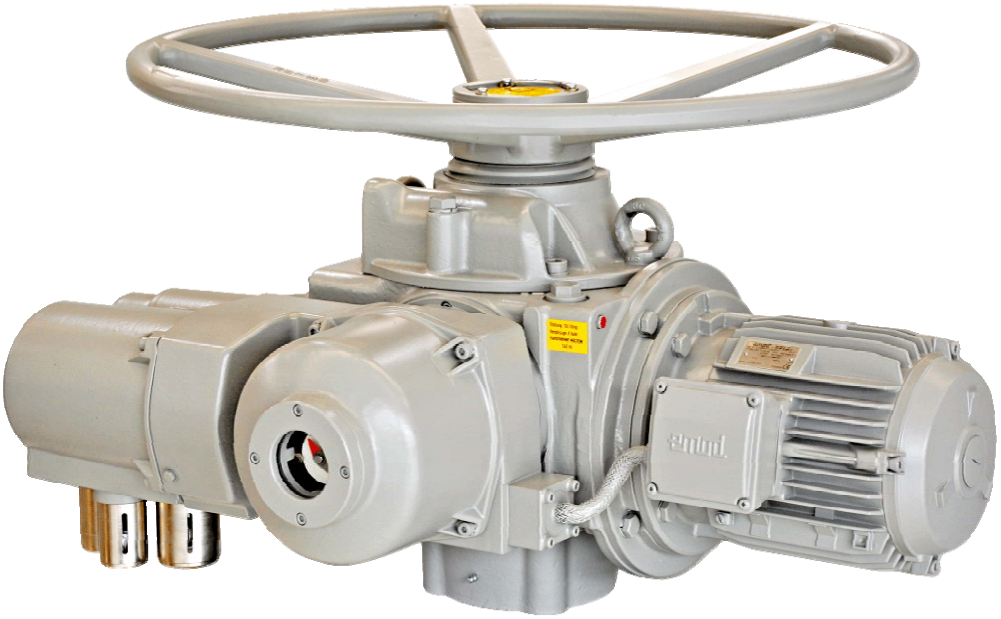
SIPOS AKTORIK

Electric Rotary Actuators For Nuclear Plants

S-SIWI and S-SIWI-AS

for Open-Loop Control Equipment



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Electric Rotary Actuators for Nuclear Plants

S-SIWI and S-SIWI-AS Series for Open-Loop Control Equipment

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The production and testing of these electric actuators are inspected and approved regularly by the following authorities :

> TÜV CERT, NIS ZERT
> NPP Philippsburg (EnBW) as partner of VGB
> AREVA NP GmbH

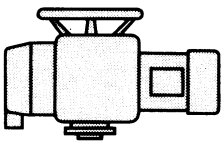
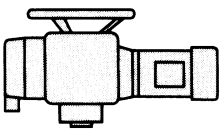
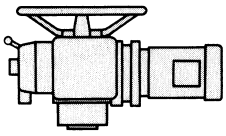
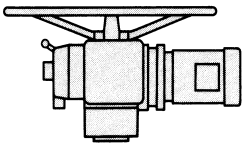
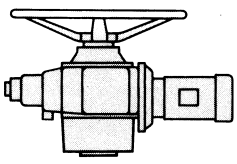
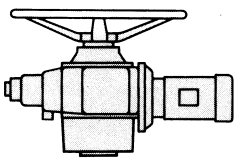
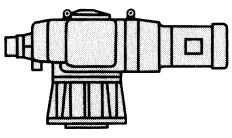
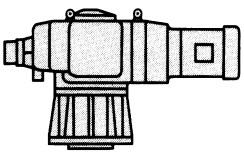
Fig. 1 Electric rotary actuator for nuclear plants, S - SIWI - AS series

Delivery program

Electric rotary actuator for open-loop control equipment for use in nuclear plants

S - SIWI series	‘ Important for safety reasons ‘
S-SIWI-AS series	‘ Important for safety reasons and designed-fault resistant ’, also in ‘ long-term availability ‘ version
With three-phase motor	3/PEN AC 50 Hz 380 V
For short-term conditions operation	S2 - 10 min under normal S2 - 1,5 min under fault conditions to VDE 0530, Part 1 § 8c
Connection flange and output shaft	Design B, C, D or E to DIN 3210 Design B1 or B3 to EN ISO 5210

Summary

Electric rotary actuators					
					
S - SIWI series	Type	**M76361 - C**	**M76361 - E**	**M76361 - F**	**M76361 - G**
S – SIWI - AS series	Type	**M76371 - C**	**M76371 - E**	**M76371 - F**	**M76371 - G**
Adjustable tripping torque	min.	10 and 15 Nm	30 Nm	60 Nm	100 Nm
	max.	45 Nm	90 Nm	180 Nm	300 Nm
Output speed in steps from .. to ..		5 to 180 rpm	5 to 180 rpm	5 to 180 rpm	5 to 180 rpm
Size to DIN 3210 / EN ISO 5210		0 / F10	0 / F10	1 / 2 / F14	3 / F16
Ordering data		page 11 and 12	page 13	page 14	page 15
					
S - SIWI series	Type	**M76361 - M**	**M76361 - N**	**M76361 - S**	**M76361 - U**
S – SIWI – AS series	Type	**M76371 - M**	**M76371 - N**	**M76371 - S**	**M76371 - U**
Adjustable tripping torque	min.	200 Nm	300 Nm	500 Nm	1000 Nm
	max.	600 Nm	900 Nm	1500 Nm	3000 Nm
Output speed in steps from .. to ..		5 to 180 rpm	5 to 180 rpm	5 to 60 rpm	5 to 60 rpm
Size to DIN 3210 / EN ISO 5210		3 / F16	4 / F25	4 / F25	5 / F30
Ordering data		page 16	page 17	page 18	page 19

Meaning of abbreviations

used to identify the series

S	Open-loop control equipment
SIWI	Important for safety reasons
AS	Designed - fault resistant

Application

The electric rotary actuator of the S-SIWI and S-SIWI-AS series are actuators for open loop control equipment in nuclear plants.
The rotary actuators of S-SIWI series, type range M76361, are used to actuate units which are particularly important for plants safety, e.g. for the safe operation of a nuclear reactor and for maintaining the emergency cooling and after-cooling.
The rotary actuators of S-SIWI-AS series, type range M76371, are ' important for safety reasons' and 'designed-fault resistant', i. e. they must operate correctly under fault conditions agreed upon during the design of a nuclear plant (designed fault). They are designed such that they continue to function for at least one day or - in the 'long-term availability' version - at least one year following the occurrence of a designed fault.

Versions

The rotary actuators of the SIWI and SIWI - AS series are further developments of the proven rotary actuators of the standard S series.
Higher safety factors were taken into account for the strength calculation of all parts in the flux of force than with the S series.
The tripping torques have therefore been reduced compared to those of the rotary actuators of the standard S series.

Design and mode of operation

Motor

A three - phase asynchronous motor is used as the drive.

Gear Unit

The flux of force in all rotary actuators is from the motor to the output shaft via a spur-type transmission gear and a worm gear (Fig. 2). The rotary actuators M763..-S and M763..-U also have a planetary gear following this combination of units. A stepped range of drive speeds from 5 up to 180 rpm is achieved using different numbers of poles for the motor and different gear ratios.
The worm shaft is kept in a central position in relation to the worm wheel by means of tension plate springs and can move in both axial directions (travelling worm). If a load torque occurs on the output shaft which is greater than the torque set by the tension of the plate springs, the worm shaft is pressed out of its central position by the peripheral force on the worm wheel. A torque switch is then activated via a lever system and switches off the motor via the associated control equipment (e. g. reversing starter switch).
The gear unit is filled with a high -pressure lubricant and sealed by gaskets in all directions.
All gearing shafts move in anti-friction bearings.

Manual operation

If necessary, the actuators can be operated by means of a handwheel which is inoperative in the case of motorized operation. By pressing a switching lever, the actuator motor is switched off and the handwheel is connected to the output shaft. This position is engaged by a special mechanism. The handwheel is automatically disconnected without danger for the operator when the motor starts up and the motor is connected again. Motorized operation always has priority over manual operation.
The rotary actuators M763..-F, -G, -M, and -N can also be supplied with a gear reducer for the handwheel where the handwheel shaft is offset by 90° with respect to the output shaft. A qualification according to the German standard KTA 3504, edition 11/2006 is not present for this version, especially with respect to the resistance to vibration.
The rotary actuators M763..-S and -U are always fitted with a handwheel gear reducer.

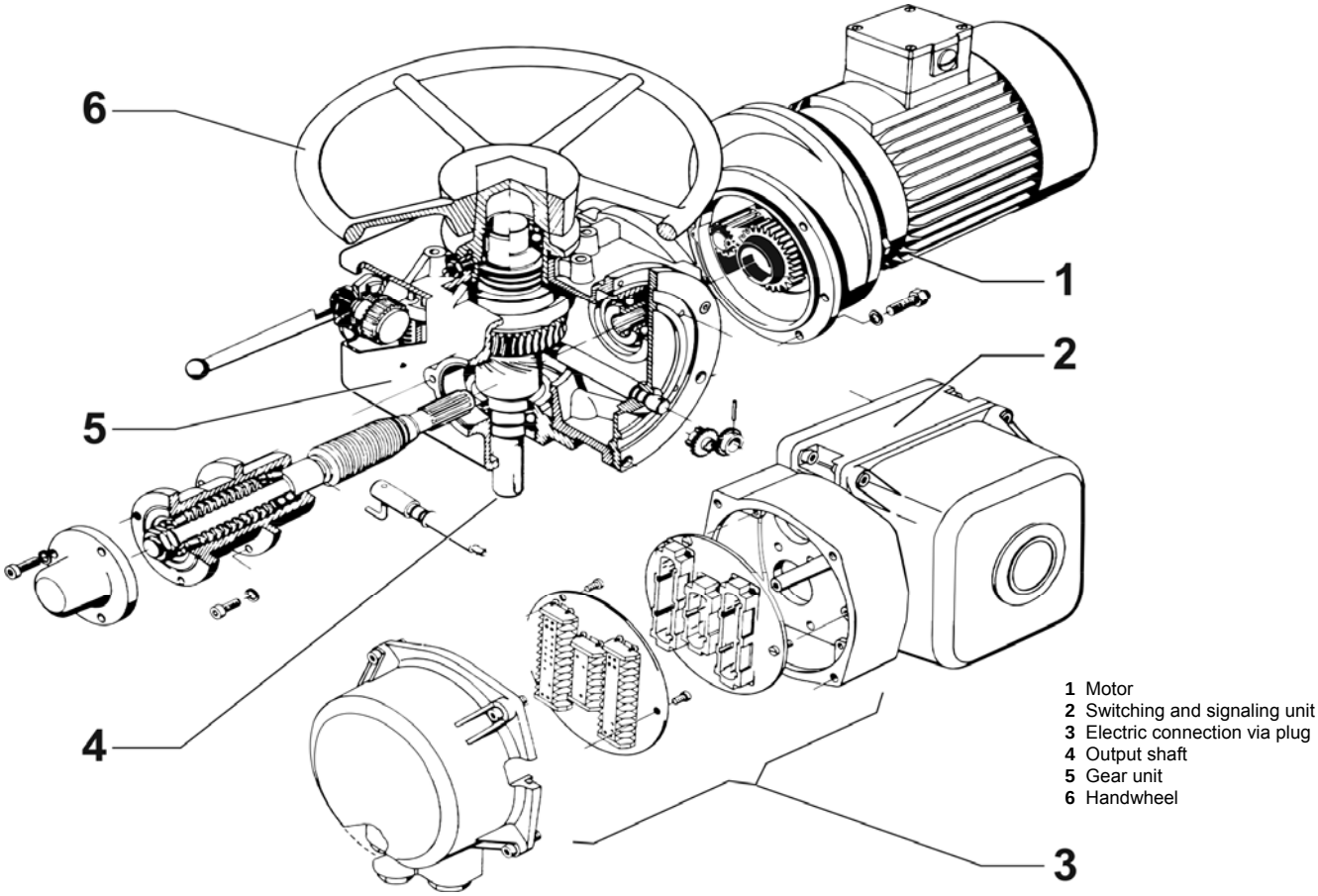


Fig. 2 : Parts of an electric rotary actuators, S-SIWI series

Flange connection dimensions and output shaft designs

The forms of the rotary actuators at the connection point to the final control element are according to DIN 3210 or EN ISO 5210. These standards define the shape and dimensions of the connection flange and the various designs of the output shaft.
DIN 3210 has the following meanings :

Design B :	hollow shaft with insert bush	
Design C :	hollow shaft with claw coupling	
Design D :	free shaft end (with featherkey)	/ not qualified
Design E :	Bore with featherkey slot	/ not qualified

Rotary actuators with flange connection dimensions and output shafts designs according to DIN 3338 are available on request.

Switching and signaling unit

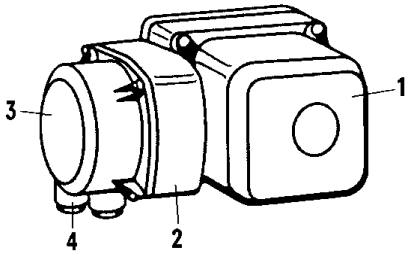
The switching signaling unit is fitted in a housing which is the same for all actuators of a series. This housing is pressure-tight (angular with round cover) in the actuators of the S-SIWI-AS series and thus differs from the housing of the S-SIWI-series.
The switching and signaling unit consists of assemblies for activating the torque and travel switches, a mechanical position indicator, a remote transmitter (electronic position transmitter or potentiometer for position indication) and the associated gear reducer. See the Ordering data for the possible combinations of the switching and signaling unit.
A space heater can also be fitted.

Mounting position

The rotary actuators can be mounted in any position.

Electric connection

The motor and the switching and signaling unit are connected via plugs.
Either one or two 24-way plug assemblies for the switching and signaling unit and one 6-way plug assembly (10-way plug assembly / close loop control) for the motor are used depending on the required number of conductors. Crimp sockets for the top parts of the plugs are supplied loose.
In the case of motors (open loop control) with rated powers above 4 kW up to 11 kW, 2 cores can be connected to 2 plug contacts for each outer conductor in order to increase the total cross-section of the cables. Associated plug contacts, e. g. 1 and 4 for outer conductor L1 are connected together in the bottom part of the plug by jumpers (Fig. 4).
Two cores and two plug contacts must always be used for each outer conductor in the case of motors with a rated power above 11kW
All plug assemblies are accommodated in a common housing (compact plug, see Fig. 3).
The top part of the plug housing can be removed and rotated in steps of 90°. The cables are inserted into the housing via metal screwed glands with a conduit thread or metric thread.
Qualified cable inlets must be used for the rotary actuators of the S-SIWI-AS series depending on the plant.
The following accessories are available: parking socket and protective cover (page 22, dimensions on page 42).



1 Housing for switching and signaling unit
2 Bottom part of plug
3 Top part of plug, removable
4 Metal screwed glands with conduit thread for cable inlet

Fig. 3 : Housing for switching and signaling unit and plug housing (design for S - SIWI series)

Technical data

Series, Design, Sizes

Series :

Series	Type	Explanation
S-SIWI	M76361	Important for safety reasons (open-loop control)
S-SIWI-AS	M76371	Important for safety reason and designed-fault resistant (open-loop control)

Design : Rotary Actuators

Sizes :

Rotary actuator, Series SIWI / SIWI-AS	Type M76361 / 71								
	- C	- E	- F	- G	- M	- N	- S	- U	
Size to DIN 3210	0	0	½	3	3	4	4	5	
Size to EN ISO 5210	F10	F10	F14	F16	F16	F25	F25	F30	
Max. tripping torque in Nm	45	90	180	300	600	900	1500	3000	
Internal diameter of hollow shaft (gear unit opening) and tolerance in mm	27,8 +0,2	36 +0,2	53 +0,2	53 +0,2	71,5 +0,5	71,5 +0,5	63 + 1	74 + 1	
Handwheel reduction, Design I	1 : 1	1 : 1	1 : 1	1 : 1	1 : 1	1 : 1	332 : 1 83 : 1	401 : 1 100 : 1	**1**) **2**)
Design II			13 : 1		18,5 : 1				

1) : self - locking worm gear **2**) : not self - locking worm gear

Handwheel reduction :

Design I (basic design) : Handwheel acts directly on the output shaft in rotary actuators M763.. - C .. N
Handwheel gear reducer fitted as standard in rotary actuators M763.. - S, - U

Design II (further design) : Worm gear attachment with handwheel at side as handwheel gear reducer in rotary actuators M763.. - F to N

Efficiencies of handwheel gear reducers

Reduction ratio, handwheel / output shaft	13 : 1	18,5 : 1	83 : 1	100 : 1	332 : 1	401 : 1
Efficiency η	0,45	0,6	0,6	0,6	0,32	0,32

Motor

Motor for three-phase 4-wire system 3/PEN AC 50 Hz 380 V to EN 60034

Operating mode, insulation class and motor protection

Rotary actuators, series	**Operating mode to EN 60034**	**Insulation class**	**Motor protection**
S - SIWI	Short-term operation S2 - 10 min	H	to be arranged by I&C / customer / site, e.g. motor protecting switch
S - SIWI - AS	Short-term operation S2 - 10 min under normal conditions, short-term operation S2 - 1,5 min in case of designed fault	H	
S - SIWI - AS long-term available	as S – SIWI – AS	H	

See pages 23 to 27 for detailed motor data

Output shaft speeds of the rotary actuators :

The rated speeds of the output shaft as specified in the ordering data and on the rating plates of the rotary actuators are achieved with a deviation of up to +/- 15% at the maximum permissible positioning torque, which is the same half the maximum tripping torque. The actual loading of a rotary actuator during positioning is always smaller than the maximum permissible positioning torque, or at the greatest equal to it. The output shaft speed which then results is therefore in the range between the no - load speed of the actuator and the speed at the maximum permissible positioning torque.

Weights of Actuator :

The weight of the complete actuator consists of the basic weight of the actuator of type M76361-C…U and the additional weights of the output shaft designs (see page 11 – 19), the handwheel gear reducer (see page 22) as well as the kind of electrical connection of the actuator type M76371-C … U (s. page 21).

The mentioned weights are rated values. Due to production deviations caused by casting of raw parts and machining of cast parts the weights are subject to deviate.
These deviations should be considered with an additional factor of +3% in the calculation, except the actual measured weight is taken as basis.

Electric connection (see Fig. 4):

Plugs for switching and signaling unit :

1 or 2 24 - way plug assemblies with crimp connections, gold-plated sockets and pins
conductor cross-section : 0,5 mm²

Motor plug :

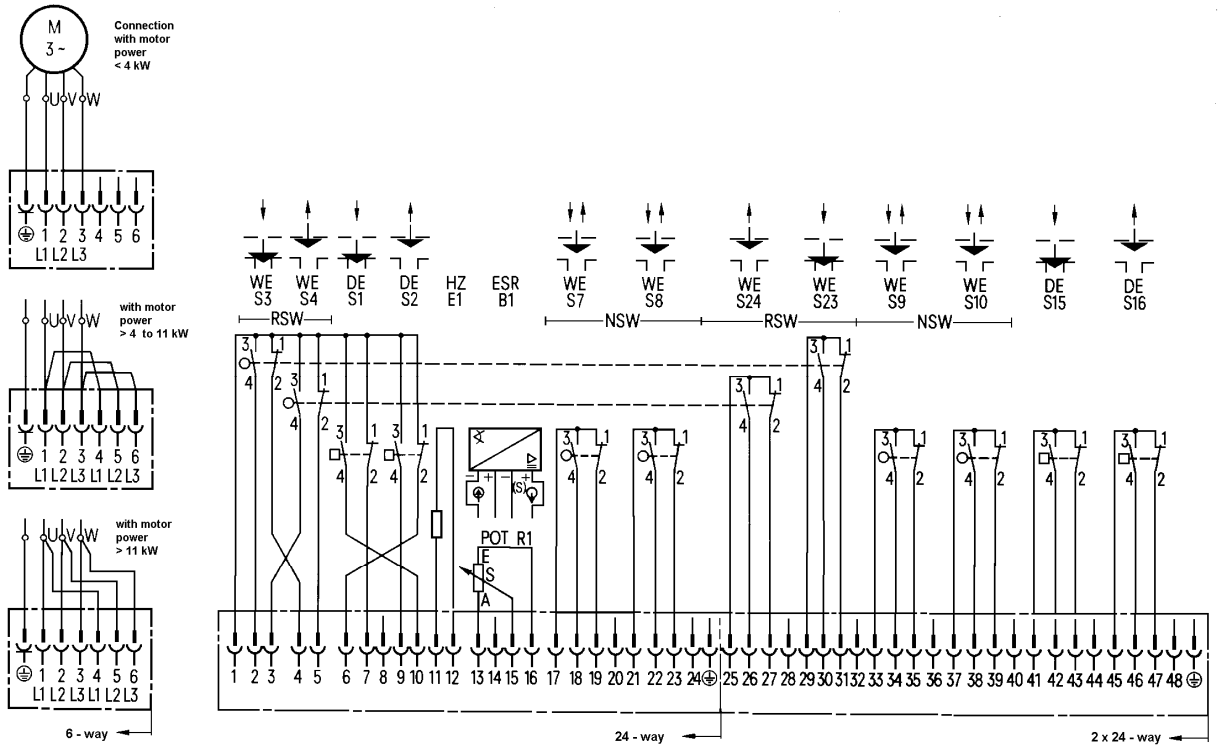
1 6 - way plug assembly with screw terminals, silver-plated sockets and pins
max. conductor cross-section : 6 mm²

In the case of motors with a rated power > 4 kW up to 11 kW, 2 cores can be connected to 2 plug contacts for each outer conductor in order to increase the total cross-section of the cables; plug contacts associated with one another are connected in the bottom part of the plug by jumpers.
In the case of motors with a rated power > 11 kW, 2 cores and 2 plug contacts must always be used for each outer conductor.

Cable inlets :

In the basic design of the rotary actuators, the cables are introduced to the actuator via metal screwed glands with conduit thread to DIN 46320 or alternatively with metric thread to EN 50262.
The screwed glands are inserted leak-tight into the housing on delivery and closed by screw plugs.

Qualified cable inlets must be used for the rotary actuators of the SIWI - AS series depending on the plant.



The switches are shown in the non-operated state.

The connection diagram adheres inside the actuator is binding.

WE	Travel switch	ESR	Electronic position transmitter	RSW	Roller-type counting and switching mechanism
DE	Torque switch	POT	Potentiometer	NSW	Cam - type counting and switching mechanism
HZ	Space heater				

Fig. 4 : Connection diagram

Degree of protection to EN 60529

Gear unit	IP 65
Housing for switching and signaling unit and plug housing with rotary actuators	
> S-SIWI and S-SIWI-AS series with cable inlet via metal screwed glands to DIN 46320 / EN 50262	IP 65
> S-SIWI-AS series with qualified cable inlets	IP 68
Motor with rotary actuators	
> S-SIWI series	IP 65
> S-SIWI-AS series	IP 65 / IP 44 *)
> S-SIWI-AS series in the version ‘ long-term availability ‘	IP 67

Operating Mode

See section ‘ Motor ‘

***)** : IP 44 after opening the condensation drain holes on the motor (see instructions)

Permissible switch loading

The torque and travel switches used are microswitches with gold-plated contacts.

Direct current (at NO and NC only use same potentials !)

Voltage V	Resistive load, NC / NO contact A	Service life, number of operations
20 to 60	0,003 to 0,8	10^6

Electronic position transmitter

(Correct functioning under fault conditions as in Fig. 5 not proven)

Supply voltage (U)	DC 18 to 30 V This limits must not be violated by superimposed ripple.
Power supply, e.g. with	Power supply unit, type STEP-PS/1AC/24DC/0.75 (order no. 2868635), Com. Phoenix Contact GmbH & Co. for rail mounting

	Two-wire connection	Four / Three-wire connection
Max. load (R_L)	$R_L = 50 * (U - 12) \Omega$	$R_L = 50 * (U – 2,5) \Omega$
Output signal	Load-independent direct current	
Current consumption	4 to 20 mA max. 30 mA	0 or 4 to 20 mA max. 30 mA

Version	without restoring spring, can be turned
Measuring range	0 to 340 °
Minimal span	80 °
Maximal span	340 °
Torque on drive	appr. 0,1 Ncm
Linearity error (tolerance band setting) for am measuring span of 270°	≤ 1 %
Influence for a measuring span of 270°	
- of supply voltage	≤ 0,1 % over the whole range
- of load	≤ 0,1 % over the whole range
- of ambient temperature	≤ 0,3 % / 10K
Permissible ambient temperature	- 25° to + 80° C

Potentiometer 100 Ω ± 10% for position indication

(Correct functioning under fault conditions as in Fig. 5 not proven)

Characteristic	linear
Rated Load	up to 2,5 W

Space heater

Supply voltage	AC 220 V, 110 V or 24 V
Power	8 to 10 W

Qualification

➢ **Manufacture**

The rotary actuators are manufactured using strict quality assurance measures.
The qualification of the actuators corresponds to the German standard KTA 3504, edition 11 / 2006
(KTA means ‘ Nuclear Commission ‘).

➢ **Corrosion protection**

The rotary actuators are painted with a decontaminable primer which can be covered by a decontaminable multi-layer paint.
Thickness per layer at least 120 μm.

➢ **Strength**

The strength of the parts in the direct flux of force is calculated according to recognized methods. The calculation takes into consideration the current specifications, regulations and standards for the manufacture of machines and gear units.

