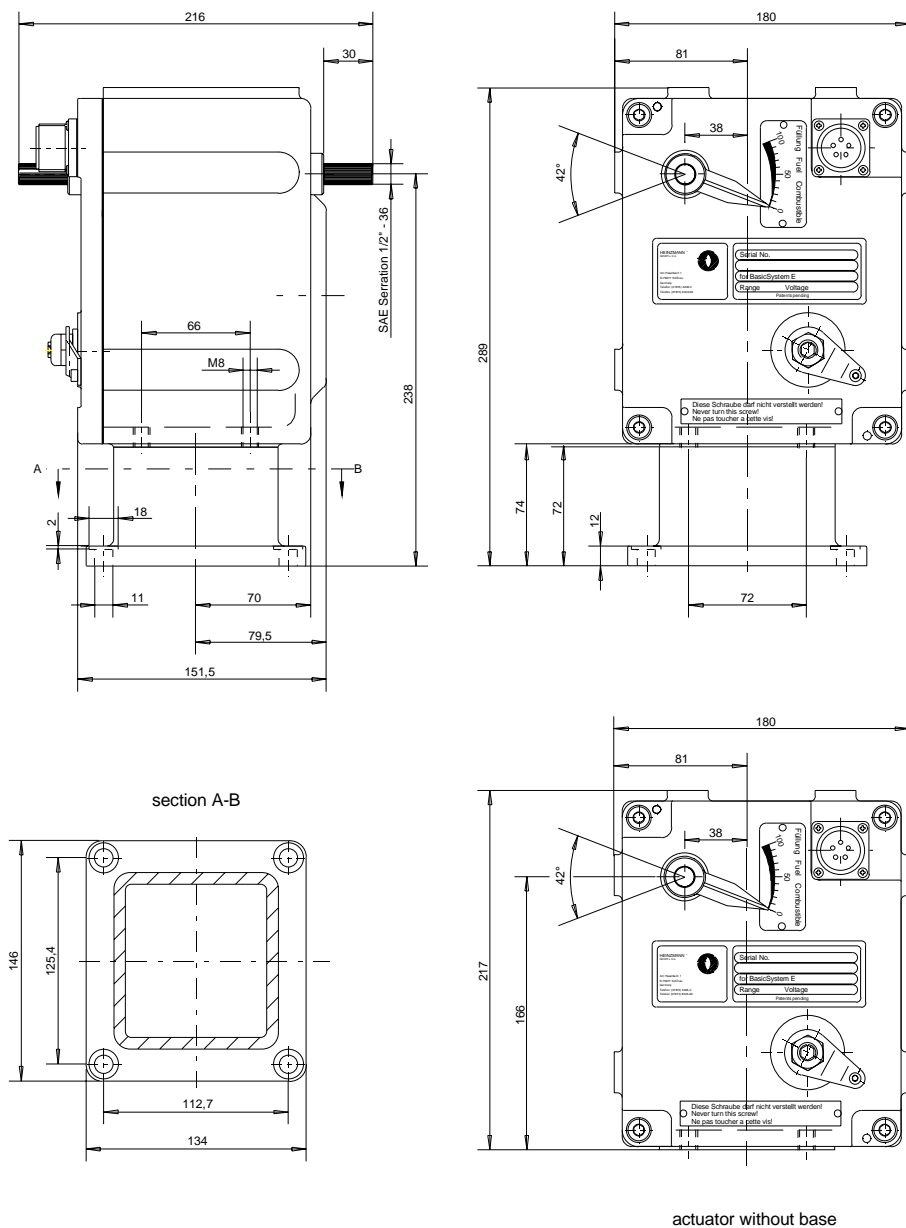


fig. 13: Actuators StG 16 - 01, StG 30 - 01 and StG 40 - 01

Actuator	StG 16 - 01	StG 30 - 01	StG 40 - 01
EDV- No.	504-00-013-00	504-00-014-02	504-00-032-00
Rotation angle	42°	42°	42°
Maximum torque	15 Nm	28 Nm	44 Nm
Holding torque	7,5 Nm	14 Nm	22 Nm

For further informations please refer the manuals E 87 009-e und DG 93 101-e.

