

**SKF**










***SKF Positioning systems***  
***Operating instructions***

***Precision slides***  
***RSM-RSK***

***Linear Motion***

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# 1. General

## 1.1 Designated use

Precision slides of series RSM and RSK may only be used for positioning devices that

- do not give off emissions which could pose a danger to the slides, e.g. dirt, sputtering during welding, high temperatures, liquids, solvent vapours.
- do not overload the slides.

## 1.2 Technical data

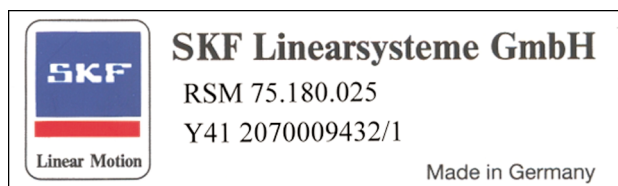
Load carrying capacity, dimensions, attachment hole pattern, etc.

General details can be found in the **Product Range catalogue, publication number 4664/3E or on the CD, under Catalogues/Product Range Catalogue or on the Internet at [www.linearmotion.skf.com](http://www.linearmotion.skf.com)**

Please also note any additional technical data and details in the order confirmation or delivery note.

## 1.3 Identification plate

Suitably positioned at the slide, an identification plate provides the following information:



Where:

<b>RSM 75.180.025</b>	<b>Designation</b>
Y41	Date of production – Year – Week
<b>2070009432/1</b>	<b>Order no./Slide no.</b>

This information must be provided in the event of any communication pertaining to the slide supplied.

## 2. Safety



These operating instructions contain basic guidelines that have to be observed during mounting, operation and maintenance. It is imperative that these instructions, particularly the “Safety” section, be thoroughly studied and understood by the fitter mounting the system and by any skilled workers or operators prior to mounting and start-up. If there is any uncertainty or doubt, please contact SKF for support. These operating instructions or the manual for the overall system, which contains the most important elements of these operating instructions, must always be available at the place of operation of the slides or the system. It is not only the general safety advice listed here under “Safety” which must be observed. More specialised safety advice is also highlighted in the other sections of these instructions.

### 2.1 General dangers in failure to observe safety advice

Precision slides of series RSM and RSK have been designed and constructed in compliance with state-of-the-art technology. They are safe to operate. Nevertheless, dangers can occur if

- they are not mounted or operated by trained or at least instructed personnel.
  - they are used incorrectly or for a purpose other than intended.
  - the safety advice in the system manual is not observed.
- Failure to observe the safety advice can endanger persons, the environment and machinery. Failure to observe the safety advice can also lead to a loss of any compensation claim.

### 2.2 Safety-consciousness at work

The safety advice listed in these operating instructions and the relevant national accident prevention regulations must be observed at all times.

### 2.3 Safety advice for system assembler installing and operating the slides in the system

- Any built-on covers must not be removed during operation of the slides.
  - ⚠ Danger of trapping, slicing or cutting fingers or hand between various components of the slides, e.g. end and top plates, must be avoided either by maintaining an adequate distance or by fitting protectors.
- The customer must ensure that the fitted mass is suitably protected against stationary components.
  - ⚠ Danger of trapping, slicing or cutting fingers or hand between fitted mass or other components!

### 2.4 Safety advice for maintenance, inspection and mounting work

The operator must ensure that all maintenance, inspection and mounting work is carried out by authorized and qualified specialist personnel who have thoroughly studied the operating instructions. Immediately after completion of this work, all safety and protective devices must be reattached or reactivated.

### 2.5 Unauthorised modifications and spare parts manufacture

Modification to or alterations of the slides require the approval of the manufacturer. Any damage resulting from unauthorised modification or alteration will not be subject to warranty.

If additional bore holes have to be made for bolts or pins, extreme care must be taken to ensure that

**Caution!** No contamination, e.g. cooling water, swarf, etc. will enter the guides.

**Caution!** There is no impact or jolting as this could easily lead to indentations in the raceways of the rolling elements in the guide!

Using original replacement parts aids safety. The use of other parts may cancel SKF liability for any consequences.

### 2.6 Unacceptable modes of operation

The reliability of the delivered slides is only guaranteed with designated use in accordance with section 1 of the operating instructions. The limiting values specified in the catalogue or data sheet may under no circumstances be exceeded. See references to relevant catalogue or data sheet in section 1.2.

### 3. Transport and interim storage



The slides should only be transported and stored in original packaging.

**Caution!** Ensure that there is no jolting during transportation (see section 2.5 for consequences)!

**Caution!** The parts should only be stored in dry storage spaces at a constant moderate temperature. There is otherwise a risk of condensation forming, leading to corrosion.