➢ **Service life**

A service life of at least 5000 load cycles is guaranteed for the rotary actuators under following test conditions :

a) Sequence of load cycle :
   - Start from an end position
   - 30 s running time
   - Torque switch-off at maximum adjustable tripping torque
   - Pause < 70 s
   - Start in opposite direction
   - 30 s running time
   - Torque switch-off

b) Torque during the running time greater than 50% of the maximum adjustable tripping torque

c) An overshoot of at least 1,2 to 2 times the maximum adjustable tripping torque must occur during switch-off procedure

➢ **Vibration resistance**

The rotary actuators are vibration-resistant to forces and torques which occur during normal operation as well as induced shocks as a result of earthquake (4,5*g) or a plane crash (5*g).
The strength of the connection flange with respect to shocks has been proven; a constant acceleration of 5*g acting at the center of gravity is taken into consideration.

➢ **Permissible radiation**

Electric rotary actuators, Series	Permissible energy dose
SIWI	50 kGy (= 5* 10^6 rad)
SIWI - AS	250 kGy (= 25* 10^6 rad)

➢ **Permissible ambient temperature and permissible pressure**

<u>Rotary actuators, S - SIWI series :</u>

Permissible ambient temperature : - 5° to +60° C at 95 % relative humidity
(A space heater is recommended for 100% humidity and changes in temperature)

Continuous temperature for design : + 35° C
Worst case design temperature : + 10° C

Rotary actuators, S - SIWI - AS series, also in long-term availability version :

Permissible values as for rotary actuators, SIWI series;

Permissible excess pressure compared to atmospheric :- 10 mbar to 5,5 bar

Actuators additionally suitable for pressure / temperature response as in Fig. 5 as resulting from the effect of saturated steam with the designed fault.

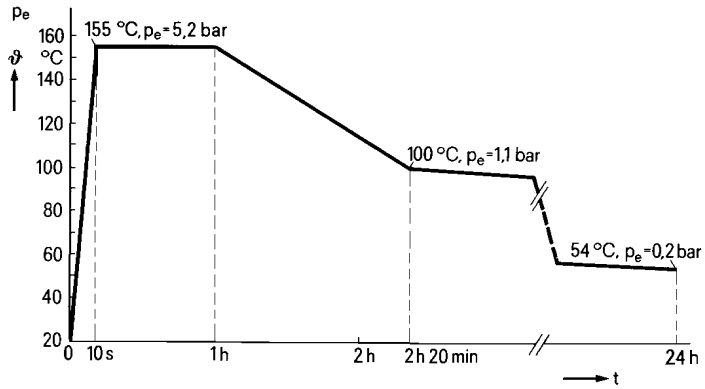
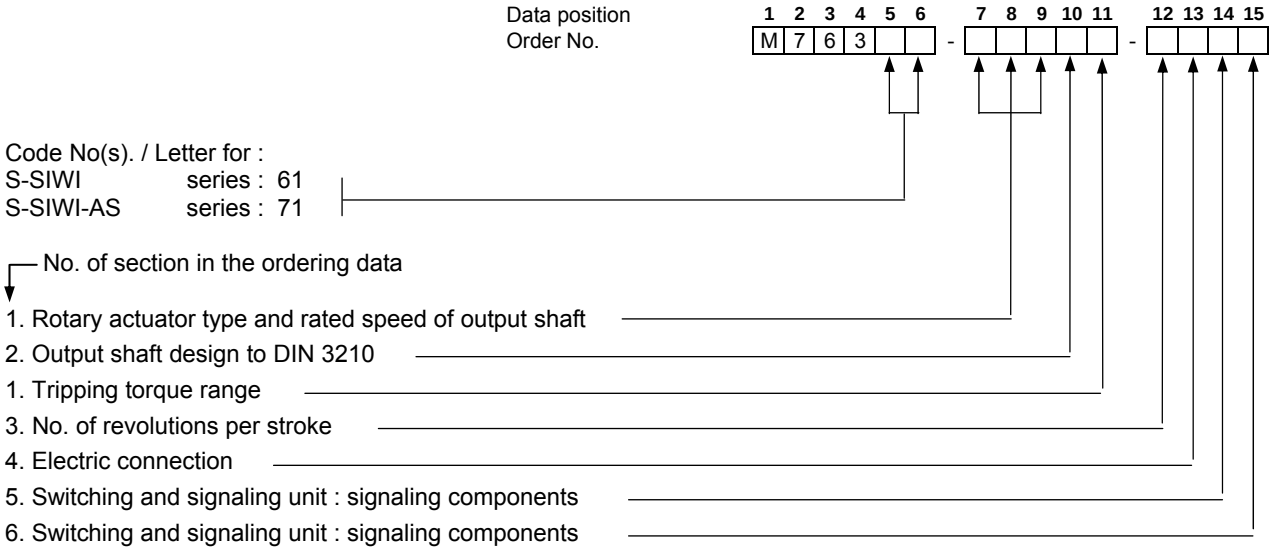
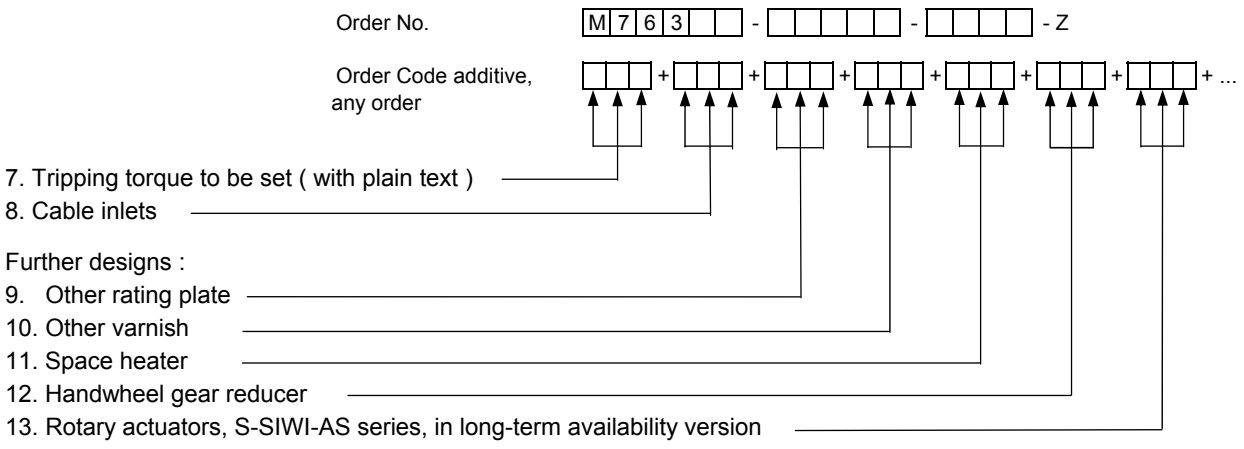


Fig. 5 : Pressure / temperature response with designed fault; the pressure p_e are excess pressures

Configuration of Order No.



Suffix to Order No.



S series

Ordering data

	1 2 3 4 5 6	7 8 9 10 11	12 13 14 15	
Order no.:	M 7 6 3 6 1 -	□□□□□ -	□□□□	- Z
	M 7 6 3 7 1 -	□□□□□ -	□□□□	- Z

See page 20

Basic design:

- Motor three-phase system 3/PEN AC 50 Hz 380 V (L1, L2, L3),
- 2 torque-dependent switches for clockwise and anti-clockwise rotation,
- 4 travel-dependent switches,
- output shaft design B to DIN 3210,
- electric connection via 6-way motor plug and 24-way plug for switching and signalling unit,
- cable inlets via metal screwed glands with conduit thread to DIN 46320,
- rating plate without customer position plate, labelled in German/English,
- coated with decontaminable primer

1. Type of rotary actuator, rated speed of output shaft and tripping torque range

Rated speed of output shaft	Actuator self-locking	Tripping torque range (Tripping torque to be set, see page 21, section 7)			Three phase motor 3/PEN AC 50 Hz 380 V (further data : see from page 23 onwards)					Weight for M76361-.. (M76371-.. s. p. 21)	Order no. pos. 7–9	Order no. pos. 11	
	Gear ratio	Minimum	Maximum with M76361-	Maximum with M76371-	Rated power	Rated speed	Consecutive number for motor of type M763.. 61-	71-	71- / R99				
min⁻¹	i	Nm	Nm	Nm	kW	min⁻¹				appr. kg			appr. kg 2)
5	yes / 267,7	15	45	43	0,07	1335	4	4	4 / LZ	28	C 1 2	1	27
			36	33	0,06	1245	2	2	2 / LZ	28	C 1 2	2	27
7,5	yes / 182,2	15	45	45	0,12	1300	22	22	22 / LZ	28	C 1 3	1	28
			41	38	0,09	1270	8	8	8 / LZ	28	C 1 3	2	27
			32	29	0,07	1335	4	4	4 / LZ	28	C 1 3	3	27
		10	24	22	0,06	1245	2	2	2 / LZ	28	C 1 3	4	27
10	yes / 124,7	15	45	41	0,13	1345	24	24	24 / LZ	28	C 1 4	1	27
			35	32	0,12	1300	22	22	22 / LZ	28	C 1 4	2	27
		10	28	26	0,09	1270	8	8	8 / LZ	27	C 1 4	3	27
			22	20	0,07	1335	4	4	4 / LZ	27	C 1 4	4	27
			16	15	0,06	1245	2	2	2 / LZ	27	C 1 4	5	27
15	yes / 93,3	15	45	45	0,25	1365	44	44	44 / LZ	30	C 1 5	1	29
			42	39	0,18	1350	32	32	32 / LZ	28	C 1 5	2	28
			34	30	0,13	1345	24	24	24 / LZ	28	C 1 5	3	27
		10	26	24	0,12	1300	22	22	22 / LZ	28	C 1 5	4	27
			21	19	0,09	1270	8	8	8 / LZ	27	C 1 5	5	27
			16	15	0,07	1335	4	4	4 / LZ	27	C 1 5	6	27
20	yes / 67,7	15	45	44	0,28	1385	46	46	46 / LZ	30	C 1 6	1	29
			36	34	0,25	1365	44	44	44 / LZ	30	C 1 6	2	29
			30	28	0,18	1350	32	32	32 / LZ	28	C 1 6	3	28
		10	25	22	0,13	1345	24	24	24 / LZ	28	C 1 6	4	27
			19	17	0,12	1300	22	22	22 / LZ	28	C 1 6	5	27
			15	14	0,09	1270	8	8	8 / LZ	27	C 1 6	6	27
30	yes / 93,3	15	45	45	0,37	2850	38	38	38 / LZ	30	C 1 7	1	28
			42	39	0,37	2645	28	28	28 / LZ	28	C 1 7	2	28
			34	31	0,25	2730	26	26	26 / LZ	28	C 1 7	3	28
		10	28	26	0,3	2620	18	18	18 / LZ	28	C 1 7	4	27
			21	19	0,18	2565	16	16	16 / LZ	28	C 1 7	5	27
			17	16	0,14	2700	6	6	6 / LZ	27	C 1 7	6	27
40 - 180	see page12												

x x x : Inertia of motor has increased   mmm : Weight of motor- / actuator has increased

2. Output shaft design to DIN 3210

		Order no. pos. 10	Add. weight [appr. kg]
Output shaft design	A : hollow shaft with threaded bush 1)	1	on request
	B : hollow shaft with insert bush	2	---
	C : hollow shaft with claw coupling	3	---
	D : free shaft end with featherkey 1)	4	**-1**
	E : bore with featherkey slot 1)	5	**- 1,5**
	DD : with free shaft at both ends 1)	6	on request
	B : with stem protection tube 125 mm long 1)	8	on request
	C : with stem protection tube 125 mm long 1)	9	

1) Design **not** qualified to KTA 3504, edition 11/2006; Strength with safety factors required by this standard not proven.

2) Weight of actuator of type M76361-C with Siemens motor for comparison

S series

Ordering data

Order No.: M 7 6 3 6 1 - [ ][ ][ ][ ][ ] - [ ][ ][ ][ ] - Z
M 7 6 3 7 1 - [ ][ ][ ][ ][ ] - [ ][ ][ ][ ] - Z

See page 20

Basic design:

- Motor three-phase system 3/PEN AC 50 Hz 380 V (L1, L2, L3),
- 2 torque-dependent switches for clockwise and anti-clockwise rotation,
- 4 travel-dependent switches,
- output shaft design B to DIN 3210,
- electric connection via 6-way motor plug and 24-way plug for switching and signalling unit,
- cable inlets via metal screwed glands with conduit thread to DIN 46320,
- rating plate without customer position plate, labelled in German/English,
- coated with decontaminable primer

1. Type of rotary actuator, rated speed of output shaft and tripping torque range

Rated speed of output shaft	Actuator self-locking	Tripping torque range (Tripping torque to be set, see page 21, section 7)			Three phase motor 3/PEN AC 50 Hz 380 V (further data : see from page 23 onwards)					**Weight** for M763**61**-.. (M76371-.. s. p. 21)				
	Gear ratio	Minimum	Maximum with M76361-	M76371-	Rated power	Rated speed	**Consecutive number for motor of type M763..**							
min $^{-1}$	i	Nm	Nm	Nm	kW	min $^{-1}$	61-	71-	71- / **R99**	appr. kg				*appr. kg* [2]
5 - 30		see page 11												
40	yes / 67,7	15	45	45	0,43	2840	52	52	52 / LZ	31	**C 1 8**	**1**		*30*
			38	36	0,37	2850	38	38	38 / LZ	30	**C 1 8**	**2**		*28*
			30	28	0,37	2645	28	28	28 / LZ	28	**C 1 8**	**3**		*28*
		10	24	22	0,25	2730	26	26	26 / LZ	28	**C 1 8**	**4**		*28*
			20	19	0,30	2620	18	18	18 / LZ	28	**C 1 8**	**5**		*27*
			15	14	0,18	2565	16	16	16 / LZ	28	**C 1 8**	**6**		*27*
60	yes / 47,5	15	45	40	0,55	2835	48	48	48 / LZ	30	**C 1 9**	**1**		*30*
			37	34	0,43	2840	52	52	52 / LZ	31	**C 1 9**	**2**		*30*
		10	27	25	0,37	2850	38	38	38 / LZ	30	**C 1 9**	**3**		*28*
			21	19	0,37	2645	28	28	28 / LZ	28	**C 1 9**	**4**		*28*
			17	15	0,25	2730	26	26	26 / LZ	28	**C 1 9**	**5**		*28*
80	yes / 33,7	15	45	45	0,75	2730	72	72	72 / LZ	35	**C 2 0**	**1**		*32*
			39	36	0,75	2795	50	50	50 / LZ	31	**C 2 0**	**2**		*30*
			31	28	0,55	2835	48	48	48 / LZ	30	**C 2 0**	**3**		*30*
		10	26	24	0,43	2840	52	52	52 / LZ	31	**C 2 0**	**4**		*30*
			19	17	0,37	2850	38	38	38 / LZ	30	**C 2 0**	**5**		*28*
120	no / 23,3	15	45	45	0,75	2795	50	50	50 / LZ	31	**C 2 1**	**1**		*30*
			39	36	0,55	2835	48	48	48 / LZ	30	**C 2 1**	**2**		*30*
			33	30	0,43	2840	52	52	52 / LZ	31	**C 2 1**	**3**		*30*
		10	24	22	0,37	2850	38	38	38 / LZ	30	**C 2 1**	**4**		*28*
			19	17	0,37	2645	28	28	28 / LZ	28	**C 2 1**	**5**		*28*
180	no / 15,9	15	45	40	0,75	2730	72	72	72 / LZ	35	**C 2 2**	**1**		*32*
			34	31	0,75	2795	50	50	50 / LZ	31	**C 2 2**	**2**		*30*
		10	27	25	0,55	2835	48	48	48 / LZ	30	**C 2 2**	**3**		*30*
			22	21	0,43	2840	52	52	52 / LZ	31	**C 2 2**	**4**		*30*
			16	15	0,37	2850	38	38	38 / LZ	30	**C 2 2**	**5**		*28*

x x x : Inertia of motor has increased mmm : Weight of motor- / actuator has increased

2. Output shaft design to DIN 3210

			Add. weight [appr. kg]
Output shaft design	A : hollow shaft with threaded bush [1]	**1**	on request
	B : hollow shaft with insert bush	**2**	---
	C : hollow shaft with claw coupling	**3**	---
	D : free shaft end with featherkey [1]	**4**	**-1**
	E : bore with featherkey slot [1]	**5**	**- 1,5**
	DD : with free shaft at both ends [1]	**6**	on request
	B : with protection tube 125 mm long [1]	**8**	on request
	C : with protection tube 125 mm long [1]	**9**	

[1] Design **not** qualified to KTA 3504, edition 11/2006; Strength with safety factors required by this standard not proven.
[2] Weight of actuator of type M76361-C with Siemens motor for comparison

S series

Ordering data

Order No.:

	1	2	3	4	5	6		7	8	9	10	11		12	13	14	15	
	M	7	6	3	6	1	-						-					- Z
	M	7	6	3	7	1	-						-					- Z

See page 20

Basic design:

- Motor three-phase system 3/PEN AC 50 Hz 380 V (L1, L2, L3),
- 2 torque-dependent switches for clockwise and anti-clockwise rotation,
- 4 travel-dependent switches,
- output shaft design B to DIN 3210,
- electric connection via 6-way motor plug and 24-way plug for switching and signalling unit,
- cable inlets via metal screwed glands with conduit thread to DIN 46320,
- rating plate without customer position plate, labelled in German/English,
- coated with decontaminable primer

1. Type of rotary actuator, rated speed of output shaft and tripping torque range

Rated speed of output shaft	Actuator self-locking	Tripping torque range (Tripping torque to be set, see page 21, section 7)			Three phase motor 3/PEN AC 50 Hz 380 V (further data : see from page 23 onwards)					**Weight** for M763**61**-.. (M76371-.. s. p. 21)				*appr. kg* [2]
	Gear ratio	Minimum	Maximum with M76361-	M76371-	Rated power	Rated speed	**Consecutive number for motor of type M763..**							
min $^{-1}$	i	Nm	Nm	Nm	kW	min $^{-1}$	61-	71-	71- / **R99**	appr. kg				
5	yes / 258	30	90	85	0,13	1345	24	24	24 / LZ	38	**E 1 2**	**1**		*37*
			72	67	0,12	1300	22	22	22 / LZ	38	**E 1 2**	**2**		*37*
			58	53	0,09	1270	8	8	8 / LZ	37	**E 1 2**	**3**		*37*
7,5	yes / 74,3		90	85	0,25	595	102	102	102 / LZ	44	**E 1 3**	**1**		*42*
			76	70	0,20	625	86	86	86 / LZ	42	**E 1 3**	**2**		*40*
			62	57	0,18	605	84	84	84 / LZ	42	**E 1 3**	**3**		*40*
			52	47	0,12	700	62	62	62 / LZ	40	**E 1 3**	**4**		*39*
10	yes / 137,8		90	90	0,28	1385	46	46	46 / LZ	40	**E 1 4**	**1**		*39*
			74	69	0,25	1365	44	44	44 / LZ	40	**E 1 4**	**2**		*39*
			62	57	0,18	1350	32	32	32 / LZ	37	**E 1 4**	**3**		*36*
			51	45	0,13	1345	24	24	24 / LZ	37	**E 1 4**	**4**		*36*
15	yes / 83,1		90	90	0,41	1410	60	60	60 / LZ	40	**E 1 5**	**1**		*39*
			74	69	0,37	1385	58	58	58 / LZ	40	**E 1 5**	**2**		*39*
			60	54	0,28	1385	46	46	46 / LZ	39	**E 1 5**	**3**		*37*
20	yes / 63,2		90	90	0,55	1275	78	78	78 / LZ	42	**E 1 6**	**1**		*41*
			80	72	0,41	1410	60	60	60 / LZ	40	**E 1 6**	**2**		*39*
			56	52	0,37	1385	58	58	58 / LZ	40	**E 1 6**	**3**		*39*
30	yes / 38		90	82	0,75	1320	98	98	98 / LZ	43	**E 1 7**	**1**		*43*
			78	72	0,59	1310	82	82	82 / LZ	42	**E 1 7**	**2**		*41*
			62	56	0,55	1275	78	78	78 / LZ	42	**E 1 7**	**3**		*41*
40	ja / 63,2		90	87	0,75	2730	72	72	72 / LZ	44	**E 1 8**	**1**		*41*
			74	68	0,75	2795	50	50	50 / LZ	40	**E 1 8**	**2**		*38*
			58	54	0,55	2835	48	48	48 / LZ	39	**E 1 8**	**3**		*38*
60	yes / 46,4		90	82	0,90	2700	74	74	74 / LZ	44	**E 1 9**	**1**		*41*
			70	64	0,75	2730	72	72	72 / LZ	44	**E 1 9**	**2**		*41*
			54	50	0,75	2795	50	50	50 / LZ	40	**E 1 9**	**3**		*38*
80	yes / 36,2		90	90	1,5	2750	120	120	120 / LZ	47	**E 2 0**	**1**		*45*
			88	80	1,1	2650	92	92	92 / LZ	44	**E 2 0**	**2**		*43*
			68	64	0,9	2700	74	74	74 / LZ	44	**E 2 0**	**3**		*41*
			55	50	0,75	2730	72	72	72 / LZ	44	**E 2 0**	**4**		*41*
120	no / 11,6		90	90	1,5	1300	134	134	134 / LZ	49	**E 2 1**	**1**		*48*
			77	69	1,1	1345	124	124	124 / LZ	47	**E 2 1**	**2**		*45*
			64	60	0,83	1355	100	100	100 / LZ	44	**E 2 1**	**3**		*43*
180	no / 15,8		90	80	1,3	2700	94	94	94 / LZ	44	**E 2 2**	**1**		*43*
			71	64	1,1	2650	92	92	92 / LZ	44	**E 2 2**	**2**		*43*
			55	51	0,9	2700	74	74	74 / LZ	44	**E 2 2**	**3**		*41*

xxx : Inertia of motor has increased mmm : Weight of motor- / actuator has increased

2. Output shaft design to DIN 3210

			Add. weight [appr. kg]
Output shaft design	A : hollow shaft with threaded bush [1]	**1**	on request
	B : hollow shaft with insert bush	**2**	---
	C : hollow shaft with claw coupling	**3**	---
	D : free shaft end with featherkey [1]	**4**	---
	E : bore with featherkey slot [1]	**5**	---
	DD : with free shaft at both ends [1]	**6**	on request
	B : with protection tube 125 mm long [1]	**8**	on request
	C : with protection tube 125 mm long [1]	**9**	

[1] Design **not** qualified to KTA 3504, edition 11/2006; Strength with safety factors required by this standard not proven.
[2] Weight of actuator of type M76361-E with Siemens motor for comparison

S series

Ordering data

Order No.:

	1	2	3	4	5	6		7	8	9	10	11		12	13	14	15		
M	7	6	3	6	1	-							-					-	Z
M	7	6	3	7	1	-							-					-	Z

See page 20

Basic design:

- Motor three-phase system 3/PEN AC 50 Hz 380 V (L1, L2, L3),
- 2 torque-dependent switches for clockwise and anti-clockwise rotation,
- 4 travel-dependent switches,
- output shaft design B to DIN 3210,
- electric connection via 6-way motor plug and 24-way plug for switching and signalling unit,
- cable inlets via metal screwed glands with conduit thread to DIN 46320,
- rating plate without customer position plate, labelled in German/English,
- coated with decontaminable primer