### 1.2.3.2. Actuators with 90° Rotation Angle

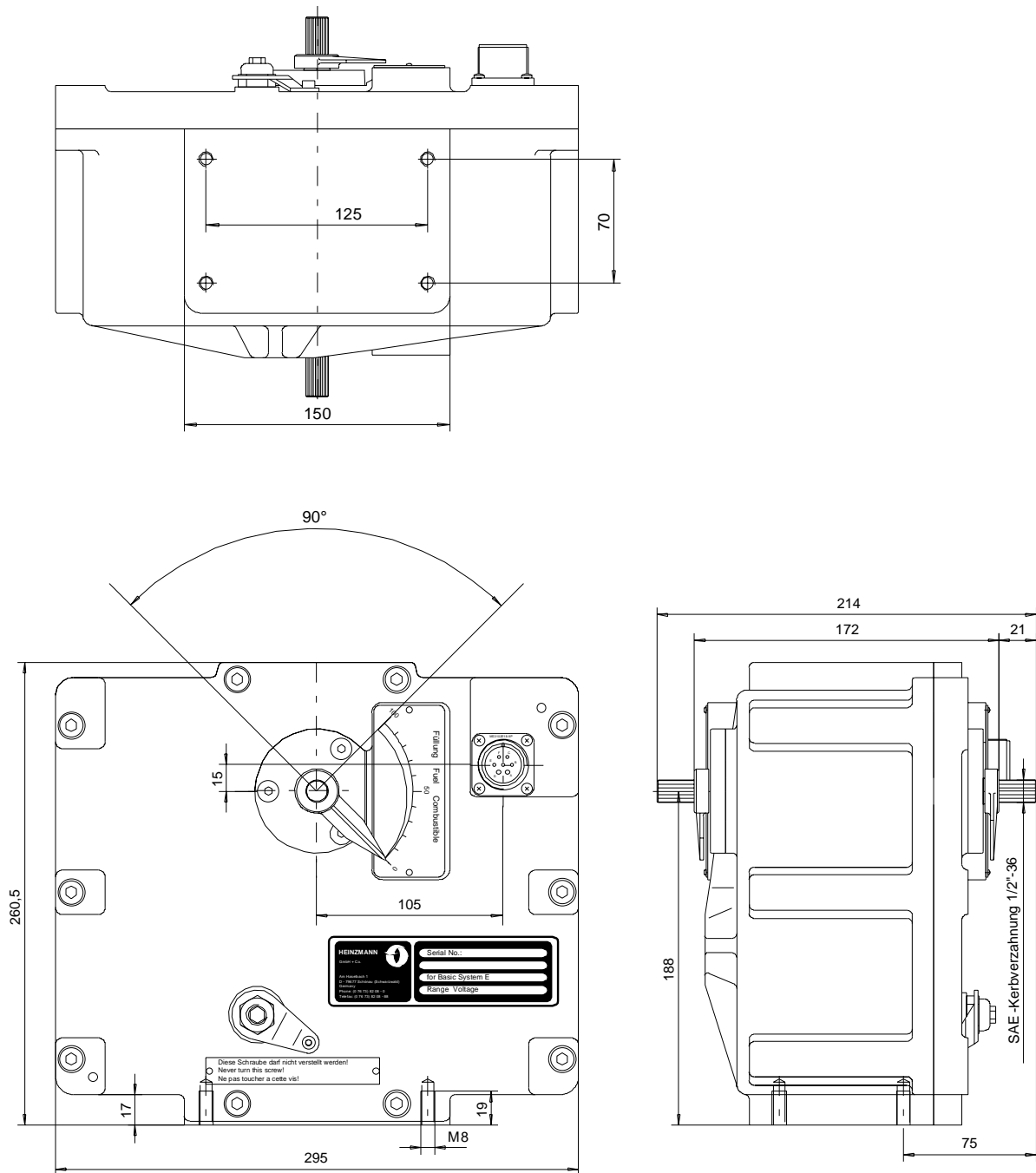


fig. 14: Actuators StG 16.90 - 02, StG 30.90 - 04 and StG 40.90 - 03

Actuator	StG 16.90 - 02	StG 30.90 - 04	StG 40.90 - 03
EDV- No.	504-00-027-00	504-00-030-00	504-00-034-00
Rotation angle	90°	90°	90°
Maximum torque	15 Nm	28 Nm	44 Nm
Holding torque	7,5 Nm	14 Nm	22 Nm