**Caution!** Only remove from packaging shortly before assembly. Transport the slides carefully after this. Set slides in place carefully and without jolting, as there is a risk of damage and another risk of loss of precision of the guides!

## 4. Description



These slides have threaded attachment bore holes in both top and base. Guidance is via crossed roller guides.

**Caution!** The guide rails are not protected by bellows or covers. The slides should not, therefore, be used in strongly contaminated or humid environments. Manual drive is via a sliding screw, the slide nut of which is integrated in the base.

**RSM:** a micrometer knurl is fitted to the screw end, with vernier ring.

**RSK:** a hand crank is attached to the screw end, with vernier ring.

## 5. Aufstellung und Einbau

### 5.1 Mounting



The slides are mounted by screwing the base onto a suitable support. This support must be planed.

The required minimum evenness of the support surface is  $2\ \mu\text{m}/300\ \text{mm}$ . Only by adhering to these values can the required precision of the slides be achieved! Details of the type of bore holes in the top and base can be found in section 4. For the required tightening torques of the screws, please refer to section 9.

### 5.2 Inspection

Once successfully installed, the operation of the guide should be tested for ease and uniformity of travel along the entire stroke. This is necessary in order to ensure there has been no distortion during installation.

## 6. Start-up



**Caution!** Prior to start-up please ensure that:

- the guide is securely attached to its support.
- guide and screw are free of dirt and components.

## 7. Maintenance

### 7.1 Preventive maintenance



At regular intervals, the slides should be checked for the following:

- Are there any signs of external damage?
- Are there any unusual noises from the guide and does it operate smoothly?

### 7.2 Lubrication

All slides are delivered ex works ready for operation, i.e. guides and screw are grease-lubricated according to the order specifications.

#### 7.2.1 Relubrication

Depending on the operating conditions, guides and screws have to be relubricated after travel of 20–200 km but no later than after 12 months. For this purpose the following work has to be carried out.

- Move slide into its end positions. Use clean cloth to remove old grease from the guide rails and screw. Where dirt is present, wash carefully with environmentally-friendly industrial cleaning agent.
- Move slide into its end positions. Lightly grease guide rails and screw using clean brush, cloth or finger. For grease type see section 7.2.2.

#### 7.2.2 Recommended types of grease:

- **Normal to high loads and/or vibration:**  
SKF grease **LGEP 2** – a grease with high-pressure additives of consistency class 2. Mineral oil as base oil with a kinematic viscosity of 195 mm<sup>2</sup>/s. Service temperature -30 up to +110 °C steady-state temperature.
- **Cleanroom and vacuum applications:**  
**Corresponding special greases** e.g. from Klüber.

### 7.3 Dismantling and reassembly

Major replacement work should always be carried out at our site. The slides should be sent to the address given on the first page of these operating instructions. Please provide a detailed description of the fault.

**Caution!** Always return the slide in its original packaging or a similarly stable packaging. Ensure that the slide is adequately protected and secured against sliding around inside the packaging. Ensure adequate corrosion protection using appropriate means such as oil or oil-impregnated paper.

All dismantling and reassembly work should be performed with the utmost care to ensure that the precision of the slide is not affected.

## 8. Faults; causes and rectification



Symptom	Possible cause	Rectification
<b>Running noises from the guide</b>	<ul style="list-style-type: none"><li>- Lubricant starvation</li><li>- Distortion of slide</li></ul>	<ul style="list-style-type: none"><li>- Relubricate, see 7.2.1</li><li>- Inspection, see 5.2</li></ul>
<b>Rippling</b>	<ul style="list-style-type: none"><li>- Raceway indentations</li><li>- Dirt particles in guide</li></ul>	<ul style="list-style-type: none"><li>- Send in slides</li><li>- Cleaning and greasing, see 7.2</li></ul>

## 9. Assembly aids



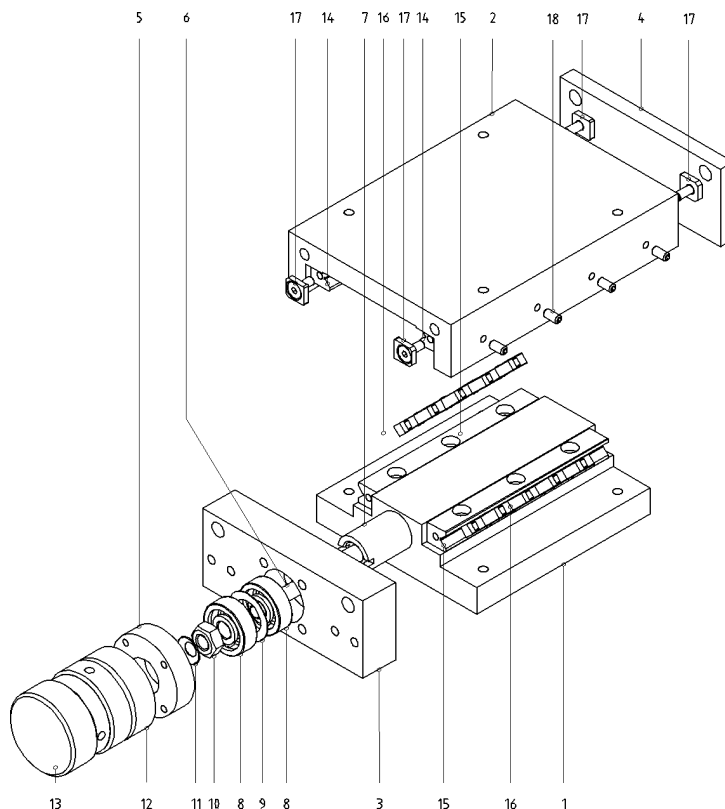
### Tightening torques und max. screw depths of fixing screws