1. Type of rotary actuator, rated speed of output shaft and tripping torque range

Rated speed of output shaft	Actuator self-locking	Tripping torque range (Tripping torque to be set, see page 21, section 7)			Three phase motor 3/PEN AC 50 Hz 380 V (further data : see from page 23 onwards)					**Weight** for M763**61**-.. (M76371-.. s. p. 21)				*appr. kg* [2]
	Gear ratio	Minimum	Maximum with M76361-	M76371-	Rated power	Rated speed	**Consecutive number for motor of type M763..** 61-	71-	71- / **R99**					
min $^{-1}$	i	Nm	Nm	Nm	kW	min $^{-1}$				appr. kg				
5	yes / 280,4	60	180	180	0,28	1385	42	42	42 / LZ	71	**F 1 2**	**1**		*71*
			151	140	0,25	1365	40	40	40 / LZ	71	**F 1 2**	**2**		*71*
			127	117	0,18	1350	30	30	30 / LZ	69	**F 1 2**	**3**		*70*
			103	91	0,13	1345	20	20	20 / LZ	69	**F 1 2**	**4**		*70*
7,5	yes / 164,4		180	180	0,41	1410	56	56	56 / LZ	72	**F 1 3**	**1**		*73*
			146	137	0,37	1385	54	54	54 / LZ	72	**F 1 3**	**2**		*73*
			118	107	0,28	1385	42	42	42 / LZ	71	**F 1 3**	**3**		*71*
10	yes / 128,9		180	180	0,55	1275	76	76	76 / LZ	74	**F 1 4**	**1**		*74*
			164	148	0,41	1410	56	56	56 / LZ	72	**F 1 4**	**2**		*73*
			115	107	0,37	1385	54	54	54 / LZ	72	**F 1 4**	**3**		*73*
15	yes / 86,9		180	180	0,75	1320	96	96	96 / LZ	72	**F 1 5**	**1**		*73*
			142	128	0,55	1275	76	76	76 / LZ	71	**F 1 5**	**2**		*71*
			110	100	0,41	1410	56	56	56 / LZ	72	**F 1 5**	**3**		*73*
20	yes / 62,2		180	175	0,83	1355	104	104	104 / LZ	73	**F 1 6**	**1**		*73*
			153	135	0,75	1320	96	96	96 / LZ	72	**F 1 6**	**2**		*73*
			127	118	0,59	1310	80	80	80 / LZ	71	**F 1 6**	**3**		*71*
			101	92	0,55	1275	76	76	76 / LZ	71	**F 1 6**	**4**		*71*
30	yes / 43		180	180	1,5	1300	130	130	130 / LZ	79	**F 1 7**	**1**		*79*
			155	138	1,1	1345	122	122	122 / LZ	76	**F 1 7**	**2**		*75*
			130	119	0,83	1355	104	104	104 / LZ	73	**F 1 7**	**3**		*73*
			106	93	0,75	1320	96	96	96 / LZ	72	**F 1 7**	**4**		*73*
40	yes / 70,8		180	180	1,5	2750	116	116	116 / LZ	76	**F 1 8**	**1**		*75*
			173	157	1,1	2650	88	88	88 / LZ	73	**F 1 8**	**2**		*73*
			134	124	0,9	2700	70	70	70 / LZ	73	**F 1 8**	**3**		*71*
			107	98	0,75	2730	68	68	68 / LZ	73	**F 1 8**	**4**		*71*
60	yes / 43		180	180	2,2	2740	126	126	126 / LZ	80	**F 1 9**	**1**		*79*
			173	160	1,75	2770	118	118	118 / LZ	76	**F 1 9**	**2**		*76*
			129	117	1,3	2700	90	90	90 / LZ	73	**F 1 9**	**3**		*73*
			105	95	1,1	2650	88	88	88 / LZ	73	**F 1 9**	**4**		*73*
80	yes / 35,9		180	180	2,6	2815	148	148	148 / LZ	92	**F 2 0**	**1**		*85*
			163	153	2,2	2740	126	126	126 / LZ	80	**F 2 0**	**2**		*79*
			145	133	1,75	2770	118	118	118 / LZ	76	**F 2 0**	**3**		*76*
			107	98	1,3	2700	90	90	90 / LZ	73	**F 2 0**	**4**		*73*
120	no / 10,7		180	180	3,0	1380	164	164	164 / LZ	91	**F 2 1**	**1**		*94*
			172	155	2,5	1385	154	154	154 / LZ	94	**F 2 1**	**2**		*91*
			135	125	2,2	1375	152	152	152 / LZ	86	**F 2 1**	**3**		*91*
			111	101	1,68	1365	132	132	132 / LZ	79	**F 2 1**	**4**		*79*
180	no / 15,5		180	180	4,0	2800	170	170	170 / LZ	95	**F 2 2**	**1**		*102*
			167	156	2,6	2815	128	128	128 / LZ	80	**F 2 2**	**2**		*79*
			151	142	2,6	2815	148	148	148 / LZ	92	**F 2 2**	**3**		*85*
			117	110	2,2	2740	126	126	126 / LZ	80	**F 2 2**	**4**		*79*

xxx : Inertia of motor has increased mmm : Weight of motor- / actuator has increased

2. Output shaft design to DIN 3210

			Add. weight [appr. kg]
Output shaft design	A	: hollow shaft with threaded bush [1]	**1**	on request
	B	: hollow shaft with insert bush	**2**	---
	C	: hollow shaft with claw coupling	**3**	---
	D	: free shaft end with featherkey [1]	**4**	**- 1,5**
	E	: bore with featherkey slot [1]	**5**	**- 2**
	DD	: with free shaft at both ends [1]	**6**	on request
	B	: with protection tube 250 mm long [1]	**8**	on request
	C	: with protection tube 250 mm long [1]	**9**	

[1] Design **not** qualified to KTA 3504, edition 11/2006; Strength with safety factors required by this standard not proven.
[2] Weight of actuator of type M76361-F with Siemens motor for comparison

S series

Ordering data

	1	2	3	4	5	6		7	8	9	10	11		12	13	14	15	
Order No.:	**M**	**7**	**6**	**3**	**6**	**1**	**-**						**-**					**- Z**
	M	**7**	**6**	**3**	**7**	**1**	**-**						**-**					**- Z**

See page 20

Basic design:

- Motor three-phase system 3/PEN AC 50 Hz 380 V (L1, L2, L3),
- 2 torque-dependent switches for clockwise and anti-clockwise rotation,
- 4 travel-dependent switches,
- output shaft design B to DIN 3210,
- electric connection via 6-way motor plug and 24-way plug for switching and signalling unit,
- cable inlets via metal screwed glands with conduit thread to DIN 46320,
- rating plate without customer position plate, labelled in German/English,
- coated with decontaminable primer

1. Type of rotary actuator, rated speed of output shaft and tripping torque range

Rated speed of output shaft	Actuator self-locking	Tripping torque range (Tripping torque to be set, see page 21, section 7)			Three phase motor 3/PEN AC 50 Hz 380 V (further data : see from page 23 onwards)					**Weight** for M763**61**-.. (M76371-.. s. p. 21)						
	Gear ratio	Minimum	Maximum with M76361-	M76371-	Rated power	Rated speed	**Consecutive number for motor of type M763..**									
min $^{-1}$	i	Nm	Nm	Nm	kW	min $^{-1}$	61-	71-	71- / **R99**	appr. kg						*appr. kg* [2]
5	yes / 280,4	100	300	300	0,41	1410	56	56	56 / LZ	77	**G 1 2**	**1**	*76*
			250	234	0,37	1385	54	54	54 / LZ	77	**G 1 2**	**2**	*76*
			202	182	0,28	1385	42	42	42 / LZ	76	**G 1 2**	**3**	*75*
7,5	yes / 164,4		300	300	0,59	1310	80	80	80 / LZ	79	**G 1 3**	**1**	*78*
			268	243	0,55	1275	76	76	76 / LZ	79	**G 1 3**	**2**	*78*
			209	189	0,41	1410	56	56	56 / LZ	77	**G 1 3**	**3**	*76*
10	yes / 128,9		300	280	0,75	1320	96	96	96 / LZ	80	**G 1 4**	**1**	*79*
			264	245	0,59	1310	80	80	80 / LZ	79	**G 1 4**	**2**	*78*
			210	191	0,55	1275	76	76	76 / LZ	79	**G 1 4**	**3**	*78*
15	yes / 86,9		300	280	1,1	1345	122	122	122 / LZ	**81**	**G 1 5**	**1**	*78*
			264	241	0,83	1355	104	104	104 / LZ	**78**	**G 1 5**	**2**	*76*
			214	190	0,75	1320	96	96	96 / LZ	**78**	**G 1 5**	**3**	*76*
20	yes / 62,2		300	280	1,5	1300	130	130	130 / LZ	**84**	**G 1 6**	**1**	*82*
			224	200	1,1	1345	122	122	122 / LZ	**81**	**G 1 6**	**2**	*78*
			189	172	0,83	1355	104	104	104 / LZ	78	**G 1 6**	**3**	*76*
30	yes / 43		300	300	2,2	1375	152	152	152 / LZ	91	**G 1 7**	**1**	*94*
			269	245	1,68	1365	132	132	132 / LZ	84	**G 1 7**	**2**	*82*
			212	195	1,5	1300	130	130	130 / LZ	84	**G 1 7**	**3**	*82*
40	yes / 70,8		300	300	2,2	2740	126	126	126 / LZ	**86**	**G 1 8**	**1**	*83*
			286	263	1,75	2770	118	118	118 / LZ	**82**	**G 1 8**	**2**	*80*
			212	193	1,3	2700	90	90	90 / LZ	78	**G 1 8**	**3**	*77*
60	yes / 43		300	300	4,0	2800	170	170	170 / LZ	100	**G 1 9**	**1**	*105*
			280	261	2,6	2815	128	128	128 / LZ	**85**	**G 1 9**	**2**	*82*
			253	238	2,6	2815	148	148	148 / LZ	**97**	**G 1 9**	**3**	*90*
			195	183	2,2	2740	126	126	126 / LZ	85	**G 1 9**	**4**	*82*
80	no / 15,5		300	280	3,0	1380	164	164	164 / LZ	96	**G 2 0**	**1**	*97*
			249	225	2,5	1385	154	154	154 / LZ	**99**	**G 2 0**	**2**	*94*
			195	181	2,2	1375	152	152	152 / LZ	91	**G 2 0**	**3**	*94*
120	no / 10,7		300	300	4,8	1410	176	176	176 / LZ	104	**G 2 1**	**1**	*110*
			263	250	4,0	1380	174	174	174 / LZ	104	**G 2 1**	**2**	*110*
			208	192	3,0	1380	164	164	164 / LZ	96	**G 2 1**	**3**	*97*
180	no / 15,5		300	300	6,5	2845	190	190	190 / LZ	**130**	**G 2 2**	**1**	*124*
			259	249	5,5	2830	172	172	172 / LZ	104	**G 2 2**	**2**	*105*
			186	176	3,2	2740	150	150	150 / LZ	**98**	**G 2 2**	**3**	*94*

xxx : Inertia of motor has increased mmm : Weight of motor- / actuator has increased

2. Output shaft design to DIN 3210

			Add. weight [appr. kg]
Output shaft design	A	: hollow shaft with threaded bush [1]	**1**	on request
	B	: hollow shaft with insert bush	**2**	---
	C	: hollow shaft with claw coupling	**3**	---
	D	: free shaft end with featherkey [1]	**4**	**- 2**
	E	: bore with featherkey slot [1]	**5**	**- 3**
	DD	: with free shaft at both ends [1]	**6**	on request
	B	: with protection tube 250 mm long [1]	**8**	on request
	C	: with protection tube 250 mm long [1]	**9**	

[1] Design **not** qualified to KTA 3504, edition 11/2006; Strength with safety factors required by this standard not proven.
[2] Weight of actuator of type M76361-G with Siemens motor for comparison

S series

Ordering data

Order No.:

	1	2	3	4	5	6		7	8	9	10	11		12	13	14	15	
M 7 6 3 6 1 -							-						-					- Z
M 7 6 3 7 1 -							-						-					- Z

See page 20

Basic design:

- Motor three-phase system 3/PEN AC 50 Hz 380 V (L1, L2, L3),
- 2 torque-dependent switches for clockwise and anti-clockwise rotation,
- 4 travel-dependent switches,
- output shaft design B to DIN 3210,
- electric connection via 6-way motor plug and 24-way plug for switching and signalling unit,
- cable inlets via metal screwed glands with conduit thread to DIN 46320,
- rating plate without customer position plate, labelled in German/English,
- coated with decontaminable primer

1. Type of rotary actuator, rated speed of output shaft and tripping torque range

Rated speed of output shaft	Actuator self-locking	Tripping torque range (Tripping torque to be set, see page 21, section 7)			Three phase motor 3/PEN AC 50 Hz 380 V (further data : see from page 23 onwards)					**Weight** for M763**61**-.. (M76371-.. s. p. 21)				*appr. kg* [3]
	Gear ratio	Minimum	Maximum with M76361-	M76371-	Rated power	Rated speed	**Consecutive number for motor of type M763..**							
min $^{-1}$	i	Nm	Nm	Nm	kW	min $^{-1}$	61-	71-	71- / **R99**	appr. kg				
5	yes / 124,2	200	600	600	1,1	645	166	166	166 / LZ	167	**M 1 2**	**1**		*166*
			565	520	0,86	605	158	158	158 / LZ	164	**M 1 2**	**2**		*163*
			425	400	0,7	640	156	156	156 / LZ	164	**M 1 2**	**3**		*163*
7,5	yes / 84,8		600	600	1,5	660	178	178	178 / LZ	177	**M 1 3**	**1**		*175*
			480	450	1,1	645	166	166	166 / LZ	167	**M 1 3**	**2**		*166*
			385	355	0,86	605	158	158	158 / LZ	164	**M 1 3**	**3**		*163*
10	yes / 64		600	570	1,6	675	180	180	180 / LZ	177	**M 1 4**	**1**		*175*
			485	460	1,5	660	178	178	178 / LZ	177	**M 1 4**	**2**		*175*
			365	340	1,1	645	166	166	166 / LZ	167	**M 1 4**	**3**		*166*
15	yes / 84,8		600	600	2,2	1375	152	152	152 / LZ	165	**M 1 5**	**1**		*167*
			530	485	1,68	1365	132	132	132 / LZ	159	**M 1 5**	**2**		*156*
			420	385	1,5	1300	130	130	130 / LZ	159	**M 1 5**	**3**		*156*
20	yes / 64		600	560	2,5	1385	154	154	154 / LZ	172	**M 1 6**	**1**		*167*
			485	450	2,2	1375	152	152	152 / LZ	165	**M 1 6**	**2**		*167*
			400	365	1,68	1365	132	132	132 / LZ	159	**M 1 6**	**3**		*156*
30	yes / 49,2		600	600	4,0	1380	174	174	174 / LZ	178	**M 1 7**	**1**		*184*
			575	530	3,0	1380	164	164	164 / LZ	169	**M 1 7**	**2**		*171*
			475	430	2,5	1385	154	154	154 / LZ	172	**M 1 7**	**3**		*168*
			370	345	2,2	1375	152	152	152 / LZ	165	**M 1 7**	**4**		*168*
40	ja / 36,1		600	600	4,8	1410	176	176	176 /LZ	178	**M 1 8**	**1**		*184*
			535	510	4,0	1380	174	174	174 / LZ	178	**M 1 8**	**2**		*184*
			420	390	3,0	1380	164	164	164 /LZ	169	**M 1 8**	**3**		*171*
			350	315	2,5	1385	154	154	154 / LZ	172	**M 1 8**	**4**		*168*
60	yes / 49,2		600	600	6,5	2845	190	190	190 / LZ	195	**M 1 9**	**1**		*190*
			495	475	5,5	2830	172	172	172 / LZ	178	**M 1 9**	**2**		*179*
			355	335	3,2	2740	150	150	150 / LZ	171	**M 1 9**	**3**		*168*
80	no / 17,9		600	600	4,8	1410	176	176	176 /LZ	178	**M 2 0**	**1**		*184*
			485	460	4,0	1380	174	174	174 /LZ	178	**M 2 0**	**2**		*184*
			380	355	3,0	1380	164	164	164 / LZ	170	**M 2 0**	**3**		*171*
120	no / 12,3		600	600	6,2	1410	196	196	196 / LZ	200	**M 2 1**	**1**		*190*
			490	465	5,5	1410	192	192	192 / LZ	200	**M 2 1**	**2**		*190*
			450	420	4,8	1410	176	176	176 / LZ	178	**M 2 1**	**3**		*184*
			335	320	4,0	1380	174	174	174 / LZ	178	**M 2 1**	**4**		*184*
180	no / 16,0 [2]		600	600	12,0	2870	214	214	214 / LZ	263	**M 2 2**	**1**		*258*
			530	530	10,0	2820	202	202	202 / LZ	200	**M 2 2**	**2**		*200*
			425	405	7,5	2880	200	200	200 / LZ	200	**M 2 2**	**3**		*200*
			380	375	6,5	2845	190	190	190 / LZ	195	**M 2 2**	**4**		*190*

xxx : Inertia of motor has increased mmm : Weight of motor- / actuator has increased

2. Output shaft design to DIN 3210

			Add. weight [appr. kg]
Output shaft design	A : hollow shaft with threaded bush [1]	**1**	on request
	B : hollow shaft with insert bush	**2**	---
	C : hollow shaft with claw coupling	**3**	---
	D : free shaft end with featherkey [1]	**4**	**+ 11**
	E : bore with featherkey slot [1]	**5**	**+ 8**
	DD : with free shaft at both ends [1]	**6**	on request
	B : with protection tube 500 mm long [1]	**8**	on request
	C : with protection tube 500 mm long [1]	**9**	

[1] Design **not** qualified to KTA 3504, edition 11/2006; Strength with safety factors required by this standard not proven.
[2] For M76361-M22*1 and M76371-M22*1 is i=16,6
[3] Weight of actuator of type M76361-M with Siemens motor for comparison

S series

Ordering data

Order No.:

	1 2 3 4 5 6	7 8 9 10 11	12 13 14 15	
	M 7 6 3 6 1 -	☐☐☐☐☐ -	☐☐☐☐	- Z
	M 7 6 3 7 1 -	☐☐☐☐☐ -	☐☐☐☐	- Z

See page 20

Basic design:

- Motor three-phase system 3/PEN AC 50 Hz 380 V (L1, L2, L3),
- 2 torque-dependent switches for clockwise and anti-clockwise rotation,
- 4 travel-dependent switches,
- output shaft design B to DIN 3210,
- electric connection via 6-way motor plug and 24-way plug for switching and signalling unit,
- cable inlets via metal screwed glands with conduit thread to DIN 46320,
- rating plate without customer position plate, labelled in German/English,
- coated with decontaminable primer

1. Type of rotary actuator, rated speed of output shaft and tripping torque range

Rated speed of output shaft	Actuator self-locking / Gear ratio	Tripping torque range (Tripping torque to be set, see page 21, section 7) Minimum	Maximum with M76361-	Maximum with M76371-	Three phase motor 3/PEN AC 50 Hz 380 V (further data : see from page 23 onwards) Rated power	Rated speed	Consecutive number for motor of type M763.. 61-	71-	71- / R99	Weight for M76361-.. (M76371-.. s. p. 21)	Order No. 7–10	11	appr. kg [2]
min⁻¹	i	Nm	Nm	Nm	kW	min⁻¹				appr. kg			
5	yes / 124,2	300	900	900	1,5	660	178	178	178 / LZ	185	N 1 2	1	181
			710	660	1,1	645	166	166	166 / LZ	175	N 1 2	2	172
			565	520	0,86	605	158	158	158 / LZ	172	N 1 2	3	169
7,5	yes / 84,8		900	900	2,2	630	198	198	198 / LZ	208	N 1 3	1	193
			795	740	1,6	675	180	180	180 / LZ	185	N 1 3	2	181
			645	610	1,5	660	178	178	178 / LZ	185	N 1 3	3	181
10	yes / 64		900	900	3,0	640	204	204	204 / LZ	215	N 1 4	1	204
			715	675	2,2	630	198	198	198 / LZ	208	N 1 4	2	193
			600	560	1,6	675	180	180	180 / LZ	185	N 1 4	3	181
15	yes / 84,8		900	900	3,0	1380	164	164	164 / LZ	177	N 1 5	1	177
			820	740	2,5	1385	154	154	154 / LZ	181	N 1 5	2	174
			645	595	2,2	1375	152	152	152 / LZ	173	N 1 5	3	174
20	yes / 64		900	900	4,0	1380	174	174	174 / LZ	186	N 1 6	1	190
			745	690	3,0	1380	164	164	164 / LZ	177	N 1 6	2	177
			620	560	2,5	1385	154	154	154 / LZ	181	N 1 6	3	174
30	yes / 49,2		900	900	4,8	1410	176	176	176 / LZ	186	N 1 7	1	190
			730	690	4,0	1380	174	174	174 / LZ	186	N 1 7	2	190
40	yes / 36,1		900	900	6,2	1410	196	196	196 / LZ	208	N 1 8	1	196
			785	740	5,5	1410	192	192	192 / LZ	208	N 1 8	2	196
			720	675	4,8	1410	176	176	176 / LZ	186	N 1 8	3	190
60	no / 23,9		900	820	4,8	1410	176	176	176 / LZ	186	N 1 9	1	190
			650	620	4,0	1380	174	174	174 / LZ	186	N 1 9	2	190
80	no / 17,9		900	900	6,2	1410	196	196	196 / LZ	208	N 2 0	1	196
			710	670	5,5	1410	192	192	192 / LZ	208	N 2 0	2	196
			655	610	4,8	1410	176	176	176 / LZ	186	N 2 0	3	190
120	no / 12,3		900	900	10,5	1440	218	218	218 / LZ	271	N 2 1	1	258
			815	780	7,5	1400	194	194	194 / LZ	209	N 2 1	2	196
			655	615	6,2	1410	196	196	196 / LZ	208	N 2 1	3	196
180	no / 16,0		900	900	18,5	2890	220	220	220 / LZ	299	N 2 2	1	273
			810	795	18,0	2850	212	212	212 / LZ	271	N 2 2	2	264
			685	660	12,0	2870	214	214	214 / LZ	271	N 2 2	3	264

x x x x : Inertia of motor has increased   mmm : Weight of motor- / actuator has increased

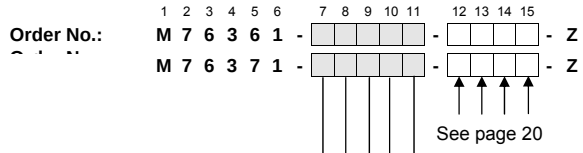
2. Output shaft design to DIN 3210

		Order No.	Add. weight [appr. kg]
Output shaft design	A : hollow shaft with threaded bush [1]	1	on request
	B : hollow shaft with insert bush	2	---
	C : hollow shaft with claw coupling	3	---
	D : free shaft end with featherkey [1]	4	**+ 2**
	E : bore with featherkey slot [1]	5	---
	DD : with free shaft at both ends [1]	6	on request
	B : with protection tube 500 mm long [1]	8	on request
	C : with protection tube 500 mm long [1]	9	

[1] Design **not** qualified to KTA 3504, edition 11/2006; Strength with safety factors required by this standard not proven.
[2] Weight of actuator of type M76361-N with Siemens motor for comparison

S series

Ordering data



Basic design:

- Motor three-phase system 3/PEN AC 50 Hz 380 V (L1, L2, L3),
- 2 torque-dependent switches for clockwise and anti-clockwise rotation,
- 4 travel-dependent switches,
- output shaft design B to DIN 3210,
- electric connection via 6-way motor plug and 24-way plug for switching and signalling unit,
- cable inlets via metal screwed glands with conduit thread to DIN 46320,
- rating plate without customer position plate, labelled in German/English,
- coated with decontaminable primer

1. Type of rotary actuator, rated speed of output shaft and tripping torque range

Rated speed of output shaft	Actuator self-locking	Tripping torque range (Tripping torque to be set, see page 21, section 7)			Three phase motor 3/PEN AC 50 Hz 380 V (further data : see from page 23 onwards)					**Weight** for M763**61**-.. (M76371-.. s. p. 21)			*appr. kg* [2]
	Gear ratio	Minimum	Maximum with M76361-	M76371-	Rated power	Rated speed	**Consecutive number for motor of type M763..**						
min $^{-1}$	i	Nm	Nm	Nm	kW	min $^{-1}$	61-	71-	71- / **R99**	appr. kg			
5	yes / 272,9	500	1500	1440	1,68	1365	132	132	132 / LZ	130	**S 1 2**	**1**	*128*
			1240	1140	1,5	1300	130	130	130 / LZ	130	**S 1 2**	**2**	*128*
			900	810	1,1	1345	122	122	122 / LZ	128	**S 1 2**	**3**	*125*
7,5	yes / 184,5		1500	1500	2,5	1385	154	154	154 / LZ	146	**S 1 3**	**1**	*141*
			1290	1190	2,2	1375	152	152	152 / LZ	138	**S 1 3**	**2**	*141*
			1060	970	1,68	1365	132	132	132 / LZ	130	**S 1 3**	**3**	*128*
10	yes / 134,6		1455	1350	3,0	1380	164	164	164 / LZ	143	**S 1 4**	**1**	*144*
			1200	1080	2,5	1385	154	154	154 / LZ	146	**S 1 4**	**2**	*141*
			940	870	2,2	1375	152	152	152 / LZ	138	**S 1 4**	**3**	*141*
15	yes / 184,5		1500	1500	5,5	2790	188	188	188 / LZ	185	**S 1 5**	**1**	*179*
			1225	1160	3,2	2740	150	150	150 / LZ	145	**S 1 5**	**2**	*141*
			1100	1030	2,6	2815	128	128	128 / LZ	132	**S 1 5**	**3**	*129*
			1000	940	2,6	2815	148	148	148 / LZ	144	**S 1 5**	**4**	*135*
20	yes / 68,2		1500	1500	4,0	1380	174	174	174 / LZ	151	**S 1 6**	**1**	*157*
			1260	1165	3,0	1380	164	164	164 / LZ	143	**S 1 6**	**2**	*144*
			1040	940	2,5	1385	154	154	154 / LZ	146	**S 1 6**	**3**	*141*
30	no / 46,1		1500	1500	5,5	1410	192	192	192 / LZ	190	**S 1 7**	**1**	*179*
			1450	1360	4,8	1410	176	176	176 / LZ	151	**S 1 7**	**2**	*157*
			1080	1025	4,0	1380	174	174	174 / LZ	151	**S 1 7**	**3**	*157*
40	no / 33,7		1500	1440	6,2	1410	196	196	196 / LZ	190	**S 1 8**	**1**	*181*
			1150	1090	5,5	1410	192	192	192 / LZ	190	**S 1 8**	**2**	*179*
			1060	990	4,8	1410	176	176	176 / LZ	151	**S 1 8**	**3**	*157*
60	no / 46,1		1320	1320	10,0	2820	202	202	202 / LZ	190	**S 1 9**	**2**	*189*
			1050	1000	7,5	2880	200	200	200 / LZ	190	**S 1 9**	**3**	*189*

xxx : Inertia of motor has increased mmm : Weight of motor- / actuator has increased

2. Output shaft design to DIN 3210

				Add. weight [appr. kg]
Output shaft design	A : hollow shaft with threaded bush [1]	**on request**	**1**	on request
	B : hollow shaft with insert bush		**2**	---
	C : hollow shaft with claw coupling		**3**	**+ 4**
	D : free shaft end with featherkey [1]		**4**	**- 2,5**
	E : bore with featherkey slot [1]		**5**	**+ 5**
	DD : with free shaft at both ends [1]		**6**	on request
	B : with protection tube 500 mm long [1]		**8**	on request
	C : with protection tube 500 mm long [1]		**9**	