### 1.2.4. Actuators StG 64 and StG 90

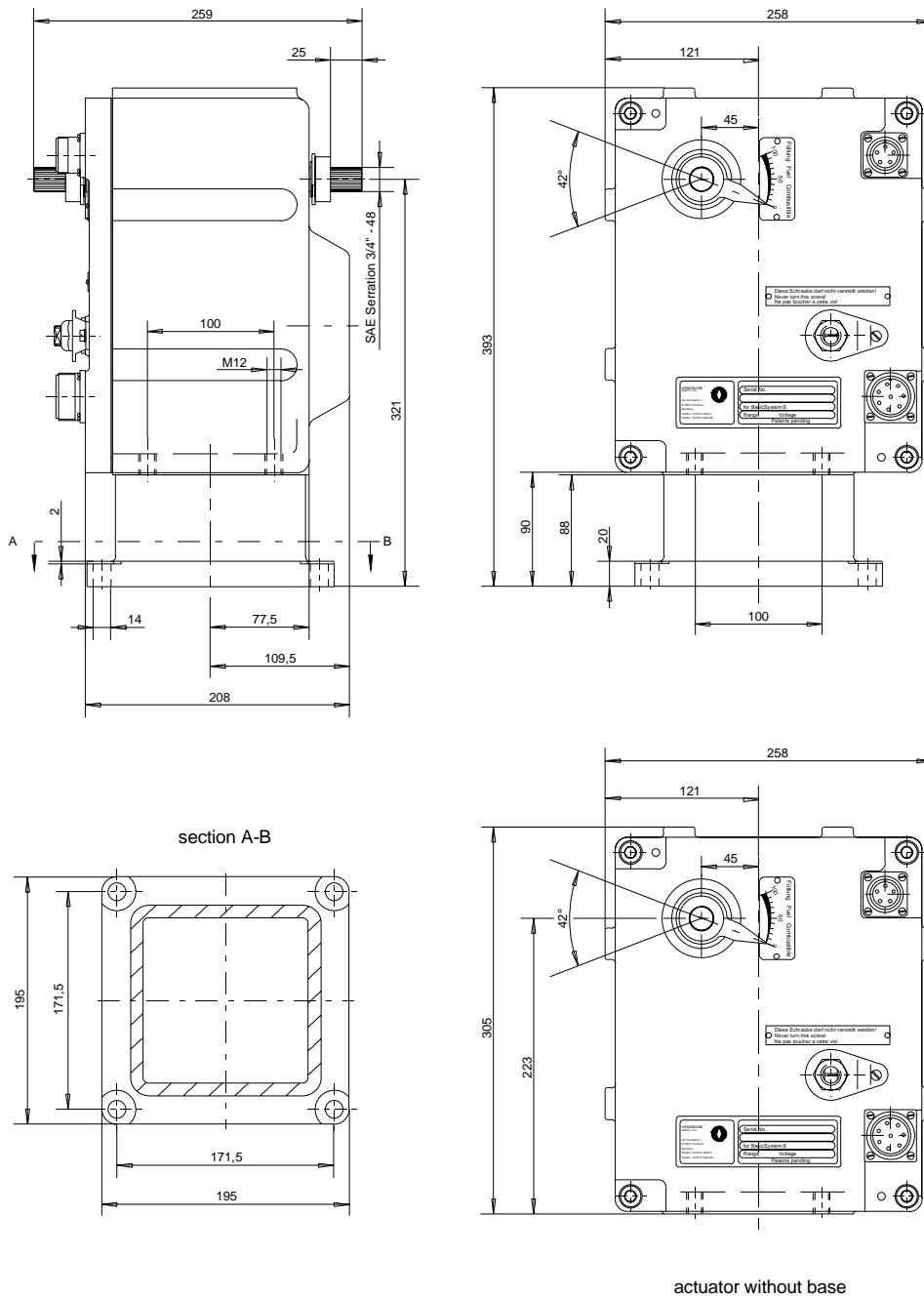


fig. 15: Actuators StG 64 - 01 and StG 90 - 01

Actuators  
 EDV- No.  
 Rotation angle  
 Maximum torque  
 Holding torque

StG 64- 01	StG 90 - 01
505-00-002-02	505-00-005-02
42°	42°
64 Nm	90 Nm
32 Nm	45 Nm

For further informations please refer the manuals E 82 001-e and E 83 010-e.