Material			M2	M2,5	M3	M3,5	M4	M5	M6	M8	M10	M12	M14
Al	Tightening torque	[Nm]	0,21	0,44	0,77	1,2	1,7	3,4	6,0	15	29	50	80
	Screw depth	[mm]	3,2	4,0	4,8	5,6	6,4	8,0	10,0	13	16	19	22
GG	Tightening torque	[Nm]	0,25	0,52	0,92	1,4	2,1	4,1	7,0	17	34	60	94
	Screw depth	[mm]	3,0	3,8	4,5	5,3	6,0	7,5	9,0	12	15	18	21
St	Tightening torque	[Nm]	0,3	0,61	1,1	1,6	2,4	4,8	8,0	20	40	69	110
	Screw depth	[mm]	2,4	3,0	3,6	4,2	4,8	6,0	7,2	10	12	14	17

## 10. Replacement and expendable parts



### 10.1 RSM

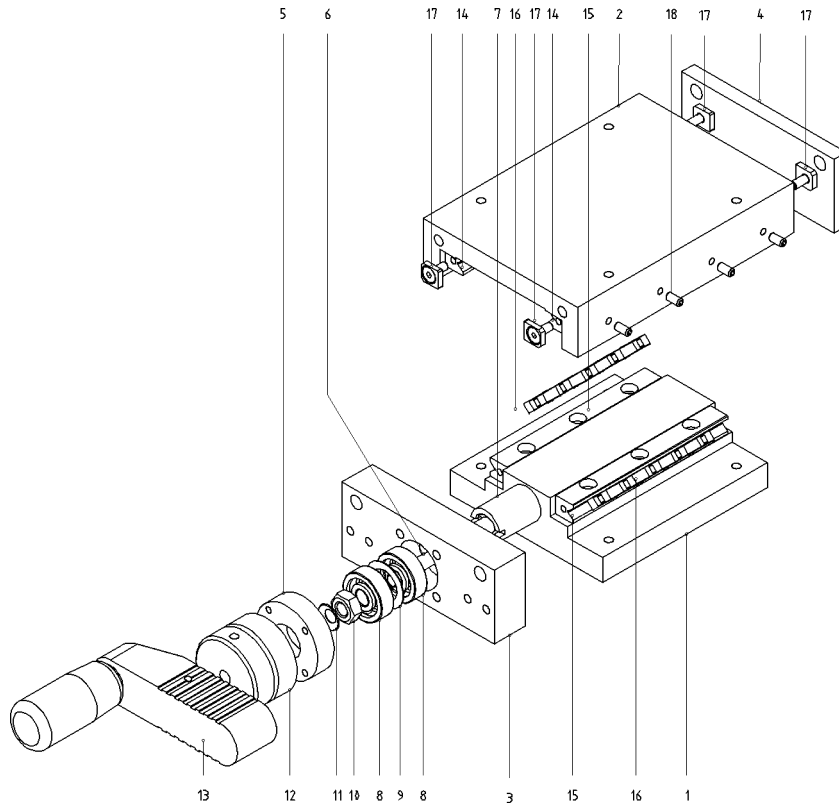


Pos	Pcs	Designation	Notes	Expendable part
1	1	Base		
2	1	Top		
3	1	Screw bearing support plate		
4	1	End plate		
5	1	Screw bearing flange		
6	1	Screw		X
7	1	Nut		X
8	2	Screw bearing		X
9	1	Shim		X
10	1	Nut		X
11	1	Cup spring		X
12	1	Graduated collar		
13	1	Micrometer knurl		
14	2	Rails in top		X
15	2	Rails in base		X
16	2	Cages		X
17	4	End piece		X
18	-	Set screw		

When ordering replacement parts, please quote the following details:

- Order number and designation (see details on identification plate, section 1.3)
- Position number, number of pieces and designation