[1] Design **not** qualified to KTA 3504, edition 11/2006; Strength with safety factors required by this standard not proven.
[2] Weight of actuator of type M76361-S with Siemens motor for comparison

S series

Ordering data

Order No.:

	1	2	3	4	5	6		7	8	9	10	11		12	13	14	15	
M 7 6 3 6 1 -							-						-					- Z
M 7 6 3 7 1 -							-						-					- Z

See page 20

Basic design:

- Motor three-phase system 3/PEN AC 50 Hz 380 V (L1, L2, L3),
- 2 torque-dependent switches for clockwise and anti-clockwise rotation,
- 4 travel-dependent switches,
- output shaft design B to DIN 3210,
- electric connection via 6-way motor plug and 24-way plug for switching and signalling unit,
- cable inlets via metal screwed glands with conduit thread to DIN 46320,
- rating plate without customer position plate, labelled in German/English,
- coated with decontaminable primer

1. Type of rotary actuator, rated speed of output shaft and tripping torque range

Rated speed of output shaft	Actuator self-locking	Tripping torque range (Tripping torque to be set, see page 21, section 7)			Three phase motor 3/PEN AC 50 Hz 380 V (further data : see from page 23 onwards)					**Weight** for M763**61**-.. (M76371-.. s. p. 21)				*appr. kg* [2]
	Gear ratio	Minimum	Maximum with M76361-	M76371-	Rated power	Rated speed	**Consecutive number for motor of type M763..**							
min $^{-1}$	i	Nm	Nm	Nm	kW	min $^{-1}$	61-	71-	71- / **R99**	appr. kg				
5	yes / 281,3	1000	3000	2800	3,0	1380	164	164	164 / LZ	204	**U 1 2**	**1**		*204*
			2500	2250	2,5	1385	154	154	154 / LZ	**207**	**U 1 2**	**2**		*201*
			1950	1800	2,2	1375	152	152	152 / LZ	200	**U 1 2**	**3**		*201*
7,5	yes / 191,5		3000	3000	4,8	1410	176	176	176 / LZ	212	**U 1 3**	**1**		*218*
			2600	2450	4,0	1380	174	174	174 / LZ	212	**U 1 3**	**2**		*218*
			2050	1900	3,0	1380	164	164	164 / LZ	204	**U 1 3**	**3**		*205*
10	yes / 281,3		3000	3000	6,5	2845	190	190	190 / LZ	**237**	**U 1 4**	**1**		*229*
			2600	2500	5,5	2830	172	172	172 / LZ	212	**U 1 4**	**2**		*213*
			1850	1750	3,2	2740	150	150	150 / LZ	**206**	**U 1 4**	**3**		*202*
15	yes / 191,5		3000	3000	10	2820	202	202	202 / LZ	241	**U 1 5**	**1**		*239*
			2550	2400	7,5	2880	200	200	200 / LZ	241	**U 1 5**	**2**		*239*
			2250	2250	6,5	2845	190	190	190 / LZ	**237**	**U 1 5**	**3**		*229*
			1750	1700	5,5	2830	172	172	172 / LZ	212	**U 1 5**	**4**		*213*
20	no / 70,3		3000	3000	6,2	1410	196	196	196 / LZ	**241**	**U 1 6**	**1**		*231*
			2400	2250	5,5	1410	192	192	192 / LZ	**241**	**U 1 6**	**2**		*229*
			2200	2050	4,8	1410	176	176	176 / LZ	212	**U 1 6**	**3**		*218*
30	no / 47,9		2940	2900	11	1440	216	216	216 / LZ	**300**	**U 1 7**	**1**		*285*
			2700	2600	7,5	1400	194	194	194 / LZ	**241**	**U 1 7**	**2**		*229*
			2150	2050	6,2	1410	196	196	196 / LZ	**241**	**U 1 7**	**3**		*231*
40	no / 36,5		3000	3000	15	1440	224	224	224 / LZ	**320**	**U 1 8**	**1**		*295*
			2300	2300	10,5	1440	218	218	218 / LZ	**296**	**U 1 8**	**2**		*285*
			2050	1950	7,5	1400	194	194	194 / LZ	**242**	**U 1 8**	**3**		*229*
60	no / 47,9		3000	3000	25	2900	222	222	222 / LZ	**325**	**U 1 9**	**1**		*300*
			2500	2400	18,5	2890	220	220	220 / LZ	**325**	**U 1 9**	**2**		*300*
			2000	1950	18	2850	212	212	212 / LZ	**296**	**U 1 9**	**3**		*291*

x x x : Inertia of motor has increased mmm : Weight of motor- / actuator has increased

2. Output shaft design to DIN 3210

				Add. weight [appr. kg]
Output shaft design	A : hollow shaft with threaded bush [1]	**on request**	**1**	on request
	B : hollow shaft with insert bush		**2**	---
	C : hollow shaft with claw coupling		**3**	**+ 7**
	D : free shaft end with featherkey [1]		**4**	**+ 3**
	E : bore with featherkey slot [1]		**5**	**+ 9,5**
	DD : with free shaft at both ends [1]		**6**	on request
	B : with protection tube 500 mm long [1]		**8**	on request
	C : with protection tube 500 mm long [1]		**9**	

[1] Design **not** qualified to KTA 3504, edition 11/2006; Strength with safety factors required by this standard not proven.
[2] Weight of actuator of type M76361-U with Siemens motor for comparison

S series

Ordering data

	1	2	3	4	5	6		7	8	9	10	11		12	13	14	15		
Order – No. :	**M**	**7**	**6**	**3**	**6**	**1**	**-**						**-**					**-**	**Z**
	M	**7**	**6**	**3**	**7**	**1**	**-**						**-**					**-**	**Z**

3. Number of revolutions per stroke

revolutions / stroke up to	
0,25	**A**
0,5	**B**
1	**C**
2,5	**D**
5	**E**
7,5	**F**
10	**H**
15	**J**
30	**K**
60	**L**
120	**N**
250	**P**
500	**Q**
1000	**R**
2000	**S**

4. Electric connection

Electric connection via plug (compact plug), consisting of

Motor plug for AC 380 V, 35 A Silver-plated sockets and pins, max. conductor cross-section 6 mm²	Motor plug for AC 380 V, 35 A Silver-plated sockets and pins, max. conductor cross-section 6 mm²		S-SIWI M76361-	S-SIWI-AS M76371-
6 - way	24 – way	**2**		
	2 x 24 - way	**4**		

5. Switching and signalling unit : signalling components

		S-SIWI M76361-	S-SIWI-AS M76371-
Without signalling component	**0**		
ESR Electronic position transmitter [1]	**1**		
POT Potentiometer 100 Ω for position indication [1]	**2**		
SA Mechanical position indicator	**3**		
ESR [1] and SA	**4**		
POT [1] and SA	**5**		

6. Switching and signalling unit : switching components

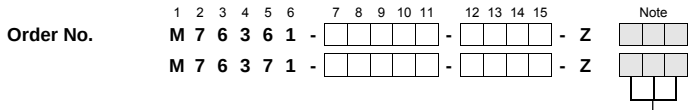
Switches with gold-plated contacts

Torque switches (DE)	Travel switches (WE), without flashing indicator, activated via			S-SIWI M76361-	S-SIWI-AS M76371-
	Roller-type mechanism [3] (with > 5 rev / stroke)	Cam – type mechanism [3] (in addition to roller-type mechanism)			
2 DE	2 WE	2 WE	**3**		
		4 WE	**4**		
4 DE	2 WE	2 WE	**5**		
		4 WE	**6**		
4 DE	4 WE [2]	2 WE	**7**		
		4 WE	**8**		

1) Correct functioning under conditions of designed fault not proven.
2) Redundant pairs of travel switches.
3) With ≤ 5 revolutions / stroke, the travel switches are only activated via one cam-type mechanism (with 4 travel switches) or via two cam-type mechanisms (with 6 travel switches); redundant design not possible.

S series

Ordering data



Order codes and plain text

(Suffixes to order no.)

7. Tripping torques to be set	Klartext	
The tripping torques specified in plain text are set in the factory as maximum values. Setting to another tripping torque must be carried out using a test set-up.	**Tripping torque . . . Nm for open / counter-clockwise . . . Nm for close / clockwise**	**Y 0 1**

8. Cable inlets			Add. weight [appr. kg] S-SIWI M76361-	Add. weight [appr. kg] S-SIWI-AS M76371-
Via metal screwed glands with conduit thread to DIN 46 320		**R 0 4**	----	**3**
Qualified cable inlets **>> only for actuators, S-SIWI-AS series, M76371 - ... <<**				
for motor Max. conductor cross-section 4mm^2 (external)	for switching and signalling unit Conductor cross-section 0.5 mm^2 (external)			
7-way cable	24-way cable	**R 0 8**	---	**6**
	2 x 24- way cable	**R 0 9**	---	**7**

9. Other rating plate			
Rating plate	Labelling (Standard: German / English)		
without customer position plate	Spanish / Portuguese	**B 0 6**	
	German / French	**B 0 7**	
	German / Russian	**B 0 8**	
with customer position plate	German / English	**B 0 0**	
	Spanish / Portuguese	**B 0 1**	
	German / French	**B 0 2**	
	German / Russian	**B 0 3**	

10. Other varnish		
Decontaminable coating (complete) Varnish consisting of base coat and decontaminable top coat (entire thickness: min 120µm, colour RAL 7030)	**L 1 8**	

S series

Ordering data

	1	2	3	4	5	6		7	8	9	10	11		12	13	14	15		Note
Order No. :	**M**	**7**	**6**	**3**	**6**	**1**	**-**						**-**					**- Z**	
	M	**7**	**6**	**3**	**7**	**1**	**-**						**-**					**- Z**	

Order codes and plain text

(Suffixes to order no.)

11. Space heater

for switching and signalling unit

Power supply	**AC**	**220 V**	**A 2 2**
		110 V	**A 2 3**
		24 V	**A 2 4**

12. Output shaft design to EN ISO 5210 or DIN 3338

(dimensions of flanges to EN ISO 5210, see page 38)

		Standard	Order no., Data position no. 10	
Design **A** :	hollow shaft with threaded bush [1)]	EN ISO 5210	**1**	**A 3 2**
B1 :	with insert bush	EN ISO 5210	**2**	**A 3 3**
C :	with claw coupling	DIN 3338	**3**	**A 3 4**
B3 : bore	with featherkey slot [1)]	EN ISO 5210	**5**	**A 3 6**

[1)] : Strength with safety factors required by KTA 3504, edition 11/2006, **not** proven.

13. Handwheel gear reducer

Handwheel mounted at side; design not qualified to KTA 3504; dimensions on page 36

for rotary actuators M76361- and M76371-	Reduction ratio Handwheel / Output shaft	add. weight, [appr. kg]	Output shaft design to DIN 3210 / EN ISO 5210	
-F and -G	13 : 1	**13**	B / B1 or C without stem protect. tube	**A 8 1**
			B / B1 or C with stem protect. tube	**A 8 2**
			D or E / B3	**A 8 3**
-M and -N	18,5 : 1	**3**	B / B1, C, D, E / B3 without stem p. t.	**A 8 6**
			B / B1 or C with stem protection tube	**A 8 7**

14. Long-term availability version

>> only for rotary actuators, S-SIWI-AS series, M76371-... <<

These actuators retain their function for at least one year following the occurrence of a designed fault.
Only qualified cable inlets must be used (see section 8).

Design		
Long-term availability electric rotary actuator, S-SIWI-AS series, with motor in long-term availability version	M76371 - C	**R 9 9**
	M76371 - E	
	M76371 - F	
	M76371 - G	
	M76371 - M	
	M76371 - N	
	M76371 - S	
	M76371 - U	

15. Connection with metric thread to EN 50262

(only with order suffix **R04** possible)

Thread in plug hood	**2x M20 x 1,5 / 1x M25 x 1,5**	**P 0 7**

16. Alternative motor supply

(Attention : Deviating motor data are to be considered)

Three phase motor with voltage 3/PEN AC 50 Hz 400 V	**M 5 0**

Accessories : **see page 42**

Degree of protection to DIN EN 60529 : IP 65 / 44 with motors with order code : Q18, Q19, Q21
IP 67 with motors with order code : Q31, Q32, Q33

Operating mode to DIN EN 60034 - 1 : S2 – 10 min under normal conditions
S2 – 1,5 min under fault conditions

Insulation class : **H** with motors with order code : Q18, Q19, Q21 and Q31, Q32, Q33
(for rotary actuators, type M76361 -, S-SIWI series and
for rotary actuators, type M76371 -, S-SIWI-AS / SIWI-AS-LZ series)

Motor consecutive no..	Order no. of motor	Add. order code	Rated power kW	no. of poles	Rated speed min^{-1}	Efficiency η %	Power factor cos φ	Power factor cos φ during start-up	Rated current at 380 V A	Starting current factor	Rated torque Nm	Starting torque KT 10 Nm	Starting torque KT60+ΔT Nm	Starting torque KT155 + ΔT Nm	Break down torque KT 10 Nm	Current at 145% U_N / 30 sec A	Size to DIN EN 50347	Flange shape to DIN EN 60034-7 IM	Flange size to DIN EN 50347	Flange size to DIN 42948	Weight appr. kg
2 2 / LZ	OL 56 L / 4 / 050-B14 /	Q18 Q31	0,06	4	1245	46	0,84	0,87	0,24	2,60	0,47	0,80	0,71	0,66	0,71	0,36	56	B14	FT 65	C 80	3,7
4 4 / LZ	OL 56 L / 4 / 050-B14 /	Q21 Q33	0,07	4	1335	51	0,73	0,86	0,29	2,90	0,45	1,25	1,1	1	1,1	0,45	56	B14	FT 65	C 80	3,9
6 6 / LZ	OL 56 S / 2 / 053-B14 /	Q21 Q33	0,14	2	2700	50	0,75	0,91	0,59	3,15	0,49	1,35	1,2	1	1,25	1,6	56	B14	FT 65	C 80	3,5
8 8 / LZ	OL 56 L / 4 / 053-B14 /	Q18 Q31	0,09	4	1270	50	0,76	0,86	0,36	2,6	0,68	1,32	1,2	1,1	1,08	0,5	56	B14	FT 65	C 80	3,9
16 16 / LZ	OL 63 S / 2 / 060-B14 /	Q18 Q31	0,18	2	2565	53	0,88	0,89	0,60	3,5	0,65	1,65	1,45	1,3	1,25	0,80	63	B14	FT 75	C 90	4,5
18 18 / LZ	OL 63 L / 2 / 060-B14 /	Q19 Q32	0,3	2	2620	61	0,90	0,89	0,84	3,65	1,10	1,95	1,68	1,58	1,9	3	63	B14	FT 75	C 90	4,7
20 20 / LZ	OL 63 S / 4 / 060-B 5 /	Q21 Q33	0,13	4	1345	57	0,66	0,83	0,52	2,9	0,92	2,15	1,94	1,74	1,80	0,61	63	B 5	FF 115	A140	4,6
22 22 / LZ	OL 63 S / 4 / 060-B14 /	Q18 Q31	0,12	4	1300	51	0,75	0,85	0,48	2,6	0,89	1,64	1,49	1,34	1,47	0,68	63	B14	FT 75	C 90	4,6
24 24 / LZ	OL 63 S / 4 / 060-B14 /	Q21 Q33	0,13	4	1345	57	0,66	0,83	0,52	2,9	0,92	2,15	1,94	1,74	1,80	0,61	63	B14	FT 75	C 90	4,6
26 26 / LZ	OL 63 L / 2 / 063-B14 /	Q18 Q31	0,25	2	2730	62	0,81	0,89	0,80	4,3	0,95	2,4	2,1	1,9	2,6	1,4	63	B14	FT 75	C90	5,0
28 28 / LZ	OL 63 L / 2 / 063-B14 /	Q19 Q32	0,37	2	2645	63	0,82	0,90	1,15	3,75	1,45	3,2	2,85	2,55	2,75	2,3	63	B14	FT 75	C 90	5,0
30 30 / LZ	OL 63 L / 4 / 063-B 5 /	Q18 Q31	0,18	4	1350	61	0,68	0,86	0,69	3,15	1,34	3,15	2,7	2,55	2,95	1,05	63	B 5	FF 115	A140	5,0
32 32 / LZ	OL 63 L / 4 / 063-B14 /	Q18 Q31	0,18	4	1350	61	0,68	0,86	0,69	3,15	1,34	3,15	2,7	2,55	2,95	1,05	63	B14	FT 75	C 90	5,0
38 38 / LZ	OL 71 S / 2 / 070-B14 /	Q18 Q31	0,37	2	2850	65	0,72	0,87	1,25	5,0	1,28	3,55	3,2	2,9	3,48	4,48	71	B14	FT 85	C105	6,5
40 40 / LZ	OL 71 S / 4 / 070-B 5 /	Q18 Q31	0,25	4	1365	65	0,77	0,77	0,78	3,5	1,76	3,1	2,82	2,54	3,2	1,3	71	B 5	FF 130	A160	6,5
42 42 / LZ	OL 71 S / 4 / 070-B 5 /	Q21 Q33	0,28	4	1385	66	0,72	0,81	0,90	3,8	1,94	4,2	3,80	3,40	3,35	1,9	71	B 5	FF 130	A160	6,5
44 44 / LZ	OL 71 S / 4 / 070-B14 /	Q18 Q31	0,25	4	1365	65	0,77	0,77	0,78	3,5	1,76	3,1	2,82	2,54	3,2	1,3	71	B14	FT 85	C105	6,5
46 46 / LZ	OL 71 S / 4 / 070-B14 /	Q21 Q33	0,28	4	1385	66	0,72	0,81	0,90	3,8	1,94	4,2	3,80	3,40	3,35	1,9	71	B 5	FF 130	A160	6,5

.

Degree of protection to DIN EN 60529 : IP 65 / 44 with motors with order code : Q18, Q19, Q21
IP 67 with motors with order code : Q31, Q32, Q33

Operating mode to DIN EN 60034 - 1 : S2 – 10 min under normal conditions
S2 – 1,5 min under fault conditions

Insulation class : **H** with motors with order code : Q18, Q19, Q21 and Q31, Q32, Q33
(for rotary actuators, type M76361 -, S-SIWI series and
for rotary actuators, type M76371 -, S-SIWI-AS / SIWI-AS-LZ series)

Motor consecutive no..	Order no. of motor	Add. order code	Rated power	no. of poles	Rated speed	Efficiency	Power factor		Rated current	Starting current factor	Rated torque	Starting torque			Break down torque	Current at	Size	Flange shape	Flange size		Weight
												KT 10	KT60+ΔT	KT155 + ΔT	KT 10	145% U_N / 30 sec	to DIN EN 50347	to DIN EN 60034-7	to DIN EN 50347	to DIN 42948	
			kW		min^{-1}	η %	cos φ	cos φ during start-up	at 380 V A		Nm	Nm	Nm	Nm	Nm	A		IM			appr. kg
48 48 / LZ	OL 71 L / 2 / 073-B14 /	Q18 Q31	0,55	2	2835	73	0,75	0,85	1,58	5,8	1,87	5,55	5,0	4,5	5,5	5,20	71	B14	FT 85	C105	6,5
50 50 / LZ	OL 71 L / 2 / 073-B14 /	Q19 Q32	0,75	2	2795	71	0,77	0,85	2,15	4,8	2,6	7,2	6,5	5,8	7,0	6,9	71	B14	FT 85	C105	7,5
52 52 / LZ	OL 71 L / 2 / 073-B14 /	Q21 Q33	0,43	2	2840	72	0,77	0,82	1,20	6,25	1,55	5,25	4,7	4,2	5,15	3,25	71	B 14	FT 85	C105	7,5
54 54 / LZ	OL 71 L / 4 / 073-B 5 /	Q18 Q31	0,37	4	1385	67	0,71	0,78	1,2	3,85	2,6	5,4	4,85	4,35	5,8	2,7	71	B 5	FF 130	A160	7,5
56 56 / LZ	OL 71 L / 4 / 073-B 5 /	Q21 Q33	0,41	4	1410	68	0,63	0,78	1,45	4,35	2,78	7,4	6,7	6	6,95	4,65	71	B 5	FF 130	A160	7,5
58 58 / LZ	OL 71 L / 4 / 073-B14 /	Q18 Q31	0,37	4	1385	67	0,71	0,78	1,2	3,85	2,6	5,4	4,85	4,35	5,8	2,7	71	B14	FT 85	C105	7,5
60 60 / LZ	OL 71 L / 4 / 073-B14 /	Q21 Q33	0,41	4	1410	68	0,63	0,78	1,45	4,35	2,78	7,4	6,7	6	6,95	4,65	71	B14	FT 85	C105	7,5
62 62 / LZ	OL 71 L / 8 / 073-B14 /	Q18 Q31	0,12	8	700	41	0,50	0,75	0,95	2,25	1,70	4,4	4	3,6	4,8	2,05	71	B14	FT 85	C105	7,0
68 68 / LZ	OL 80 S / 2WU / 080-B 5 /	Q18 Q31	0,75	2	2730	69	0,75	0,83	2,2	4,50	2,60	9,2	8,3	7,45	5,8	7,4	80	B 5	FF 165	A200	11
70 70 / LZ	OL 80 S / 2WU / 080-B 5 /	Q19 Q32	0,90	2	2700	66	0,67	0,84	3,2	3,9	3,2	11,2	10	9,1	6,9	13,4	80	B 5	FF 165	A200	11
72 72 / LZ	OL 80 S / 2WU / 080-B14 /	Q18 Q31	0,75	2	2730	69	0,75	0,83	2,2	4,50	2,60	9,2	8,3	7,45	5,8	7,4	80	B14	FT 100	C120	11
74 74 / LZ	OL 80 S / 2WU / 080-B14 /	Q19 Q32	0,90	2	2700	66	0,67	0,84	3,2	3,9	3,2	11,2	10	9,1	6,9	13,4	80	B14	FT 100	C120	11
76 76 / LZ	OL 80 S / 4WU / 080-B 5 /	Q18 Q31	0,55	4	1275	65	0,77	0,77	1,68	3,2	4,15	9,35	8,45	7,6	6,65	3,9	80	B 5	FF 165	A200	10
78 78 / LZ	OL 80 S / 4WU / 080-B14 /	Q18 Q31	0,55	4	1275	65	0,77	0,77	1,68	3,2	4,15	9,35	8,45	7,6	6,65	3,9	80	B14	FT 100	C120	10
80 80 / LZ	OL 80 S / 4WU / 080-B 5 /	Q21 Q33	0,59	4	1310	66	0,69	0,74	1,95	3,5	4,30	12	10,8	9,7	8	6,1	80	B 5	FF 165	A200	10
82 82 / LZ	OL 80 S / 4WU / 080-B14 /	Q21 Q33	0,59	4	1310	66	0,69	0,74	1,95	3,5	4,30	12	10,8	9,7	8	6,1	80	B14	FT 100	C120	10
84 84 / LZ	OL 80 S / 8WU / 080-B14 /	Q18 Q31	0,18	8	605	49	0,70	0,78	0,80	2,2	2,85	5,1	4,6	4,1	3,9	1,2	80	B14	FT 100	C120	10
86 86 / LZ	OL 80 S / 8WU / 080-B14 /	Q21 Q33	0,20	8	625	47	0,62	0,79	1,1	2,0	3,0	6,5	5,8	5,2	3,45	1,8	80	B14	FT 100	C120	10

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Degree of protection to DIN EN 60529 : IP 65 / 44 with motors with order code : Q18, Q19, Q21
IP 67 with motors with order code : Q31, Q32, Q33

Operating mode to DIN EN 60034 - 1 : S2 – 10 min under normal conditions
S2 – 1,5 min under fault conditions

Insulation class : **H** with motors with order code : Q18, Q19, Q21 and Q31, Q32, Q33
(for rotary actuators, type M76361 -, S-SIWI series and
for rotary actuators, type M76371 -, S-SIWI-AS / SIWI-AS-LZ series)