### 1.2.5. Actuator StG 180

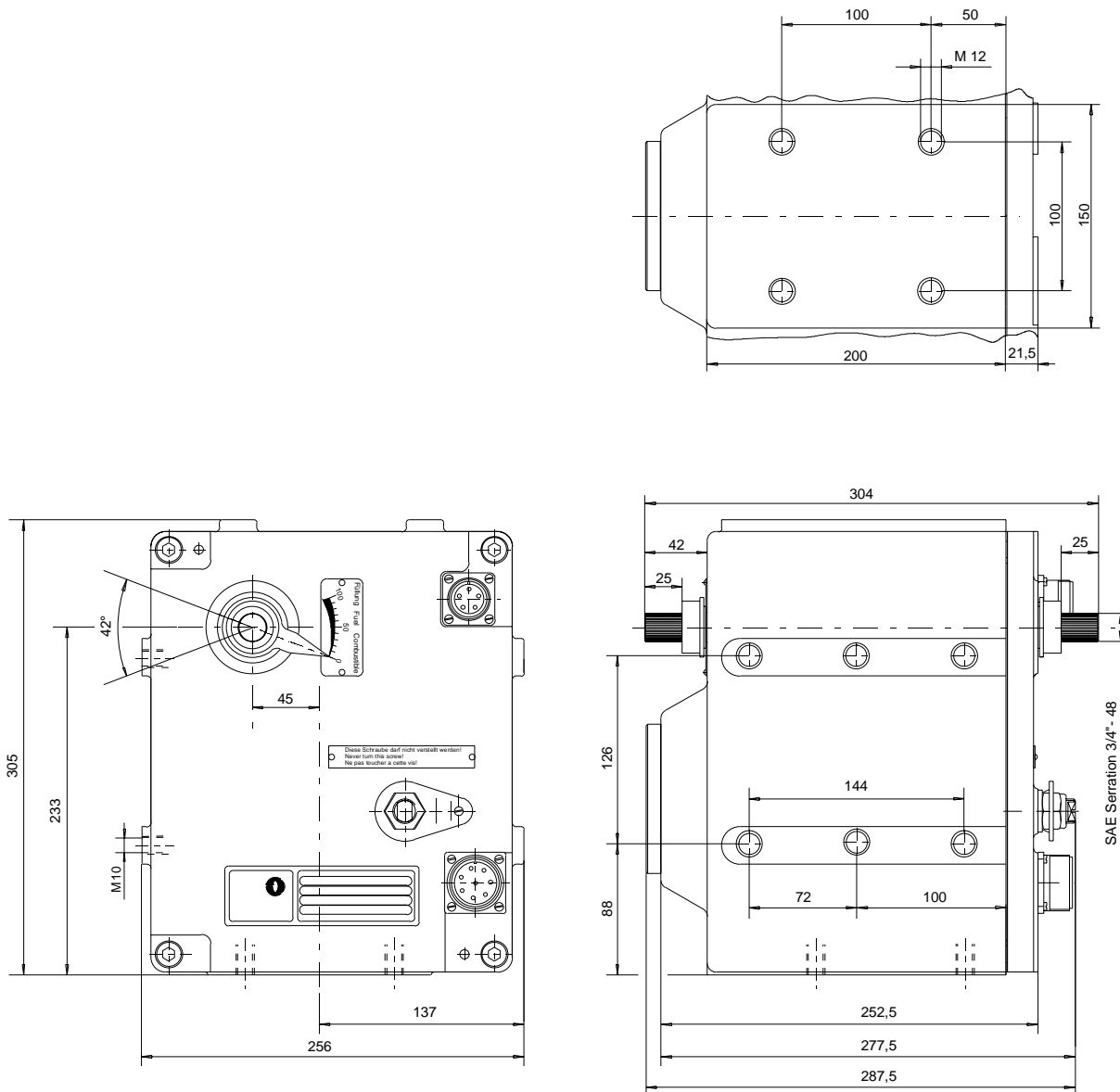


fig. 16: Actuator StG 180 - 01

Actuator  
 EDV- No.  
 Rotation angle  
 Maximum torque  
 Holding torque

<b>StG 180 - 01</b>
505-00-008-00
42°
180 Nm
90 Nm

For further informations please refer the manual DG 95 111-e.

### 1.3. Actuators with integrated Positioning Electronic

Measurements refer to chapter 1.2.3.2.