## 10.2 RSK



Pos	Pcs	Designation	Notes	Expendable part
1	1	Base		
2	1	Top		
3	1	Screw bearing support plate		
4	1	End plate		
5	1	Screw bearing flange		
6	1	Screw		X
7	1	Nut		X
8	2	Screw bearing		X
9	1	Shim		X
10	1	Nut		X
11	1	Cup spring		X
12	1	Graduated collar		
13	1	Hand crank		
14	2	Rails in top		X
15	2	Rails in base		X
16	2	Cages		X
17	4	End piece		X
18	-	Set screw		

When ordering replacement parts, please quote the following details:

- Order number and designation (see details on identification plate, section 1.3)
- Position number, number of pieces and designation

# SKF Sales companies

## Australia

SKF AUSTRALIA PTY. LTD  
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OAKLEIGH, Victoria 3166  
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E-08080 BARCELONA  
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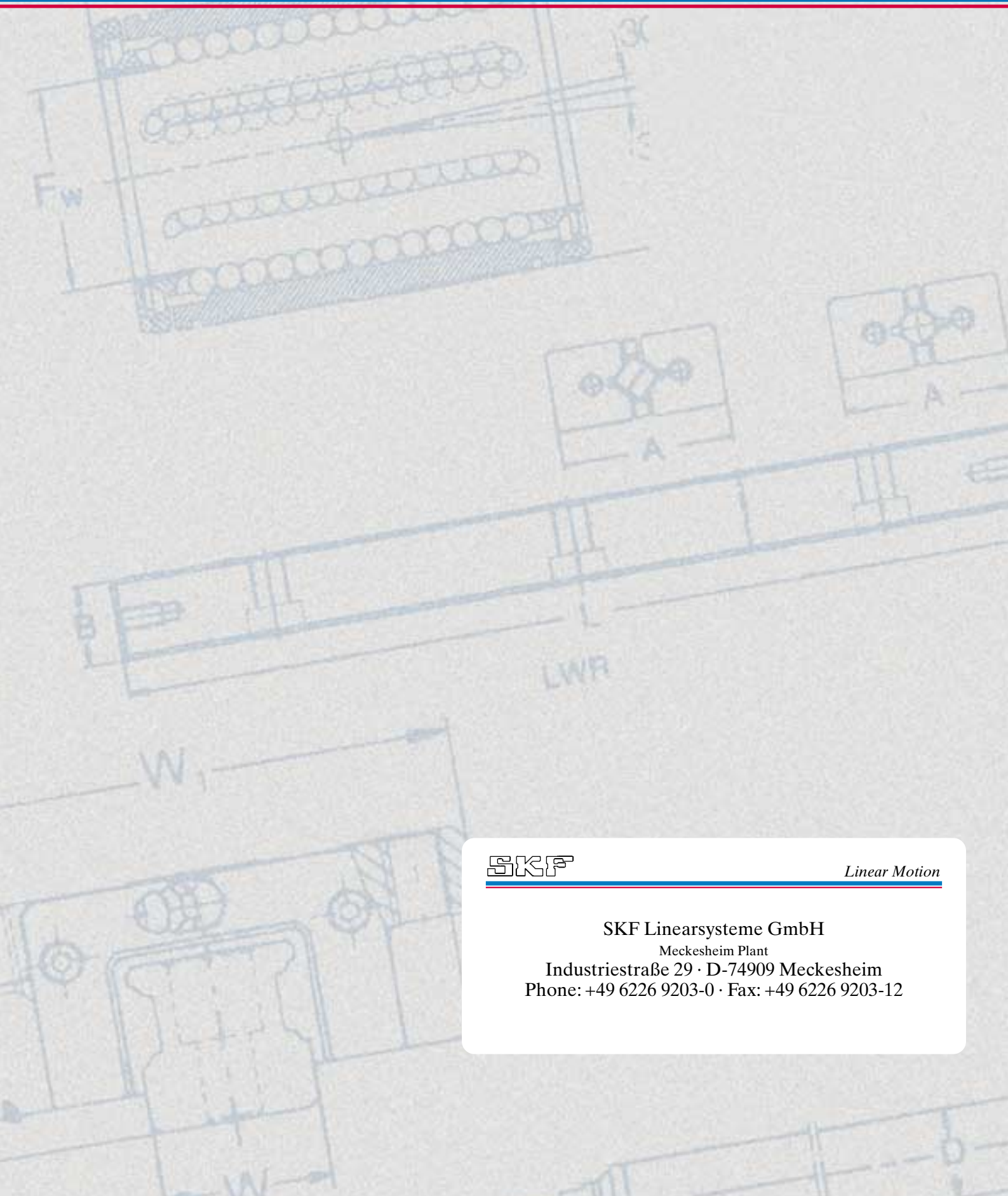
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