Motor	Order no.		Rated power	no. of poles	Rated speed	Effi-ciency	Power factor		Rated current	Starting current	Rated torque	Starting torque			Break down torque	Current at	Size	Flange shape	Flange size		Weight
con-sec-utive no..	of motor	Add. order code							factor			KT 10	KT60+ΔT	KT155 + ΔT	KT 10	145% U_N / 30 sec	to DIN EN 50347	to DIN EN 60034-7	to DIN EN 50347	to DIN 42948	
			kW		min^{-1}	η %	cos φ	cos φ during start-up	at 380 V A		Nm	Nm	Nm	Nm	Nm	A		IM			appr. kg
88 88 / LZ	OL 80 L / 2WU / 083-B 5 /	Q18 Q31	1,1	2	2650	73	0,82	0,84	2,85	4,6	4	14,1	12,8	11,5	11,8	8,3	80	B 5	FF 165	A200	11
90 90 / LZ	OL 80 L / 2WU / 083-B 5 /	Q19 Q32	1,3	2	2700	71	0,72	0,84	4,1	4,5	4,7	18,1	16,3	14,5	15,5	16,7	80	B 5	FF 165	A200	11
92 92 / LZ	OL 80 L / 2WU / 083-B14 /	Q18 Q31	1,1	2	2650	73	0,82	0,84	2,85	4,6	4	14,1	12,8	11,5	11,8	8,3	80	B14	FT 100	C120	11
94 94 / LZ	OL 80 L / 2WU / 083-B14 /	Q19 Q32	1,3	2	2700	71	0,72	0,84	4,1	4,5	4,7	18,1	16,3	14,5	15,5	16,7	80	B14	FT 100	C120	11
96 96 / LZ	OL 80 L / 4WU / 083-B 5 /	Q18 Q31	0,75	4	1320	70	0,70	0,77	2,30	3,70	5,35	16,0	14	12,9	10,7	5,6	80	B 5	FF 165	A200	11
98 98 / LZ	OL 80 L / 4WU / 083-B14 /	Q18 Q31	0,75	4	1320	70	0,70	0,77	2,30	3,70	5,35	16,0	14	12,9	10,7	5,6	80	B14	FT 100	C120	11
100 100/LZ	OL 80 L / 4WU / 083-B14 /	Q21 Q33	0,83	4	1355	71	0,63	0,77	2,75	3,90	5,80	19,3	18	15,8	11,6	6,9	80	B14	FT 100	C120	11
102 102/LZ	OL 80 L / 8WU / 083-B14 /	Q18 Q31	0,25	8	595	51	0,68	0,78	1,15	2,1	4	7,8	7,0	6,3	5,6	1,65	80	B14	FT 100	C120	11
104 104/LZ	OL 80 L / 4WU / 083-B 5 /	Q21 Q33	0,83	4	1355	71	0,63	0,77	2,75	3,90	5,80	19,3	18	15,8	11,6	6,9	80	B 5	FF 165	A200	11
116 116/LZ	OL 90 S / 2WU / 090-B 5 /	Q18 Q31	1,5	2	2750	74	0,82	0,78	3,8	5,4	5,2	17,6	15,9	14,3	16	11,5	90 S	B 5	FF 165	A200	15
118 118/LZ	OL 90 S / 2WU / 090-B 5 /	Q19 Q32	1,75	2	2770	71	0,66	0,79	6	4,75	6,4	25,6	23,2	20,8	22,1	24,2	90 S	B 5	FF 165	A200	15
120 120/LZ	OL 90 S / 2WU / 090-B14 /	Q18 Q31	1,5	2	2750	74	0,82	0,78	3,8	5,4	5,2	17,6	15,9	14,3	16	11,5	90 S	B14	FT 115	C140	15
122 122/LZ	OL 90 S / 4WU / 090-B 5 /	Q18 Q31	1,1	4	1345	73	0,75	0,78	3,1	3,95	7,85	20,9	18,95	17	16,7	7,5	90 S	B 5	FF 165	A200	15
124 124/LZ	OL 90 S / 4WU / 090-B14 /	Q18 Q31	1,1	4	1345	73	0,75	0,78	3,1	3,95	7,85	20,9	18,95	17	16,7	7,5	90 S	B14	FT 115	C140	15
126 126/LZ	OL 90 L / 2aWU / 096-B 5 /	Q18 Q31	2,2	2	2740	77	0,84	0,80	5,2	5,7	7,7	26,5	24	21,6	20,5	14,3	90 L	B 5	FF 165	A200	18
128 128/LZ	OL 90 L / 2aWU / 096-B 5 /	Q19 Q32	2,6	2	2815	79	0,70	0,82	7,3	6,0	9,1	41,5	38,5	35	32	17,9	90 L	B 5	FF 165	A200	18
130 130/LZ	OL 90 L / 4WU / 096-B 5 /	Q18 Q31	1,5	4	1300	72	0,80	0,72	3,95	3,75	11	28,6	26	23,3	19	7,2	90 L	B 5	FF 165	A200	16
132 132/LZ	OL 90 L / 4WU / 096-B 5 /	Q21 Q33	1,68	4	1365	73	0,67	0,80	5,3	4,3	11,9	41,5	37	33	29,5	19,7	90 L	B 5	FF 165	A200	17
134 134/LZ	OL 90 L / 4WU / 096-B14 /	Q18 Q31	1,5	4	1300	72	0,80	0,72	3,95	3,75	11	28,6	26	23,3	19	7,2	90 L	B14	FT 115	C140	17

Degree of protection to DIN EN 60529 : IP 65 / 44 with motors with order code : Q18, Q19, Q21
IP 67 with motors with order code : Q31, Q32, Q33

Operating mode to DIN EN 60034 - 1 : S2 – 10 min under normal conditions
S2 – 1,5 min under fault conditions

Insulation class : **H** with motors with order code : Q18, Q19, Q21 and Q31, Q32, Q33
(for rotary actuators, type M76361 -, S-SIWI series and
for rotary actuators, type M76371 -, S-SIWI-AS / SIWI-AS-LZ series)

Motor consecutive no..	Order no. of motor	Add. order code	Rated power	no. of poles	Rated speed	Efficiency	Power factor		Rated current	Starting current factor	Rated torque	Starting torque			Break down torque	Current at	Size	Flange shape	Flange size		Weight
												KT 10	KT60+ΔT	KT155 + ΔT	KT 10	145% U_N / 30 sec	to DIN EN 50347	to DIN EN 60034-7	to DIN EN 50347	to DIN 42948	
			kW		min^{-1}	η %	cos φ	cos φ during start-up	at 380 V A		Nm	Nm	Nm	Nm	Nm	A		IM			appr. kg
148 148/LZ	**OL 100 L / 2aWU / 106-B 5 /**	**Q18 Q31**	**2,6**	**2**	**2815**	**80**	**0,88**	**0,74**	**5,70**	**7,3**	**9,10**	**35,2**	**31,5**	**28,5**	**28,7**	**10,4**	**100 L**	**B 5**	**FF215**	**A250**	**30**
150 150/LZ	**OL 100 L / 2aWU / 106-B 5 /**	**Q19 Q32**	**3,2**	**2**	**2740**	**81**	**0,87**	**0,79**	**7,1**	**6,2**	**11,5**	**43,9**	**41**	**36,5**	**24,3**	**25,1**	**100 L**	**B 5**	**FF215**	**A250**	**30**
152 152/LZ	**OL 100 L / 4WU / 106-B 5 /**	**Q18 Q31**	**2,2**	**4**	**1375**	**74**	**0,72**	**0,76**	**6,4**	**4,6**	**15,1**	**48,1**	**43,6**	**39**	**41,2**	**24,2**	**100 L**	**B 5**	**FF215**	**A250**	**24**
154 154/LZ	**OL 100 L / 4aWU / 106-B 5 /**	**Q21 Q33**	**2,5**	**4**	**1385**	**79**	**0,76**	**0,74**	**6,5**	**5,25**	**17,1**	**58**	**52,5**	**47**	**51**	**19**	**100 L**	**B 5**	**FF215**	**A250**	**32**
156 156/LZ	OL 100 L / 8WU / 106-B 5 /	Q18 Q31	0,7	8	640		0,68		2,50	2,8	10,45	21					100 L	B 5	FF215	A250	23
158 158/LZ	OL 100 L / 8WU / 106-B 5 /	Q21 Q33	0,86	8	605		0,66		3,15	2,85	13,6	26,9					100 L	B 5	FF215	A250	23
164 164/LZ	**OL 100 L / 4aWU / 107-B 5 /**	**Q18 Q31**	**3,0**	**4**	**1380**	**79**	**0,73**	**0,77**	**8,0**	**4,9**	**20,80**	**70**	**60,7**	**56**	**49,3**	**24,2**	**100 L**	**B 5**	**FF215**	**A250**	**28**
166 166/LZ	**OL 100 L / 8aWU / 107-B 5 /**	**Q18 Q31**	**1,1**	**8**	**645**	**67**	**0,66**	**0,73**	**3,90**	**3,15**	**16,4**	**34,3**	**31**	**28**	**24,4**	**9,75**	**100 L**	**B 5**	**FF215**	**A250**	**26**
170 170/LZ	**OL 112M / 2WU / 113-B 5 /**	**Q18 Q31**	**4,0**	**2**	**2800**	**80**	**0,84**	**0,71**	**9,4**	**6,5**	**14,2**	**46,9**	**42,5**	**38**	**43,7**	**24,8**	**112 M**	**B 5**	**FF215**	**A250**	**33**
172 172/LZ	**OL 112M / 2WU / 113-B 5 /**	**Q19 Q32**	**5,5**	**2**	**2830**	**85**	**0,87**	**0,73**	**11,9**	**6,8**	**19,1**	**65**	**58**	**53**	**63,5**	**25,4**	**112 M**	**B 5**	**FF215**	**A250**	**37**
174 174/LZ	**OL 112M / 4WU / 113-B 5 /**	**Q18 Q31**	**4,0**	**4**	**1380**	**78**	**0,83**	**0,74**	**9,25**	**5,5**	**27,7**	**85**	**78,5**	**72,5**	**81**	**21**	**112 M**	**B 5**	**FF215**	**A250**	**37**
176 176/LZ	**OL 112M / 4aWU / 113-B 5 /**	**Q19 Q32**	**4,8**	**4**	**1410**	**82**	**0,78**	**0,75**	**11,5**	**5,9**	**32,5**	**118**	**109**	**100**	**98,5**	**38**	**112 M**	**B 5**	**FF215**	**A250**	**37**
178 178/LZ	**OL 112M / 8WU / 113-B 5 /**	**Q18 Q31**	**1,5**	**8**	**660**	**72**	**0,65**	**0,69**	**5,0**	**3,1**	**22,3**	**45**	**41**	**36,8**	**43**	**8**	**112 M**	**B 5**	**FF215**	**A250**	**35**
180 180/LZ	**OL 112M / 8WU / 113-B 5 /**	**Q21 Q33**	**1,6**	**8**	**675**	**72**	**0,61**	**0,67**	**5,7**	**3,3**	**23,1**	**57**	**51,5**	**46**	**39,7**	**11,3**	**112 M**	**B 5**	**FF215**	**A250**	**35**

Degree of protection to DIN EN 60529 : IP 65 / 44 with motors with order code : Q18, Q19, Q21
IP 67 with motors with order code : Q31, Q32, Q33

Operating mode to DIN EN 60034 - 1 : S2 – 10 min under normal conditions
S2 – 1,5 min under fault conditions

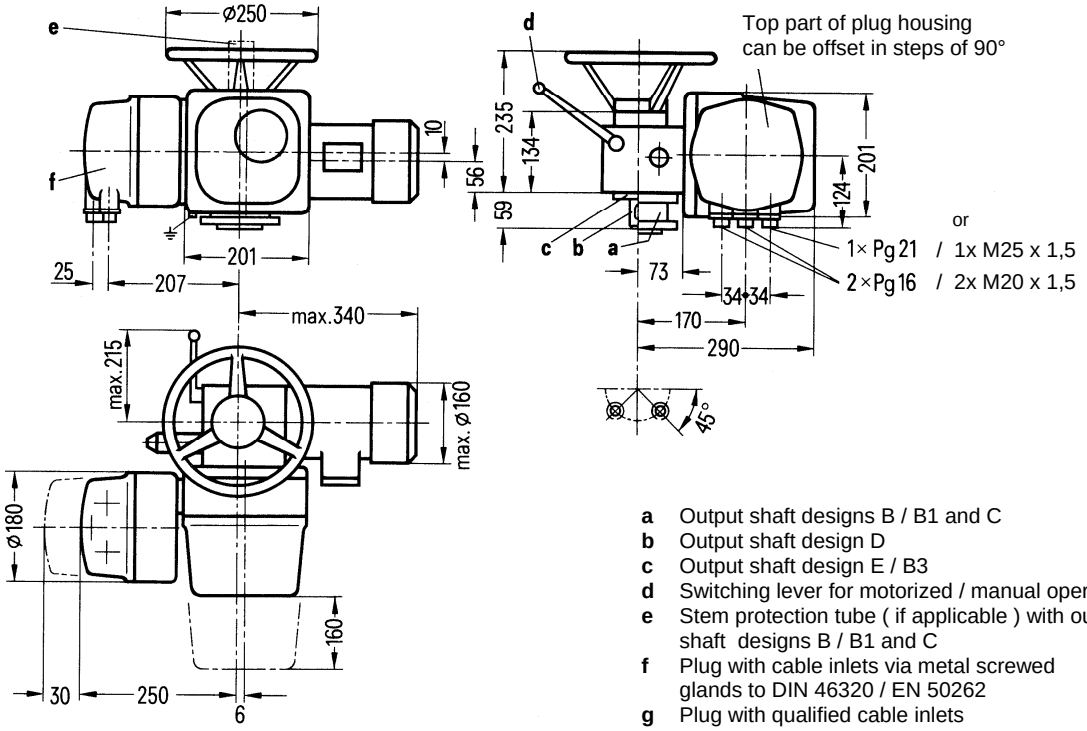
Insulation class : **H** with motors with order code : Q18, Q19, Q21 and Q31, Q32, Q33
(for rotary actuators, type M76361 -, S-SIWI series and
for rotary actuators, type M76371 -, S-SIWI-AS / SIWI-AS-LZ series)

Motor	Order no.		Rated power	no. of poles	Rated speed	Effi-ciency	Power factor		Rated current	Starting current	Rated torque	Starting torque			Break down torque	Current at	Size	Flange shape	Flange size		Weight
con-sec-utive no..	of motor	Add. order code								factor		KT 10	KT60+ΔT	KT155 + ΔT	KT 10	145% U_N / 30 sec	to DIN EN 50347	to DIN EN 60034-7	to DIN EN 50347	to DIN 42948	
			kW		min^{-1}	η %	cos φ	cos φ during start-up	at 380 V A		Nm	Nm	Nm	Nm	Nm	A		IM			appr. kg
188 188/Lz	**OL 132S / 2WU / 130-B 5 /**	**Q18 Q31**	**5,5**	**2**	**2790**	**75**	**0,85**	**0,71**	**13,0**	**4,8**	**19,1**	**53,7**	**52**	**50,8**	**56,3**	**21**	**132 S**	**B 5**	**FF 265**	**A300**	**61**
190 190/LZ	**OL 132S / 2WU / 130-B 5 /**	**Q19 Q32**	**6,5**	**2**	**2845**	**75**	**0,77**	**0,73**	**17,6**	**4,75**	**21,8**	**70,4**	**68**	**66,5**	**62,3**	**49,6**	**132 S**	**B 5**	**FF 265**	**A300**	**61**
192 192/LZ	**OL 132S / 4WU / 130-B 5 /**	**Q18 Q31**	**5,5**	**4**	**1410**	**85**	**0,76**	**0,66**	**13,0**	**5,7**	**37,3**	**125**	**121**	**117**	**97**	**43**	**132 S**	**B 5**	**FF 265**	**A300**	**65**
194 194/LZ	**OL 132S / 4WU / 130-B 5 /**	**Q19 Q32**	**7,5**	**4**	**1400**	**74**	**0,68**	**0,78**	**22**	**4,4**	**50,5**	**190**	**184**	**180**	**176**	**75,2**	**132 S**	**B 5**	**FF 265**	**A300**	**66**
196 196/LZ	**OL 132S / 4WU / 130-B 5 /**	**Q21 Q33**	**6,2**	**4**	**1410**	**78**	**0,72**	**0,75**	**17**	**4,9**	**42**	**151,5**	**146,4**	**143**	**121**	**51**	**132 S**	**B 5**	**FF 265**	**A300**	**66**
198 198/LZ	**OL 132S / 8WU / 130-B 5 /**	**Q18 Q31**	**2,2**	**8**	**630**	**66**	**0,81**	**0,72**	**6,3**	**2,7**	**31,5**	**60,5**	**58**	**56**	**55,3**	**6,7**	**132 S**	**B 5**	**FF 265**	**A300**	**61**
200 200/LZ	**OL 132S / 2aWU / 131-B 5 /**	**Q18 Q31**	**7,5**	**2**	**2880**	**80**	**0,83**	**0,71**	**17,4**	**6,4**	**25,1**	**87**	**84**	**82**	**85,4**	**44**	**132 S**	**B 5**	**FF 265**	**A300**	**66**
202 202/LZ	**OL 132S / 2aWU / 131-B 5 /**	**Q19 Q32**	**10,0**	**2**	**2820**	**77**	**0,78**	**0,83**	**25**	**4,85**	**33,9**	**102,6**	**99**	**97**	**101,5**	**77**	**132 S**	**B 5**	**FF 265**	**A300**	**66**
204 204/LZ	OL 132M / 8WU / 133-B 5 /	Q18 Q31	3,0	8	640		0,81		7,6	3,4	44,7	103					132 M	B 5	FF 265	A300	72
212 212/LZ	**OL 160M / 2WU / 163-B 5 /**	**Q19 Q32**	**18**	**2**	**2850**	**83**	**0,86**	**0,63**	**38,5**	**5,1**	**60**	**146**	**141**	**138**	**145**	**73**	**160 M**	**B 5**	**FF 300**	**A350**	**120**
214 214/LZ	**OL 160M / 2WU / 163-B 5 /**	**Q21 Q33**	**12**	**2**	**2870**	**83**	**0,86**	**0,62**	**25,5**	**6,4**	**40,1**	**125**	**120**	**115**	**130**	**47,8**	**160 M**	**B 5**	**FF 300**	**A350**	**120**
216 216/LZ	**OL 160M / 4WU / 163-B 5 /**	**Q18 Q31**	**11**	**4**	**1440**	**84**	**0,77**	**0,63**	**26**	**5,8**	**74,5**	**210**	**203**	**196**	**226**	**63**	**160 M**	**B 5**	**FF 300**	**A350**	**125**
218 218/LZ	**OL 160M / 4WU / 163-B 5 /**	**Q19 Q32**	**10,5**	**4**	**1440**	**84**	**0,75**	**0,60**	**25**	**6,3**	**69,5**	**225**	**217**	**210**	**241**	**62**	**160 M**	**B 5**	**FF 300**	**A350**	**120**
220 220/LZ	**OL 160L / 2WU / 166-B 5 /**	**Q18 Q31**	**18,5**	**2**	**2890**	**85**	**0,88**	**0,64**	**37**	**7,7**	**61,2**	**193**	**187**	**183**	**178**	**75**	**160 L**	**B 5**	**FF 300**	**A350**	**147**
222 222/LZ	**OL 160L / 2WU / 166-B 5 /**	**Q19 Q32**	**25**	**2**	**2900**	**87**	**0,88**	**0,70**	**50**	**5,8**	**83,1**	**226**	**219**	**215**	**223**	**175**	**160 L**	**B 5**	**FF 300**	**A350**	**149**
224 224/LZ	**OL 160L / 4WU / 166-B 5 /**	**Q18 Q31**	**15**	**4**	**1440**	**86**	**0,78**	**0,62**	**34**	**5,8**	**99,3**	**304**	**292**	**281**	**320**	**111**	**160 L**	**B 5**	**FF 300**	**A350**	**145**

xx xx/LZ	**OL xxx**

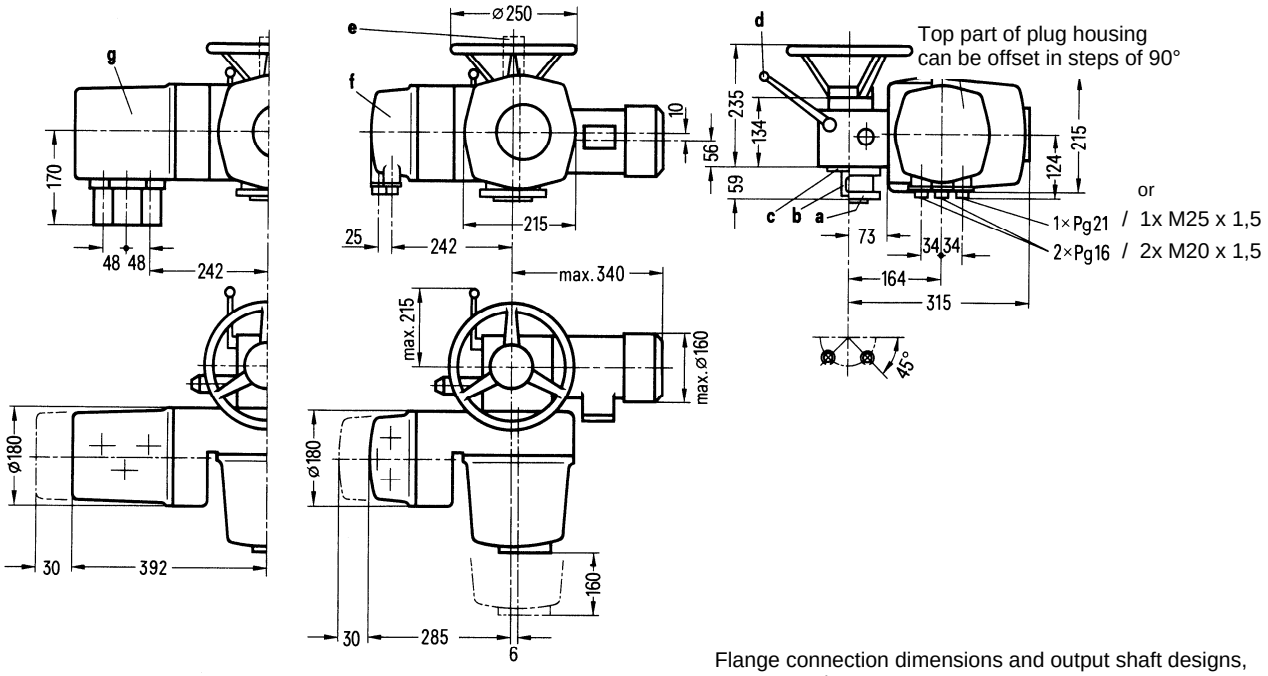
The motor data were measured during factory workshop test of first manufactured motor.

Rotary actuator M76361 – C, S – SIWI series



a Output shaft designs B / B1 and C
b Output shaft design D
c Output shaft design E / B3
d Switching lever for motorized / manual operation
e Stem protection tube (if applicable) with output shaft designs B / B1 and C
f Plug with cable inlets via metal screwed glands to DIN 46320 / EN 50262
g Plug with qualified cable inlets

Rotary actuator M76371 – C, S – SIWI – AS series

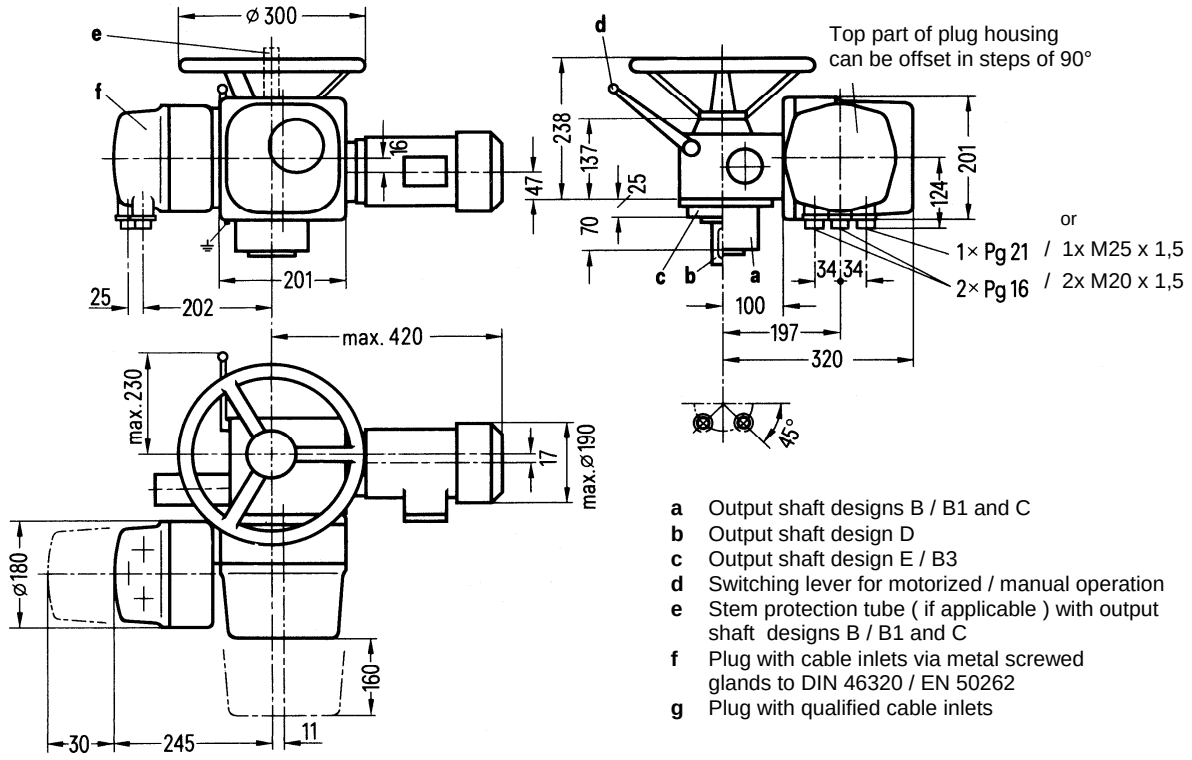


Flange connection dimensions and output shaft designs, on page 37/38

Coordinates of the center of gravity and exact motor dimensions on page 39

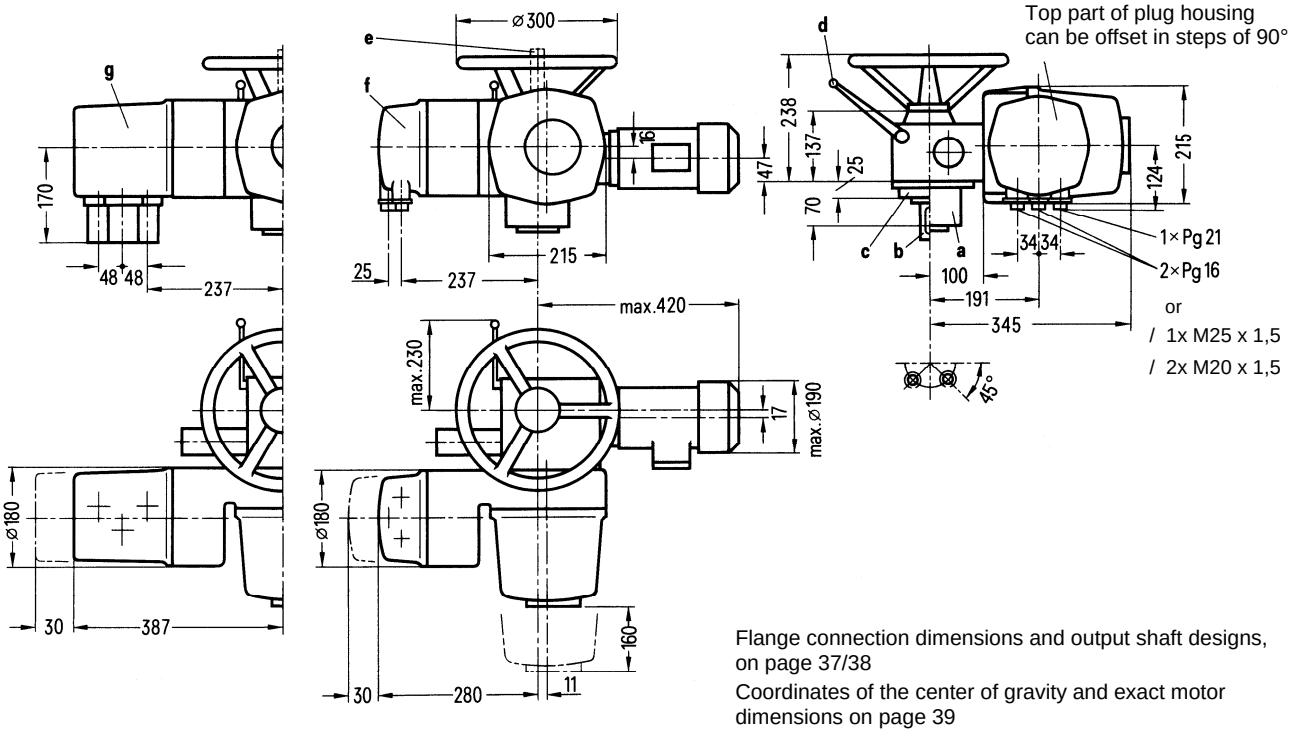
Fig. 6 Electric rotary actuators M76361 – C and M76371 – C, size 0 to DIN 3210 / F10 to EN ISO 5210