Actuator	<b>StG 16.90 - 02</b>	<b>StG 30.90 - 03</b>	<b>StG 40.90 - 01</b>
EDV- No.	504-00-027-00	504-00-028-01	504-00-034-00
Rotation angle	90°	90°	90°
Maximum torque	15 Nm	28 Nm	44 Nm
Holding torque	7,5 Nm	14 Nm	22 Nm

Input signal: standard PWM

Output signal: standard 1 - 9 V

Optional current- or voltage signals.

## 1.4. Actuators in Ex- Protection Type

### 1.4.1. Certified from PTB Braunschweig by EEx d II B T5 (flameproof enclosure)

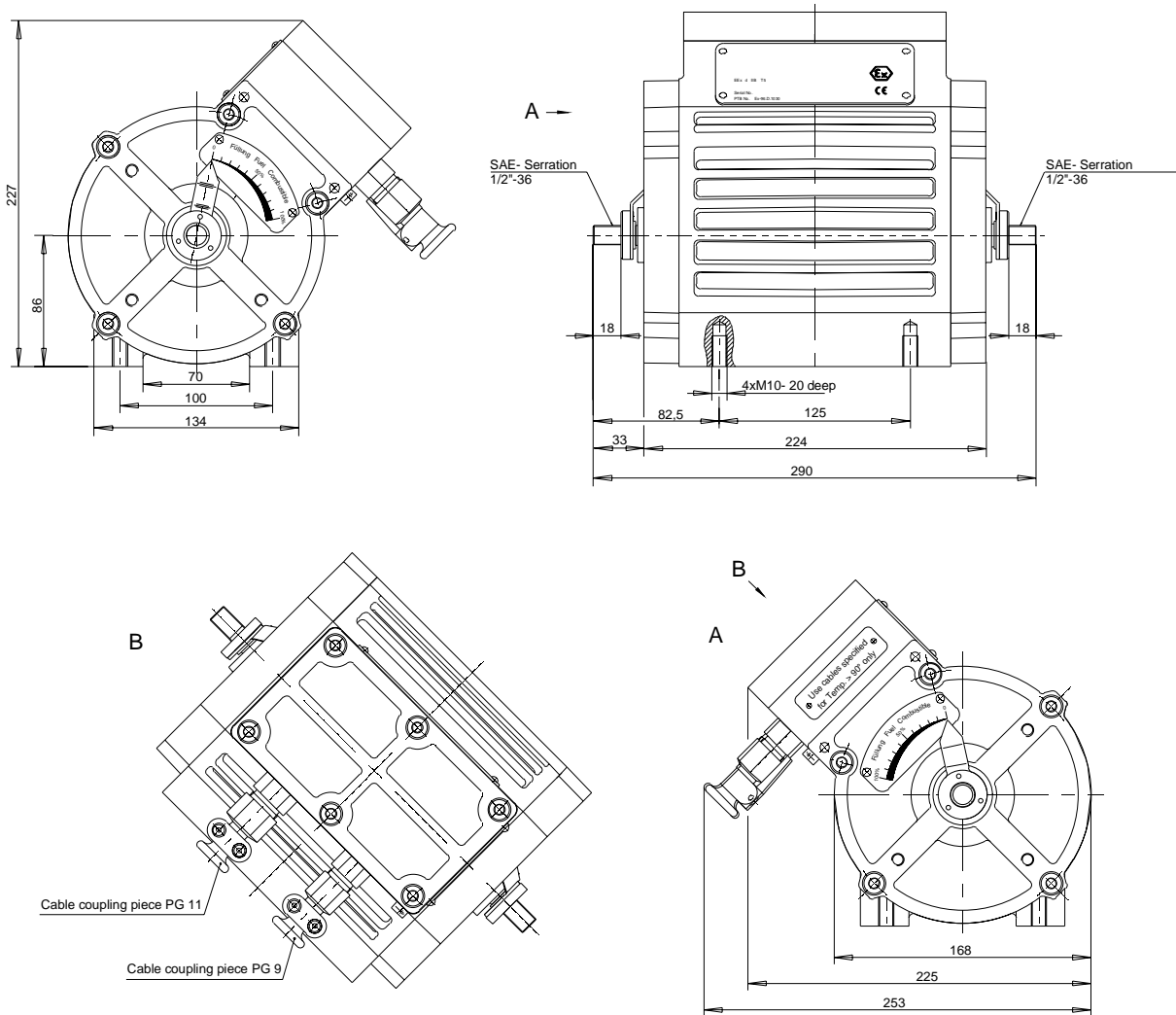


fig. 17: Actuator StG 2120

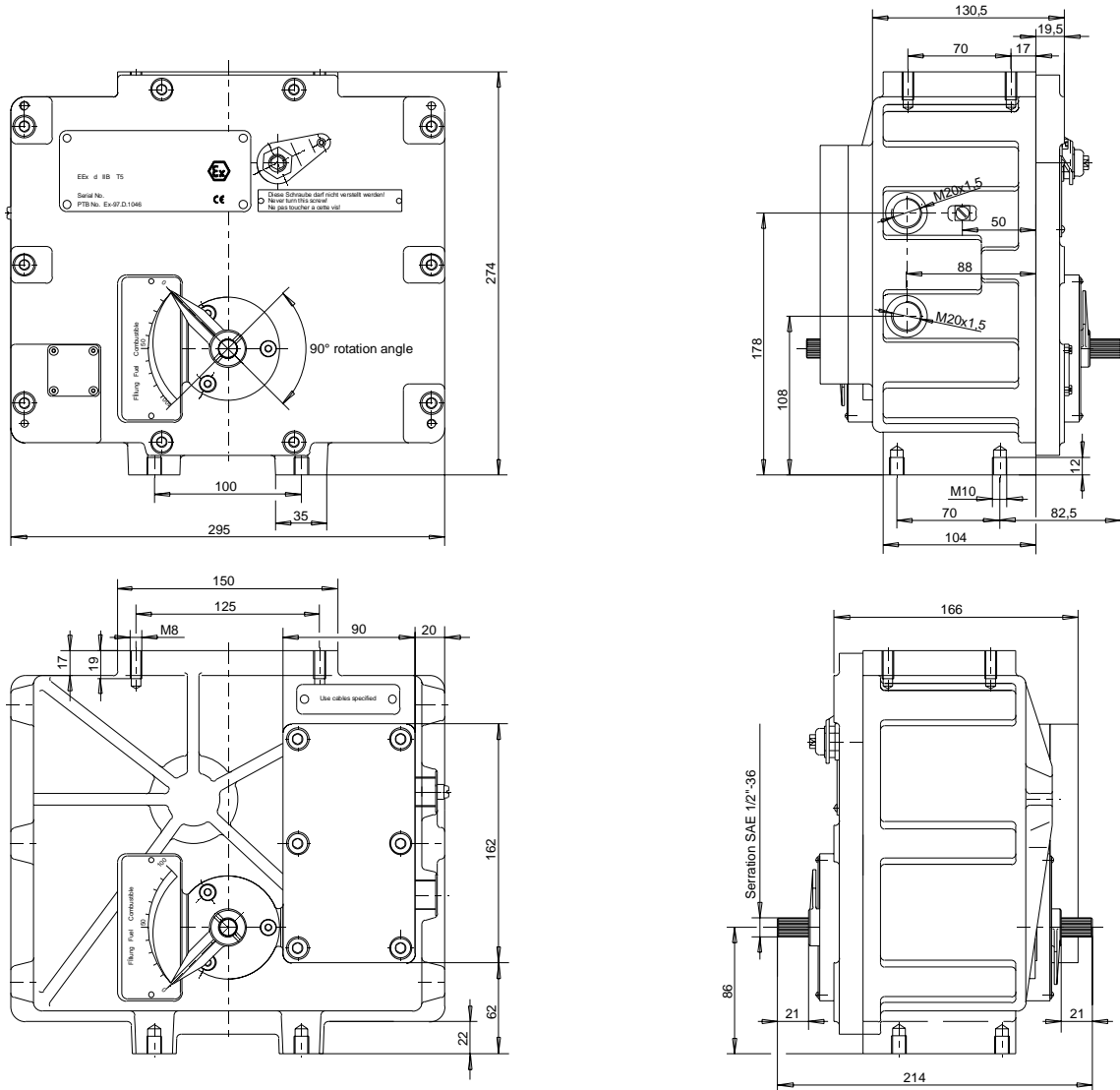


fig. 18: Actuator Stg 30.90 - 05

Actuator  
 EDV- No.  
 Rotation angle  
 Maximum torque  