Rotary actuator M76361 - E, S – SIWI series



a Output shaft designs B / B1 and C
b Output shaft design D
c Output shaft design E / B3
d Switching lever for motorized / manual operation
e Stem protection tube (if applicable) with output shaft designs B / B1 and C
f Plug with cable inlets via metal screwed glands to DIN 46320 / EN 50262
g Plug with qualified cable inlets

Rotary actuator M76371 - E, S – SIWI – AS series

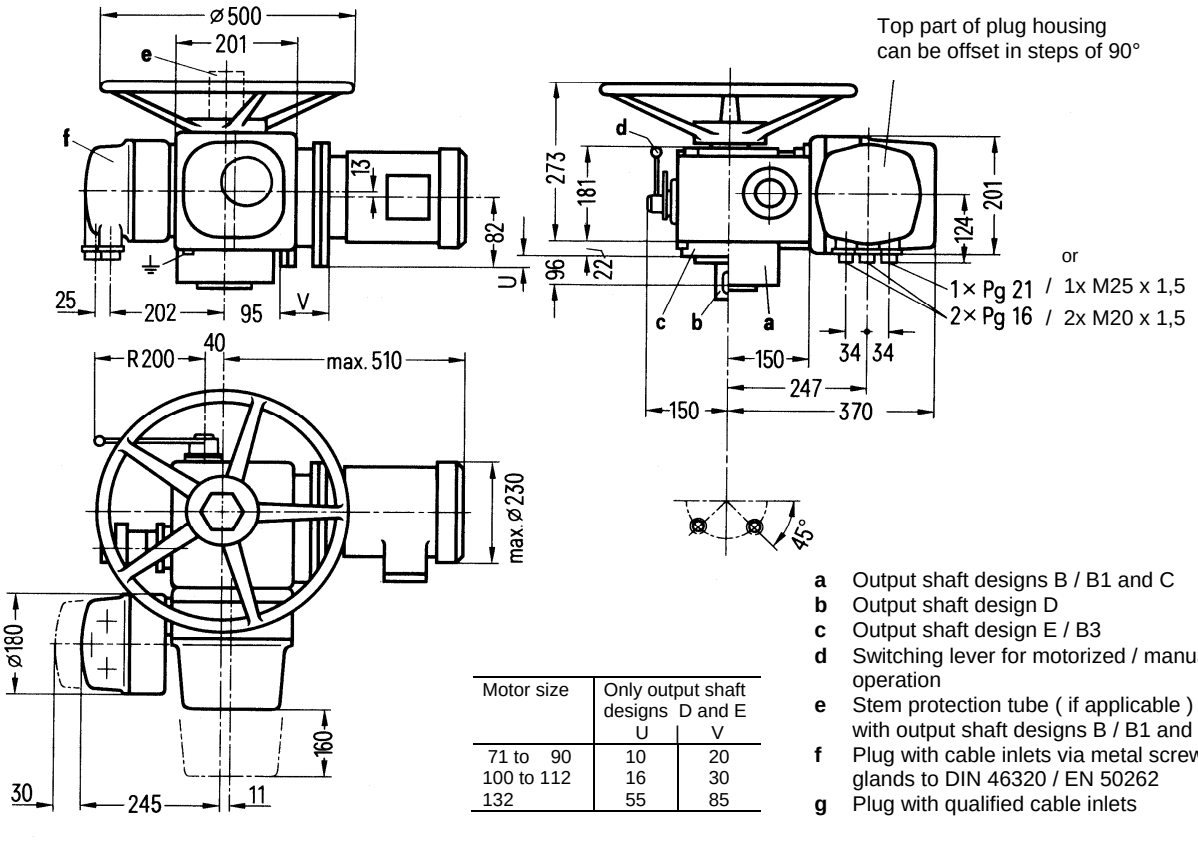


Flange connection dimensions and output shaft designs, on page 37/38

Coordinates of the center of gravity and exact motor dimensions on page 39

Fig. 7 Electric rotary actuators M76361 – E and M76371 – E, size 0 to DIN 3210 / F10 to EN ISO 5210

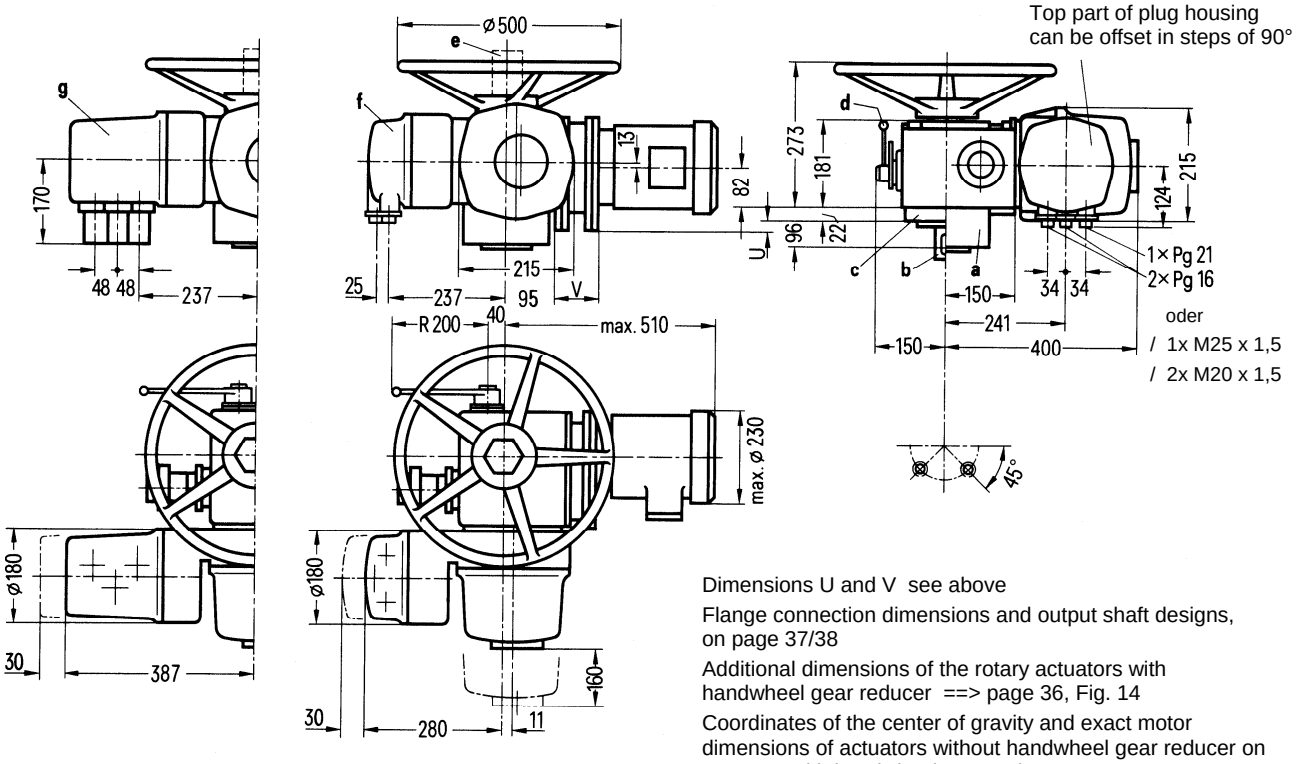
Rotary actuator M76361 – F, S – SIWI series



Motor size	Only output shaft designs D and E	
	U	V
71 to 90	10	20
100 to 112	16	30
132	55	85

a Output shaft designs B / B1 and C
b Output shaft design D
c Output shaft design E / B3
d Switching lever for motorized / manual operation
e Stem protection tube (if applicable) with output shaft designs B / B1 and C
f Plug with cable inlets via metal screwed glands to DIN 46320 / EN 50262
g Plug with qualified cable inlets

Rotary actuator M76371 – F, S – SIWI – AS series



Dimensions U and V see above

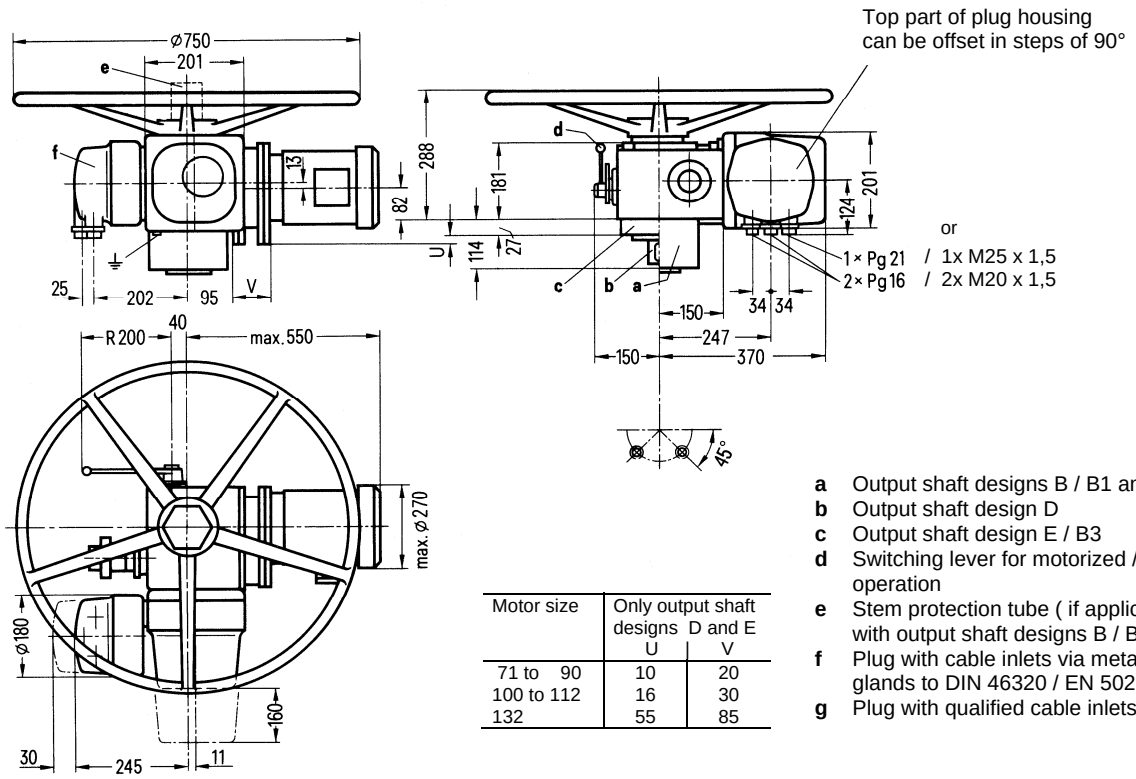
Flange connection dimensions and output shaft designs, on page 37/38

Additional dimensions of the rotary actuators with handwheel gear reducer ==> page 36, Fig. 14

Coordinates of the center of gravity and exact motor dimensions of actuators without handwheel gear reducer on page 39, with handwheel gear reducer on page 41

Fig. 8 Electric rotary actuators M76361 – F and M76371 – F, size 1/2 to DIN 3210 / F14 to EN ISO 5210

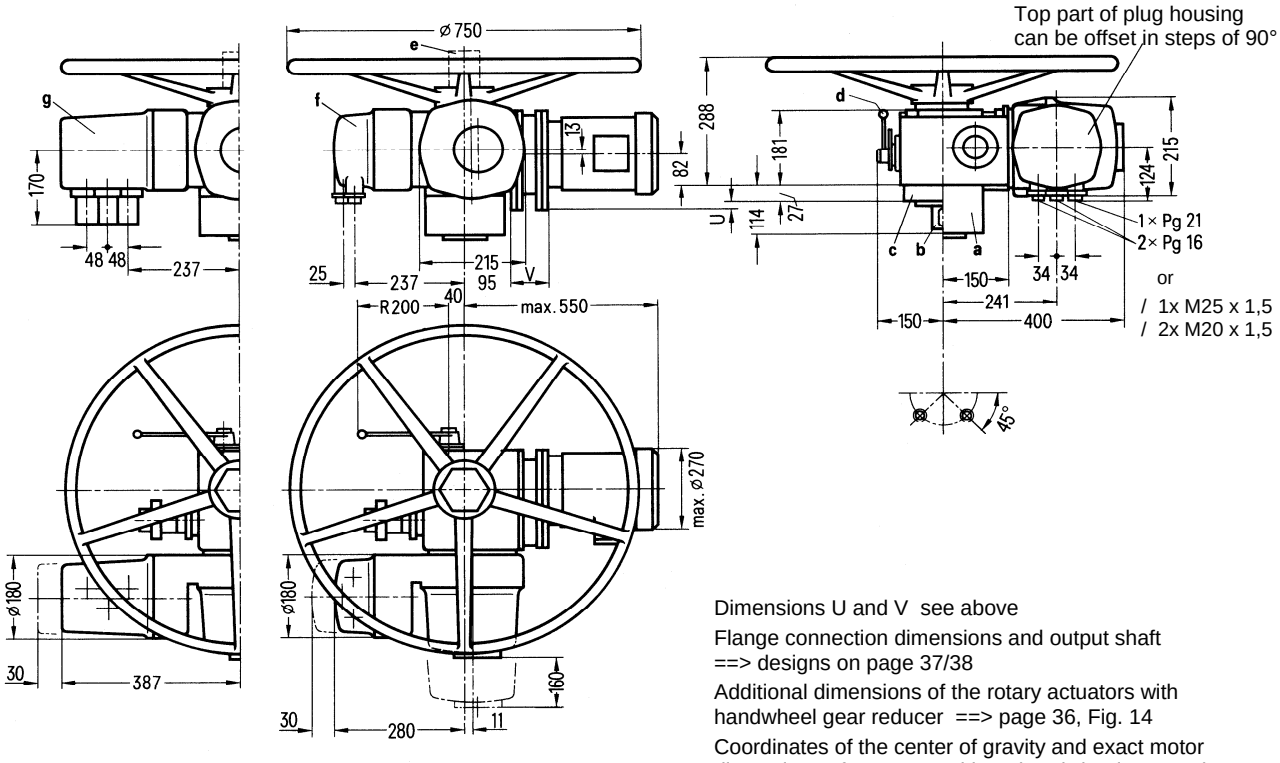
Rotary actuator M76361 – G, S – SIWI series



Motor size	Only output shaft designs D and E	
	U	V
71 to 90	10	20
100 to 112	16	30
132	55	85

a Output shaft designs B / B1 and C
b Output shaft design D
c Output shaft design E / B3
d Switching lever for motorized / manual operation
e Stem protection tube (if applicable) with output shaft designs B / B1 and C
f Plug with cable inlets via metal screwed glands to DIN 46320 / EN 50262
g Plug with qualified cable inlets

Rotary actuator M76371 – G, S – SIWI – AS series



Dimensions U and V see above

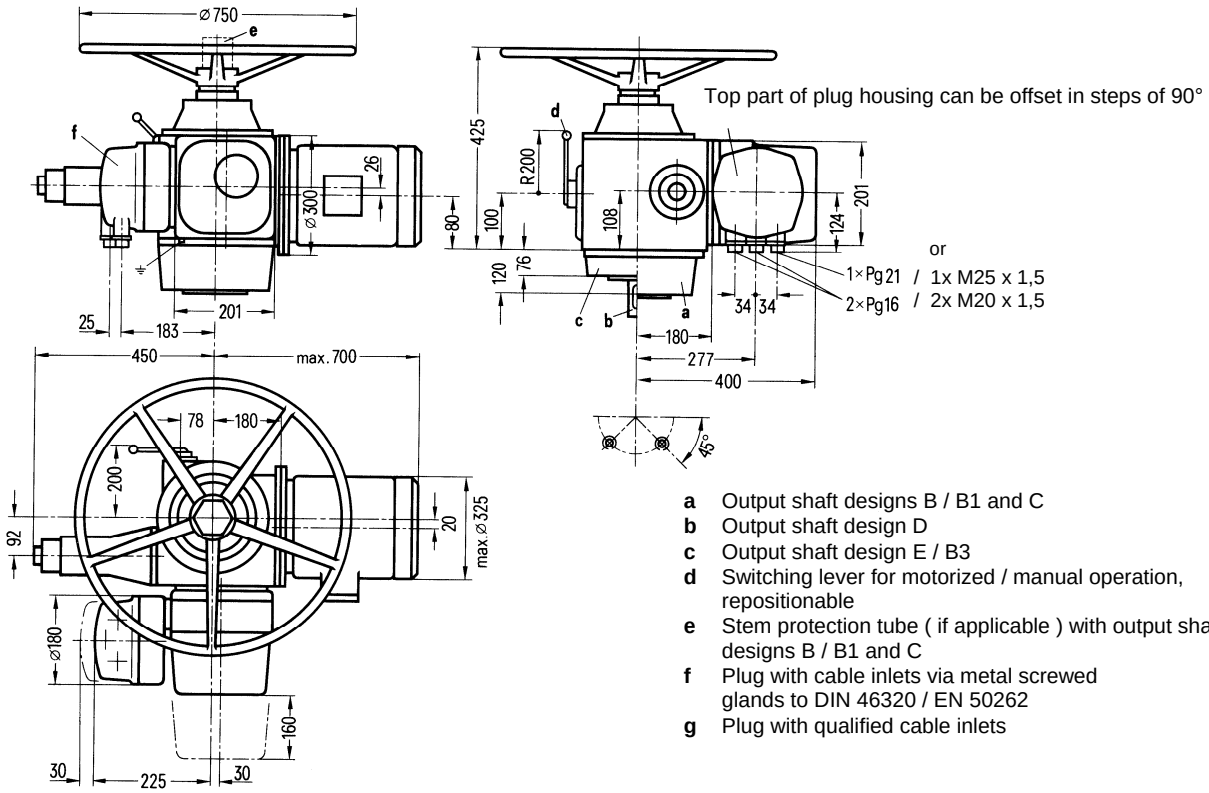
Flange connection dimensions and output shaft ==> designs on page 37/38

Additional dimensions of the rotary actuators with handwheel gear reducer ==> page 36, Fig. 14

Coordinates of the center of gravity and exact motor dimensions of actuators without handwheel gear reducer on page 40, with handwheel gear reducer on page 41

Fig. 9 Electric rotary actuators M76361 – G and M76371 – G, size 3 to DIN 3210 / F16 to EN ISO 5210

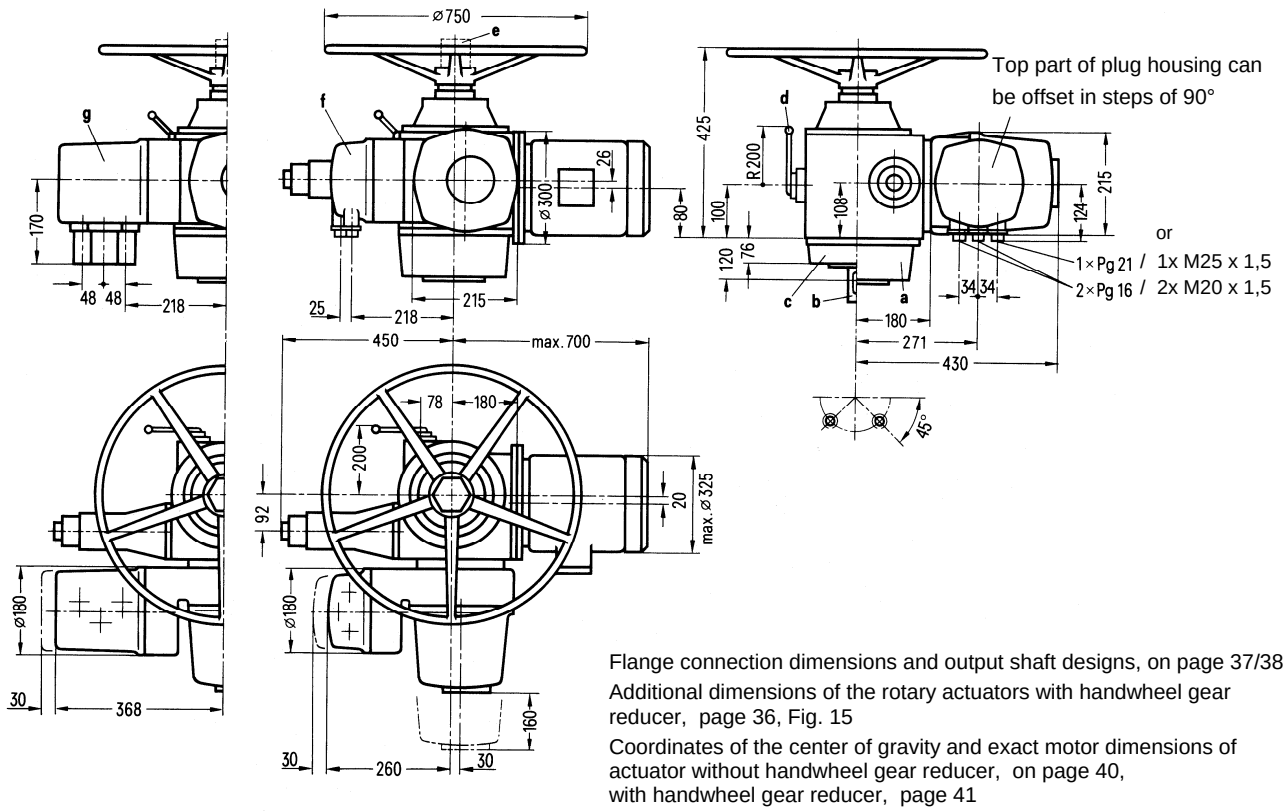
Rotary actuator M76361 – M, S – SIWI series



Top part of plug housing can be offset in steps of 90°

a Output shaft designs B / B1 and C
b Output shaft design D
c Output shaft design E / B3
d Switching lever for motorized / manual operation, repositionable
e Stem protection tube (if applicable) with output shaft designs B / B1 and C
f Plug with cable inlets via metal screwed glands to DIN 46320 / EN 50262
g Plug with qualified cable inlets

Rotary actuator M76371 – M, S – SIWI – AS series



Top part of plug housing can be offset in steps of 90°

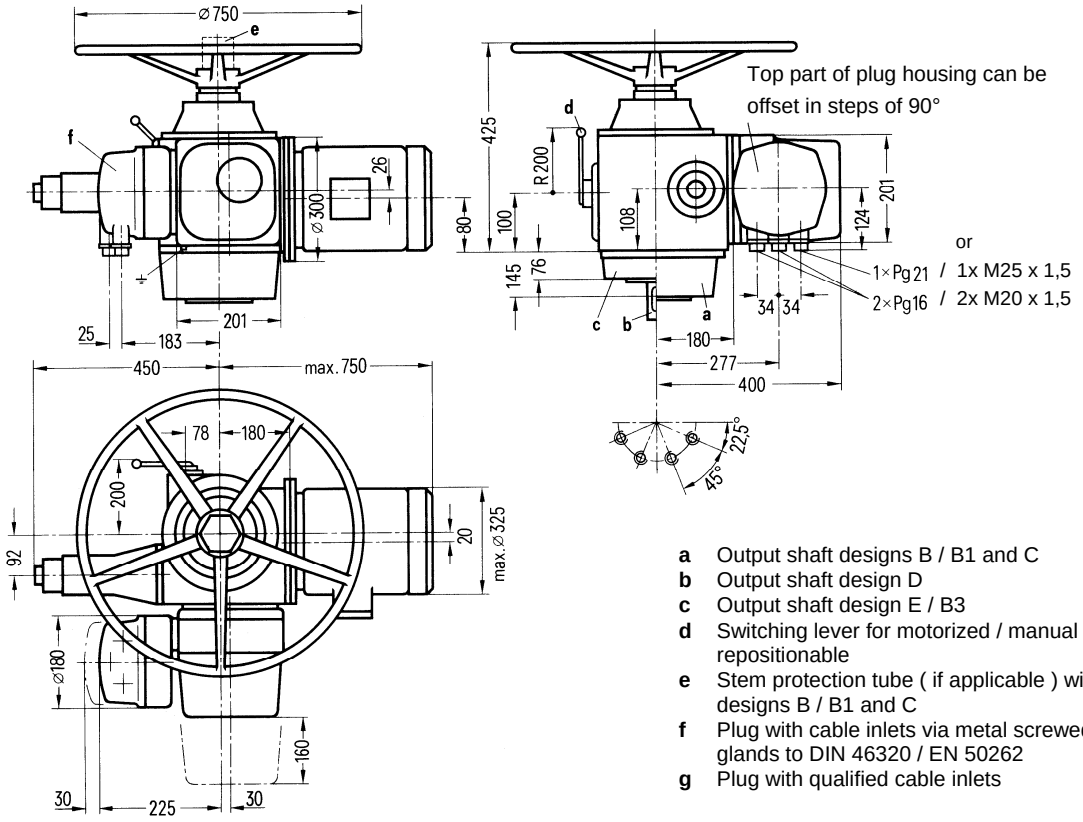
Flange connection dimensions and output shaft designs, on page 37/38

Additional dimensions of the rotary actuators with handwheel gear reducer, page 36, Fig. 15

Coordinates of the center of gravity and exact motor dimensions of actuator without handwheel gear reducer, on page 40,
with handwheel gear reducer, page 41

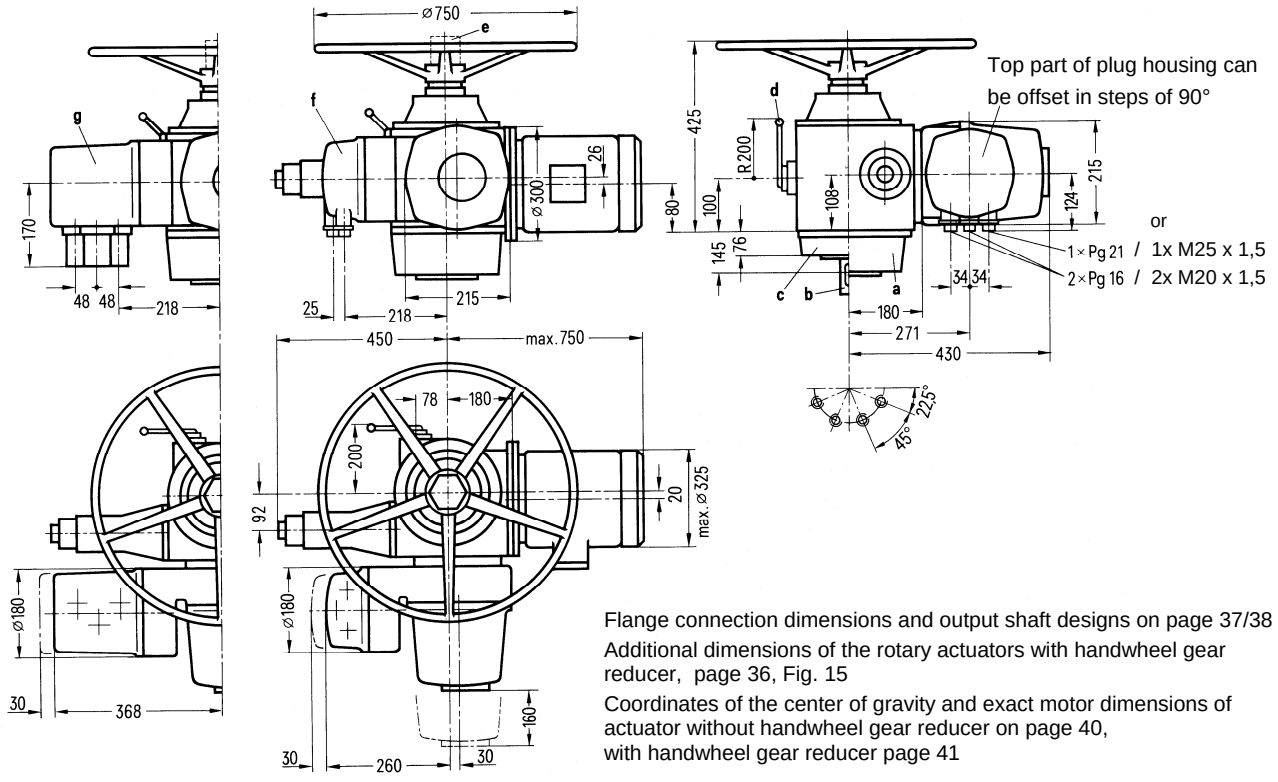
Fig. 10 Electric rotary actuators M76361 – M and M76371 – M, size 3 to DIN 3210 / F16 to EN ISO 5210

Rotary actuator M76361 – N, S – SIWI series



a Output shaft designs B / B1 and C
b Output shaft design D
c Output shaft design E / B3
d Switching lever for motorized / manual operation, repositionable
e Stem protection tube (if applicable) with output shaft designs B / B1 and C
f Plug with cable inlets via metal screwed glands to DIN 46320 / EN 50262
g Plug with qualified cable inlets

Rotary actuator M76371 – N, S – SIWI – AS series



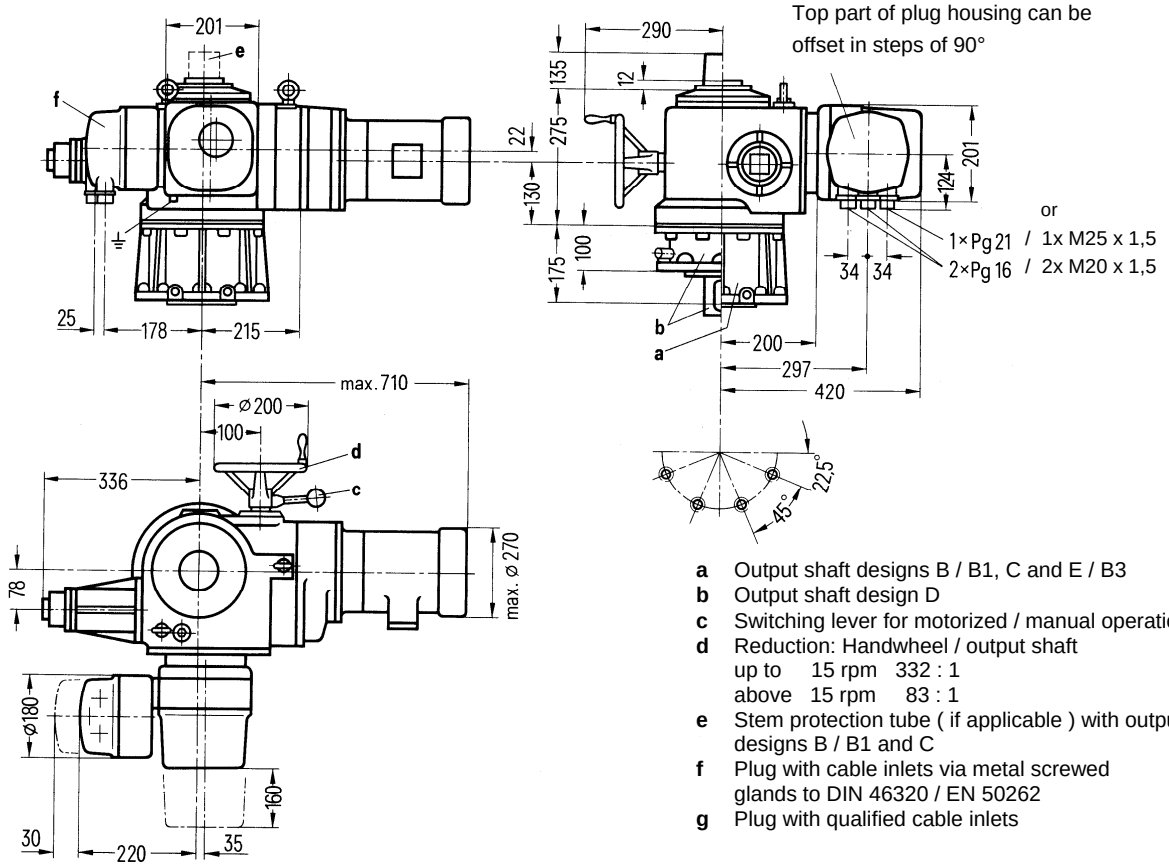
Flange connection dimensions and output shaft designs on page 37/38

Additional dimensions of the rotary actuators with handwheel gear reducer, page 36, Fig. 15

Coordinates of the center of gravity and exact motor dimensions of actuator without handwheel gear reducer on page 40, with handwheel gear reducer page 41

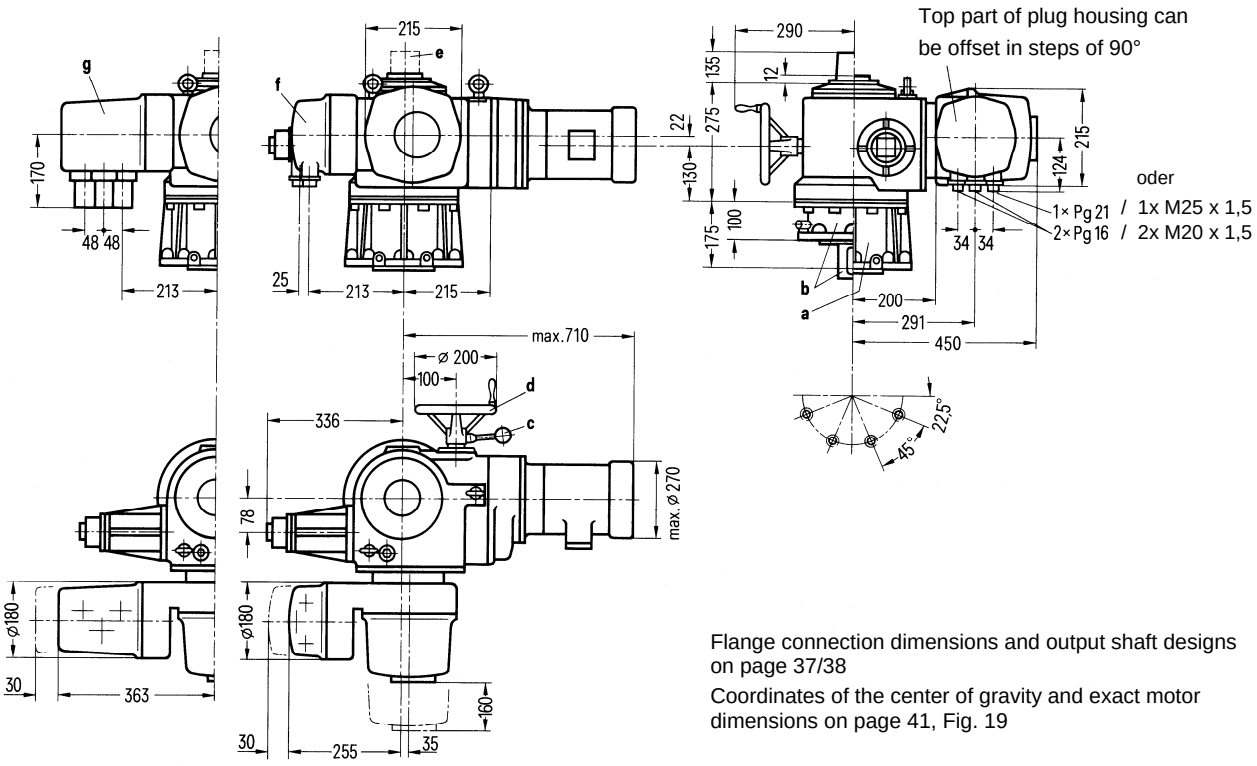
Fig. 11 Electric rotary actuators M76361 – N and M76371 – N, size 4 to DIN 3210 / F25 to EN ISO 5210

Rotary actuator M76361 – S, S – SIWI series



a Output shaft designs B / B1, C and E / B3
b Output shaft design D
c Switching lever for motorized / manual operation
d Reduction: Handwheel / output shaft
up to 15 rpm 332 : 1
above 15 rpm 83 : 1
e Stem protection tube (if applicable) with output shaft designs B / B1 and C
f Plug with cable inlets via metal screwed glands to DIN 46320 / EN 50262
g Plug with qualified cable inlets

Rotary actuator M76371 – S, S – SIWI – AS series

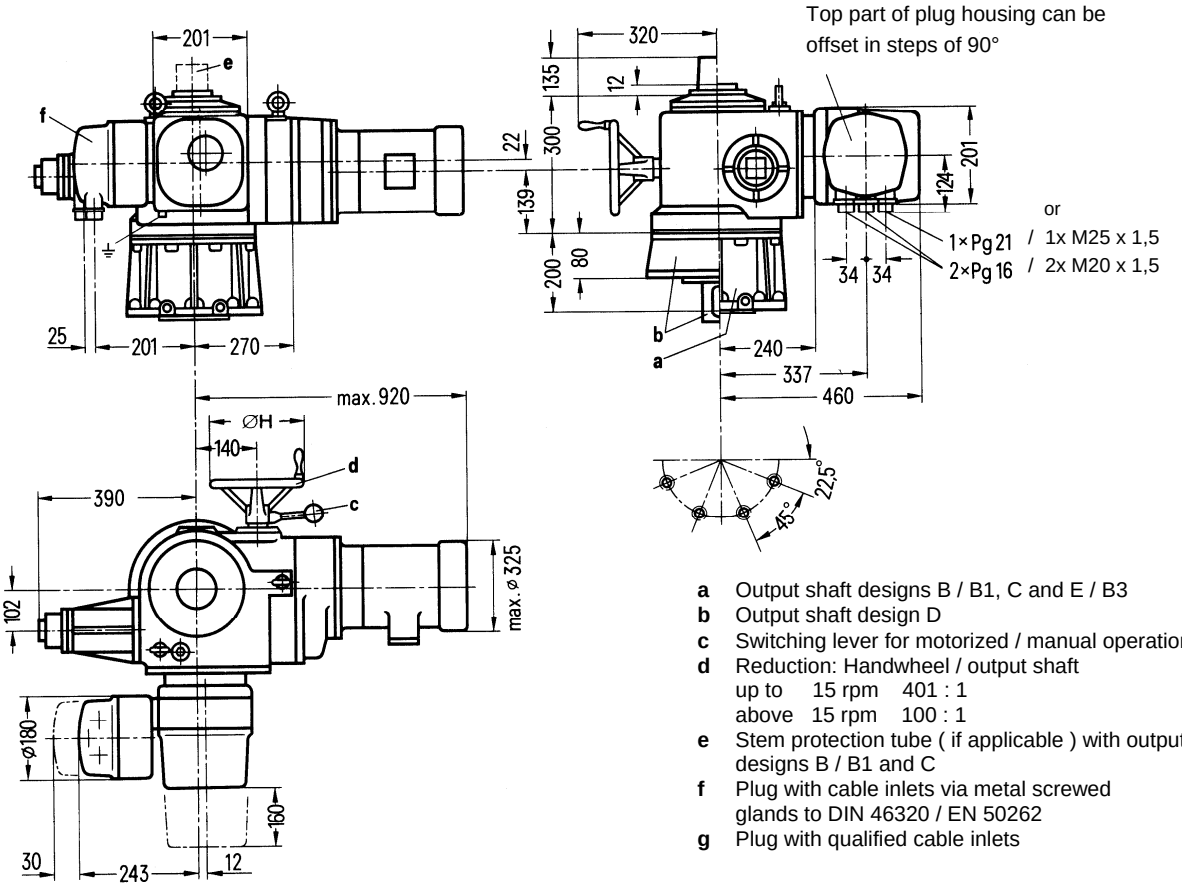


Flange connection dimensions and output shaft designs on page 37/38

Coordinates of the center of gravity and exact motor dimensions on page 41, Fig. 19

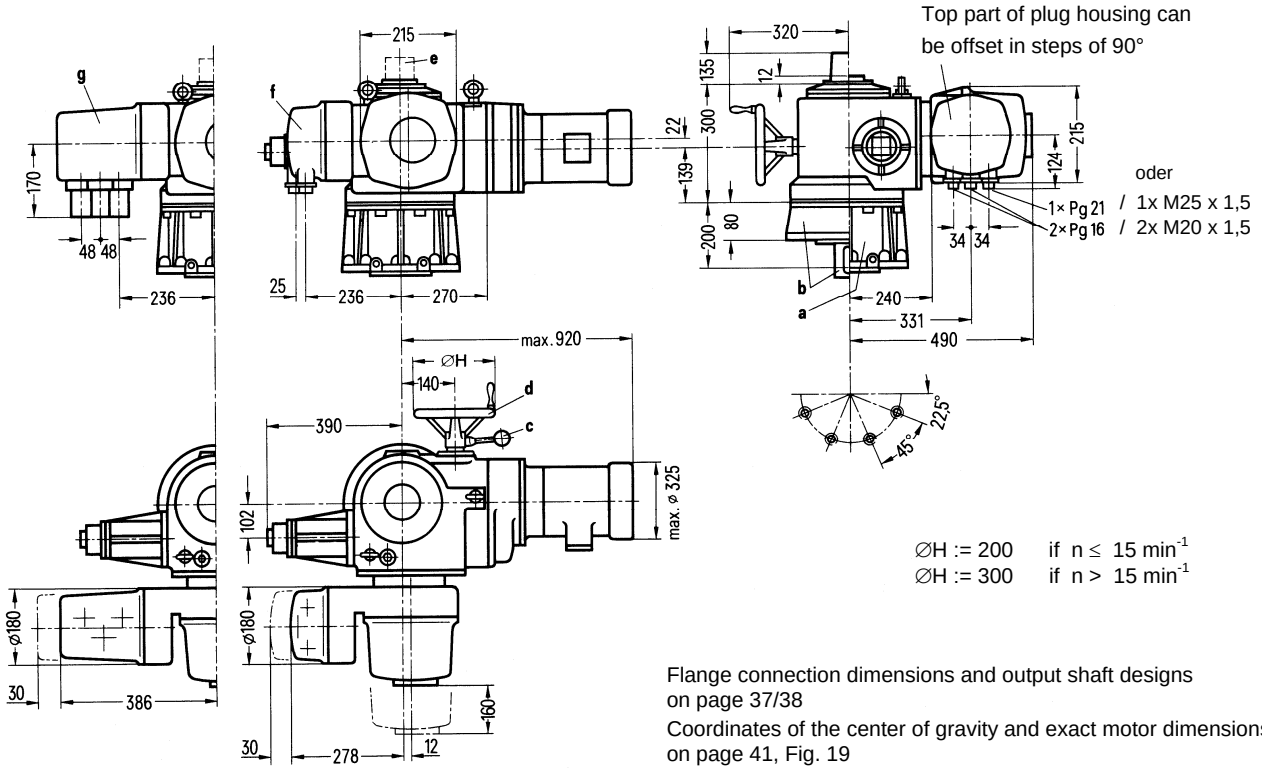
Fig. 12 Electric rotary actuators M76361 – S and M76371 – S, size 4 to DIN 3210 / F25 to EN ISO 5210

Rotary actuator M76361 – U, S – SIWI series



a Output shaft designs B / B1, C and E / B3
b Output shaft design D
c Switching lever for motorized / manual operation
d Reduction: Handwheel / output shaft
up to 15 rpm 401 : 1
above 15 rpm 100 : 1
e Stem protection tube (if applicable) with output shaft designs B / B1 and C
f Plug with cable inlets via metal screwed glands to DIN 46320 / EN 50262
g Plug with qualified cable inlets

Rotary actuator M76371 – U, S – SIWI – AS series



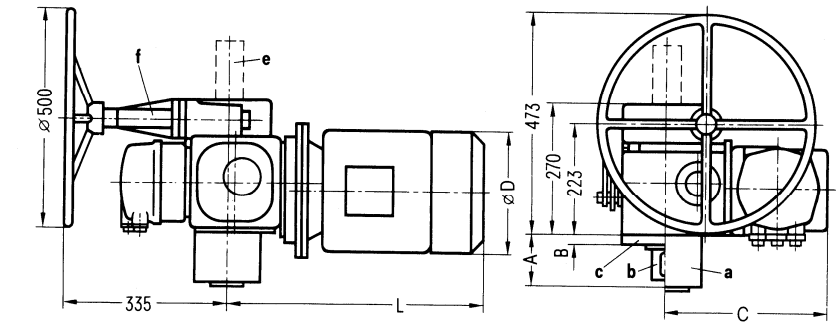
∅H := 200 if n ≤ 15 min^{-1}
∅H := 300 if n > 15 min^{-1}

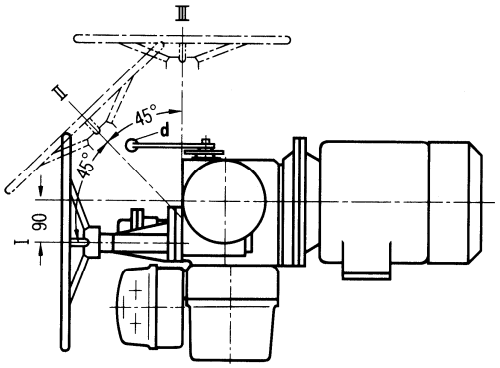
Flange connection dimensions and output shaft designs on page 37/38
Coordinates of the center of gravity and exact motor dimensions on page 41, Fig. 19

Fig. 13 Electric rotary actuators M76361 – U and M76371 – U, size 5 to DIN 3210 / F30 to EN ISO 5210

The Figs. below contain the dimensions applicable to the handwheel gear reducer and a few other dimensions. Other dimensions of the rotary actuators on page 30 to 33.	Flange, connection dimensions and output shaft designs on page 37 / 38. Coordinates of center of gravity and exact motor dimensions on page 41.