 Holding torque

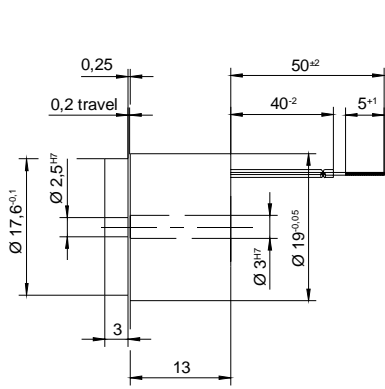
	StG 2120	StG 30.90 - 05
EDV- No.	514-00-001-02	504-00-031-02
Rotation angle	68°	90°
Maximum torque	13 Nm	28 Nm
Holding torque	6,5 Nm	14 Nm

#### 1.4.2. Certified from CSA by class I, division 2, group D

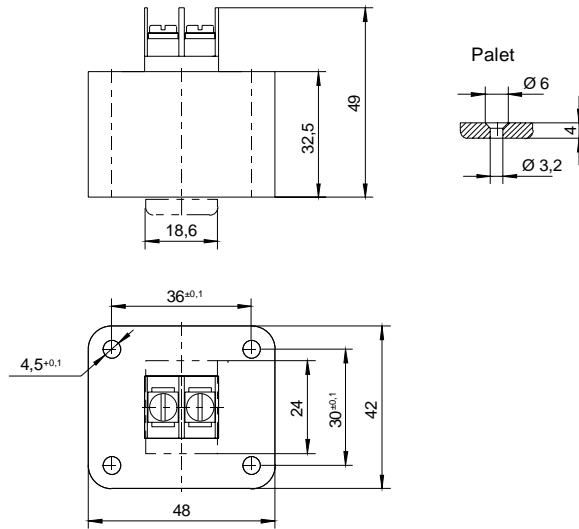
Actuators: StG 2010 - 01, StG 2040 - 01 and StG 2080 - 01 described in chapter 1.1.2. have the certification number LR 77078-2.

Actuator: StG 30.90 - 03 described in chapter 1.3. has the certification number LR 77078-1

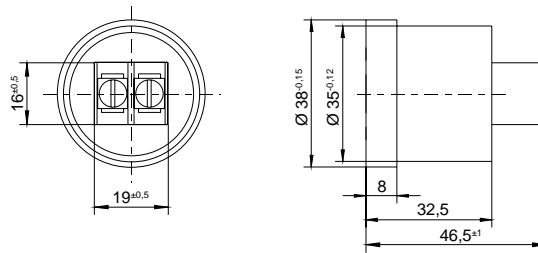
### 1.5. Solenoids for Electronic Fuel Injection



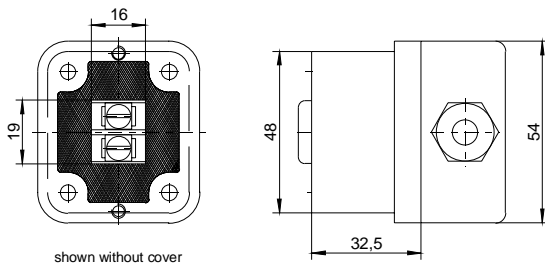
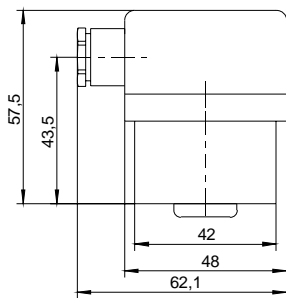
Solenoid RM 01



Solenoid SM 01



Solenoid SM 02



Solenoid SM 03

fig. 19: Solenoids for Electronic Fuel Injection



Solenoid	<b>RM 01</b>	<b>SM 01</b>	<b>SM 02</b>	<b>SM 03</b>
EDV- No.	400-00-053-00	400-00-054-00	400-00-051-00	400-00-055-00
Pallet travel	0,2 mm	0,25 mm	0,25 mm	0,25 mm
Rest air gab	0,05 mm	0,05 mm	0,05 mm	0,05 mm
Solenoid force at travel begin	100 N	200 - 300 N	200 - 300 N	200 - 300 N

## 2. Order Specifications for Manuals

There is no charge for our technical manuals ordered in reasonable quantities.

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