Rotary actuator M76361 – F, - G, S–SIWI series and M76371 – F, - G, S-SIWI-AS series
with handwheel gear reducer (repositionable; possible positions : I, II and III)





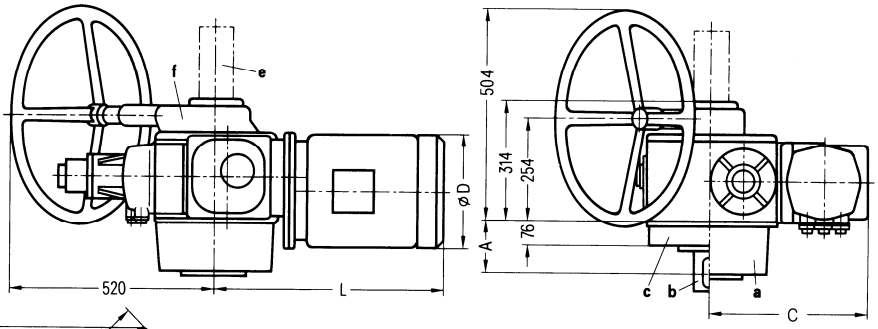
Reduction ratio
Handwheel to output shaft = 13 : 1
Gear efficiency $\eta = 0,45$

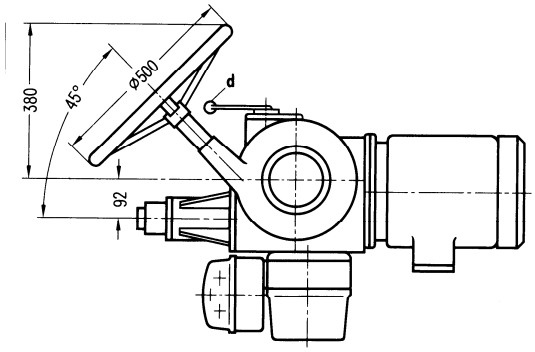
Rotary actuator Type	Size to DIN 3210 / EN ISO 5210	A	B	C	D max.	L max.
M76361 - F	½ / F14	96	22	370	230	510
M76371 - F				400		
M76361 - G	3 / F16	114	27	370	270	550
M76371 - G				400		

a Output shaft designs B / B1 and C
b Output shaft design D
c Output shaft design E / B3
d Switching lever for motorized / manual operation repositionable
e Stem protection tube (if applicable) with output shaft designs B / B1 and C
f Handwheel gear reducer

Fig. 14 Electric rotary actuators M76361 – F, - G and M76371 – F, - G with handwheel gear reducer

Rotary actuator M76361 – M, - N, S–SIWI series, and M76371 – M, - N, S-SIWI-AS series
with handwheel gear reducer (not repositionable)





Reduction ratio
Handwheel to output shaft = 18,5 : 1
Gear efficiency $\eta = 0,6$

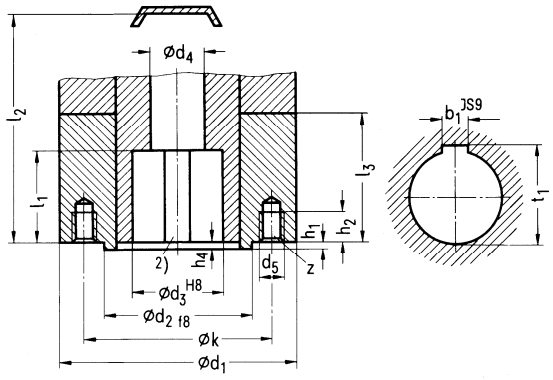
Rotary actuator Type	Size to DIN 3210 / EN ISO 5210	A	C	D max.	L max.
M76361 - M	3	120	400	325	700
M76371 - M			430		
M76361 - N	4	145	400	325	750
M76371 - N			430		

a Output shaft designs B / B1 and C
b Output shaft design D
c Output shaft design E / B3
d Switching lever for motorized / manual operation repositionable
e Stem protection tube (if applicable) with output shaft designs B / B1 and C
f Handwheel gear reducer

Fig. 15 Electric rotary actuators M76361 – M, - N and M76371 – M, - N with handwheel gear reducer

See design B for missing dimensions in designs C, D and E

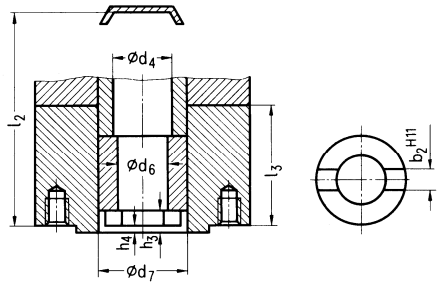
Design B : Hollow shaft with insert bush



Rotary actuator type M76361 - M76371 -	Size	d_1	k	d_2	d_3	d_4	d_5	$z^{1)}$	h_1	h_2	h_4	l_1	l_2	l_3	b_1	t_1
- C	0	125	102	60	42	28	M10	4	3	15	3	45	195	58	12	45,3
- E						36							210	70		
- F	½	175	140	100	60	53	M16	4	4	22	2	64	320	96	18	64,4
- G	3	205	165	130	80	53	M20	4	4	28	2	78	340	114	22	85,4
- M						72			5	30	4	89	480	120		
- N	4	300	254	160	100	72	M16	8	5	24	4	110	505	145	28	106,4
- S						64				24	1	116	450	175		106,2
- U	5	350	300	180	120	75	M20	8	5	30	1	130	500	200	32	127,1

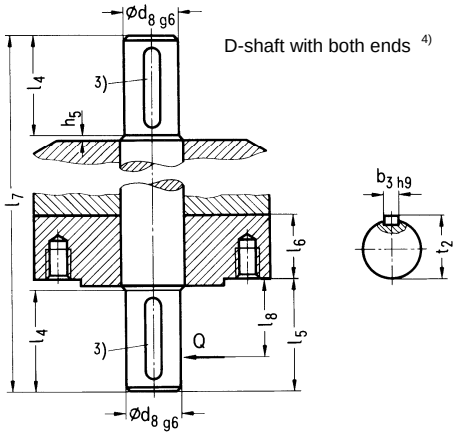
1) Number of threaded bores d_5; arrangement to DIN 2501, sheet 1
2) Groove for featherkey A DIN 6885, sheet 1

Design C : Hollow shaft with claw coupling



Type M76361 - M76371 -	Size	d_4	d_6	d_7	h_3	h_4	l_2	l_3	b_2
- C	0	28	28	42	10	3	195	58	14
- E		36	28	55			210	70	
- F	½	53	38	74	12	2	320	96	20
- G	3	53	53	104	15	2	340	114	24
- M		72	50	80	18	4	480	120	
- N	4	72	64	100	21	4	505	145	30
- S		64	63		16	1	450	175	
- U	5	75	74	120	18	1	500	200	40

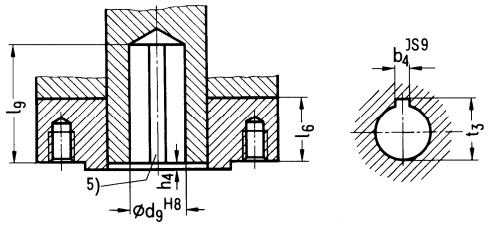
Design D : Free shaft end with featherkey



Type M76361 - M76371 -	Size	d_8	h_5	l_4	l_5	l_6	l_7	l_8	b_3	t_2	Q [kN]
- C	0	20	2	50	55	0	262	40	6	22,5	1,5
- E						25	288				2,5
- F	½	30	4	70	76	22	412	60	8	33	7
- G	3	40	5	90	96	27	458	80	12	43	12
- M			-			76	-				
- N	4	50	-	110	117	76	-	100	14	53,5	15
- S			2			100	609				
- U	5	60	2	120	127	80	644	110	18	64,2	18

3) Featherkey A DIN 6885, sheet 1
4) Not with rotary actuators M76361-M, -N and M76371-M, -N
Q Maximum permissible transverse load

Design E : Bore with featherkey slot



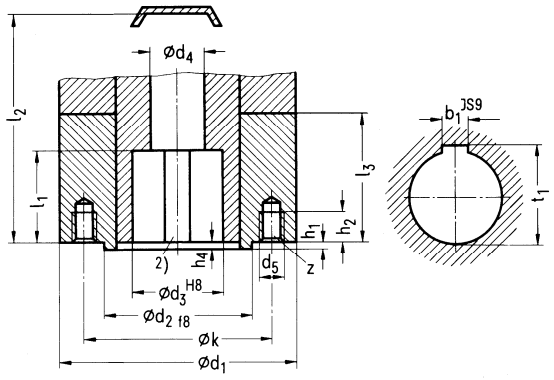
Type M76361 - M76371 -	Size	d_9	h_4	l_6	l_9	b_4	t_3
- C	0	20	2	0	55	6	22,8
- E				25			
- F	½	30	2	22	74	8	33,3
- G	3	40	2	27	95	12	43,3
- M				76	112		
- N	4	50	2	76	120	14	53,8
- S			1	175	107		
- U	5	60	1	200	118	18	64,4

5) Slot for featherkey A DIN 6885, sheet 1

Fig. 16 / a Flange connection dimensions and output shaft designs to DIN 3210

See design B1 for missing dimensions in designs C and B3

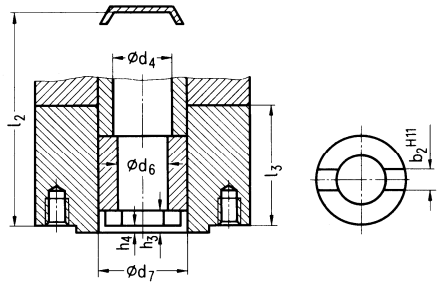
Design B1 : Hollow shaft with insert bush



Rotary actuator type M76361 - M76371 -	Size	d_1	k	d_2	d_3	d_4	d_5	$z^{1)}$	h_1	h_2	h_4	l_1	l_2	l_3	b_1	t_1
- C	F10	125	102	70	42	28	M10	4	3	15	3	45	195	58	12	45,3
- E						36							210	70		
- F	F14	175	140	100	60	53	M16	4	4	22	2	64	320	96	18	64,4
- G	F16	205	165	130	80	53	M20	4	4	28	2	78	340	114	22	85,4
- M						72			5	30	4	89	480	120		
- N	F25	300	254	200	100	72	M16	8	5	24	4	110	505	145	28	106,4
- S						64				24	1	116	450	175		106,2
- U	F30	350	298	230	120	75	M20	8	5	30	1	130	500	200	32	127,1

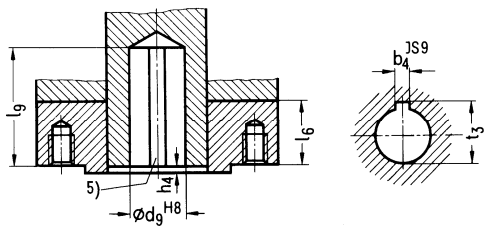
3) Number of threaded bores d_5; arrangement to DIN 2501, sheet 1
4) Groove for featherkey A DIN 6885, sheet 1

Design C : Hollow shaft with claw coupling (DIN 3338)



Type M76361 - M76371 -	Size	d_4	d_6	d_7	h_3	h_4	l_2	l_3	b_2
- C	F10	28	28	42	10	3	195	58	14
- E		36	28	55			210	70	
- F	F14	53	38	74	12	2	320	96	20
- G	F16	53	53	104	15	2	340	114	24
- M		72	50	80	18	4	480	120	
- N	F25	72	64	100	21	4	505	145	30
- S		64	63		16	1	450	175	
- U	F30	75	74	120	18	1	500	200	40

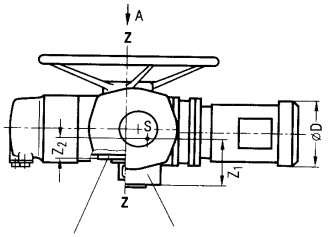
Design B3 : Bore with featherkey slot



Type M76361 - M76371 -	Size	d_9	h_4	l_6	l_9	b_4	t_3
- C	F10	20	2	0	55	6	22,8
- E				25			
- F	F14	30	2	22	74	8	33,3
- G	F16	40	2	27	95	12	43,3
- M				76	112		
- N	F25	50	2	76	120	14	53,8
- S			1	175	107		
- U	F30	60	1	200	118	18	64,4

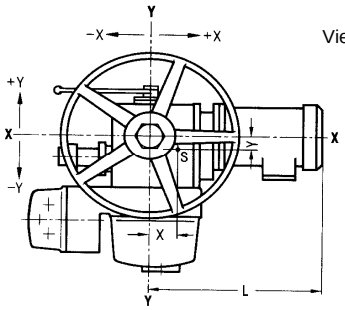
6) Slot for featherkey A DIN 6885, sheet 1

Fig. 16 / b Flange connection dimensions and output shaft designs to EN ISO 5210



Output shaft designs
D and E / B3

Output shaft designs
B / B1 and C

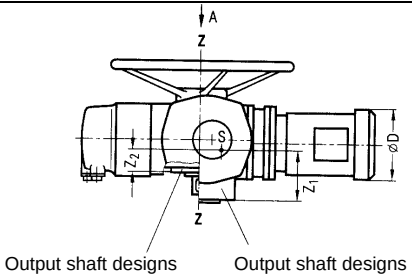


S = center of gravity

xxx : measured value yyy : calculated value [1)] (Index [1)] : see page 40)

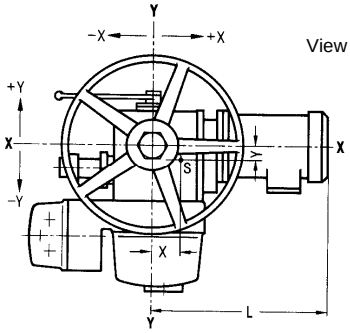
Actuator type			Center of gravity M76361- … - Z R04				M76371 - … - Z R04				M76371 - … - Z R08 / R09				Motor dimension	
			X	Y	Z1	Z2	X	Y	Z1	Z2	X	Y	Z1	Z2	D	L
C12*1	C13*2															
C12*2	C13*3	C13*4	25	-60	125	75	-20	-60	125	75	-45	-75	130	80	110	265
C13*1															125	280
C14*3	C15*5	C17*6														
C14*4	C15*6		20	-50	125	75	10	-65	125	75	-20	-70	125	75	110	240
C14*5	C16*6															
C14*1	C16*4	C18*5														
C14*2	C16*5	C18*6	25	-55	125	75	15	-60	120	70	-20	-70	125	80	125	260
C15*3	C17*4															
C15*4	C17*5															
C15*2	C17*3	C19*4														
C16*3	C18*3	C19*5	30	-65	130	80	25	-60	120	70	-10	-75	125	80	125	260
C17*2	C18*4	C21*5														
C15*1	C17*1	C20*5														
C16*1	C18*2	C21*4	40	-60	125	75	30	-60	125	75	-10	-70	125	75	140	275
C16*2	C19*3	C22*5														
C18*1	C20*3	C21*3														
C19*1	C20*4	C22*2														
C19*2	C21*1	C22*3	40	-60	125	75	35	-65	125	75	-10	-70	125	75	140	275
C20*2	C21*2	C22*4														
C20*1	C22*1		55	-45	120	70	45	-55	125	75	20	-65	130	80	160	310
E12*1	E12*2		35	-55	135	95	20	-70	130	90	-5	-75	135	95	125	300
E12*3			35	-55	135	95	25	-60	130	90	-10	-65	130	90	110	290
E14*3	E14*4		35	-55	135	95	20	-70	130	90	-10	-75	135	95	125	280
E13*4	E15*2	E18*2														
E14*1	E15*3	E18*3														
E14*2	E16*2	E19*3	35	-50	135	95	35	-55	140	100	20	-70	135	95	140	300
E15*1	E16*3															
E13*1	E17*2	E19*2														
E13*2	E17*3	E20*3														
E13*3	E18*1	E20*4	55	-50	135	95	50	-55	135	95	40	-65	135	95	160	335
E16*1	E19*1	E22*3														
E17*1	E21*3	E22*2														
E20*2	E22*1		65	-55	135	95	60	-60	140	100	40	-70	135	95	160	335
E20*1	E21*2		80	-50	135	95	65	-55	140	100	45	-65	135	95	180	370
E21*1			90	-50	135	95	75	-55	140	100	60	-65	135	95	180	370
F12*3	F12*4														125	370
F12*1	F13*2	F14*3														
F12*2	F13*3		40	-60	200	140	40	-65	180	120	35	-70	175	115	140	380
F13*1	F14*2															
F14*1			55	-45	200	140	45	-65	180	120	40	-70	175	115	160	400
F15*3			60	-20	200	140	50	-35	200	140	40	-40	200	135	140	370
F15*1	F16*4	F18*4														
F15*2	F17*3	F19*3														
F16*1	F17*4	F19*4	50	-45	200	140	45	-50	190	130	35	-60	185	125	160	370
F16*2	F18*2	F20*4														
F16*3	F18*3															
F17*2	F19*2															
F18*1	F20*3		60	-40	200	140	55	-50	200	140	35	-65	190	130	180	410
F17*1	F20*2	F22*2														
F19*1	F21*4	F22*4	80	-40	200	140	65	-50	200	140	50	-55	190	130	180	410
F20*1	F21*2	F22*3	100	-45	185	125	100	-45	200	140	90	-50	200	140	200	430
F21*1	F21*3		100	-40	185	125	100	-40	190	125	80	-60	200	135	200	430
F22*1			135	-40	205	145	125	-40	205	140	110	-45	200	135	220	450

Fig. 17 Coordinates of center of gravity and motor dimensions of the electric rotary actuators M76361 - C to - F and M76371 - C to - F (without handwheel gear reducer)



Output shaft designs
D and E / B3

Output shaft designs
B / B1 and C



S = Center of gravity

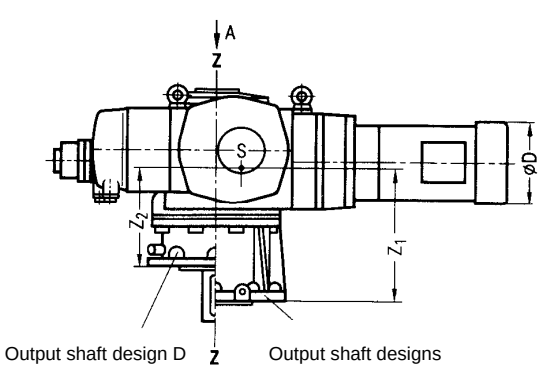
xxx : measured value yyy : calculated value [1)]

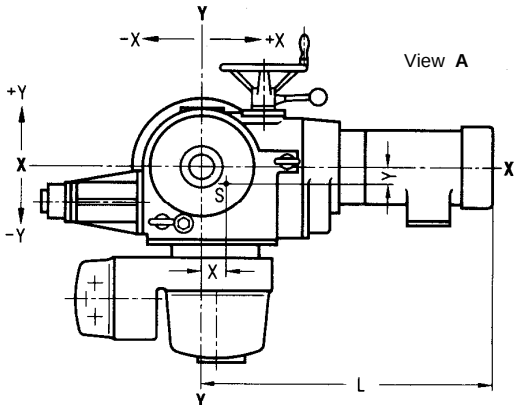
Actuator type			Center of gravity M76361- … - Z R04				Center of gravity M76371 - … - Z R04				Center of gravity M76371 - … - Z R08 / R09				Motor dimension	
			X	Y	Z1	Z2	X	Y	Z1	Z2	X	Y	Z1	Z2	D	L
G12*1	G12*2	G12*3														
G13*3			**40**	**-55**	**205**	**135**									140	380
G13*1	G14*1	G14*3														
G13*2	G14*2						**55**	**-65**	**200**	**135**	**45**	**-75**	**200**	**135**	160	400
G15*2	G16*3															
G15*3	G18*3		50	-40	210	150	30	-60	200	135	20	-65	200	135	160	370
G15*1	G16*2	G18*2	60	-50	205	140	50	-60	200	130	40	-65	200	130	180	410
G16*1	G17*3	G19*2														
G17*2	G18*1	G19*4	65	-45	205	140	**55**	**-50**	**200**	**130**	**45**	**-60**	**200**	**130**	180	410
G17*1	G20*3		90	-55	200	130	80	-60	200	130	70	-65	195	125	200	430
G19*3	G20*2	G22*3														
G20*1	G21*3		95	-50	200	130	85	-55	200	130	75	-60	195	125	200	430
G19*1			110	-45	200	130	**100**	**-50**	**200**	**130**	**90**	**-55**	**195**	**125**	220	450
G21*1	G21*2	G22*2	120	-45	210	140	110	-50	210	140	100	-55	200	130	220	450
G22*1			175	-30	210	140	165	-35	210	140	155	-40	205	135	260	480
M15*2	M15*3	M16*3	25	-50	250	205	15	-50	250	205	15	-50	260	215	180	450
M12*1	M13*3	M17*2														
M12*2	M14*3	M17*4														
M12*3	M15*1	M18*3	50	-40	240	195	**45**	**-40**	**240**	**195**	**40**	**-45**	**235**	**190**	200	470
M13*2	M16*2	M20*3														
M16*1	M18*4	M19*3														
M17*3			70	-55	240	195	**50**	**-40**	**240**	**195**	**45**	**-45**	**235**	**190**	200	470
M13*1	M14*1	M14*2	**60**	**-40**	**235**	**190**	90	-50	240	195	85	-50	240	195	220	485
M17*1	M19*2	M21*3														
M18*1	M20*1	M21*4	**60**	**-40**	**235**	**190**	90	-50	240	195	85	-50	240	195	220	485
M18*2	M20*2															
M19*1	M22*4		90	-40	235	190	95	-40	235	190	90	-45	230	185	260	530
M21*1	M22*2															
M21*2	M22*3		95	-40	235	190	100	-40	235	190	95	-45	230	185	260	530
M22*1			185	-20	235	190	190	-20	240	195	185	-25	235	190	320	620
N12*2	N15*2	N16*2														
N12*3	N15*3	N16*3	65	-55	240	185	65	-55	280	220	65	-55	285	225	200	470
N15*1																
N12*1	N13*2	N14*3														
	N13*3														220	485
N16*1	N18*3	N20*3														
N17*1	N19*1		65	-45	225	165	**85**	**-45**	**250**	**190**	**80**	**-45**	**250**	**190**	220	485
N17*2	N19*2															
N13*1	N18*1	N20*2														
N14*2	N18*2	N21*2	105	-40	230	170	110	-45	275	215	105	-50	280	220	260	490
	N20*1	N21*3														
N14*1			135	-40	235	180	130	-40	245	190	125	-45	245	190	260	530
N21*1	N22*2	N22*3	200	-25	245	185	205	-30	255	195	200	-35	255	195	320	630
N22*1							**230**	**-20**	**250**	**190**	**225**	**-20**	**250**	**190**	320	670

Fig. 18 Coordinates of center of gravity and motor dimensions of the electric rotary actuators M76361 – G to - N and M76371 – G to - N without handwheel gear reducer

[1)] : In the valve calculation the coordinates of center of gravity have to be considered with an additional factor of **1.1** !

Coordinates of center of gravity and motor dimensions
of the electric rotary actuators M76361 – S, - U and M76371 – S, - U





S = Center of gravity

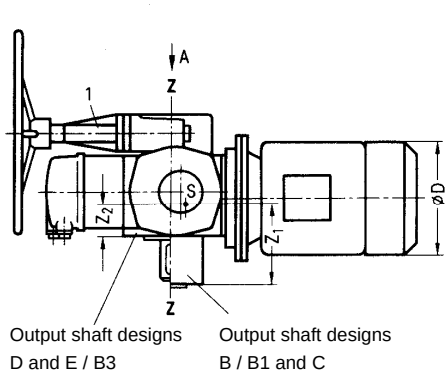
xxx : measured value yyy : calculated value [1)]

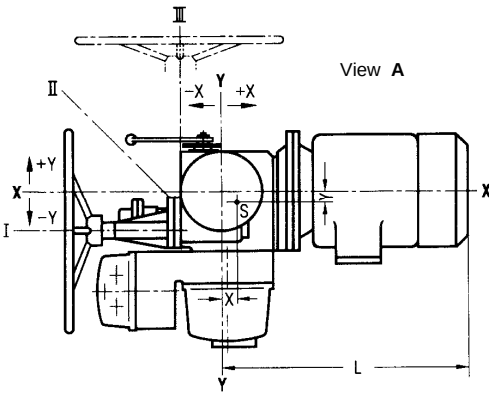
Actuator type			Center of gravity M76361- … - Z R04				M76371 - … - Z R04				M76371 - … - Z R08 / R09				Motor dimension	
			X	Y	Z1	Z2	X	Y	Z1	Z2	X	Y	Z1	Z2	D	L
S12*1	S12*3	S15*3														
S12*2	S13*3		110	-40	270	190	105	-45	270	190	100	-50	270	190	180	535
S13*1	S14*2	S15*4														
S13*2	S14*3	S16*2	195	-35	270	190	110	-45	255	205	105	-50	255	205	200	565
S14*1	S15*2	S16*3														
S16*1	S17*2	S18*3														
	S17*3		160	-30	275	195	140	-60	260	210	130	-55	260	210	220	585
S15*1	S18*1	S19*2														
S17*1	S18*2	S19*3	220	-30	300	225	220	-45	300	225	210	-50	300	225	260	680
U12*1	U12*3	U13*3														
U12*2		U14*3	110	-35	275	180	105	-40	275	180	100	-45	275	180	200	640
U13*1	U14*2	U16*3														
U13*2	U15*4		120	-35	280	185	115	-40	280	185	110	-45	280	185	220	660
U14*1	U15*3		175	-30	285	190	160	-35	285	190	155	-40	285	190	260	740
U15*1	U16*1	U17*2														
U15*2	U16*2	U17*3	185	-30	290	195	170	-35	290	195	165	-40	285	190	260	740
		U18*3														
U17*1	U18*2	U19*3	265	-30	300	200	265	-35	300	200	260	-40	300	200	320	810
U18*1	U19*1	U19*2	310	-25	300	205	305	-30	300	205	300	-35	300	205	320	865

Fig. 19 Coordinates of center of gravity and motor dimensions of the electric rotary actuators M76361 – S, - U and M76371 – S, - U

[1)] : In the valve calculation the coordinates of center of gravity have to be considered with an additional factor of **1.1** !

Coordinates of center of gravity and motor dimensions
of the electric rotary actuators M76361 - F to N and M76371 - F to N with handwheel gear reducer





With the rotary actuators M76361 - F, - G and M76371 - F, - G the hand-wheel gear reducer can be repositioned into positions I, II and III (position I shown).

With the rotary actuators M76361 - M, - N and M76371 - M, - N the gear reducer cannot be repositioned;
Only position II is possible (see Fig. 15, page 36).

1 Handwheel gear reducer
S Center of gravity

On request

Accessories		Order – no.	
Parking socket	unpainted, to protect and secure the removed top part of the plug	**R540621**	
Protective cover	unpainted, to protect the plug assemblies on the actuator with the top part of the plug removed	**R540485**	

Parking socket R54 0621
(C79106 - A3001 - C 434)

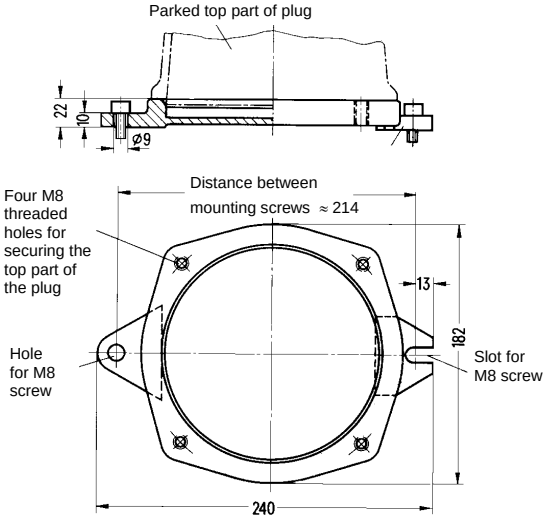
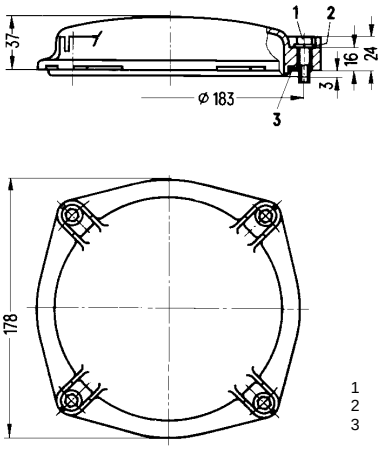


Fig. 20 Parking socket for protecting and securing the removed top part of the plug

Protective cover R54 0485
(C79106 - A3003 - B270)



1 Fillister head screw (4 off)
2 Tooth lock washer (4 off)
3 O - Ring

Fig. 21 Protective cover to protect the plug assemblies on the actuator with the top of the plug removed

Subject index

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