

## KIT system for KUVE

Versatile sealing and lubrication concept  
for four-row linear recirculating ball bearing  
and guideway assemblies

# KIT system for KUVE

## Features

Linear guidance systems are subjected, depending on the application, to widely differing environmental influences. In order to allow the specific environmental conditions to be accommodated comprehensively, we have developed a finely graduated KIT system. These accessory components protect the rolling element system against contamination and ensure lubrication appropriate to requirements with long relubrication intervals.

The available KITs are listed on page 6. Starting from the degree of contamination (very slight, light, moderate, heavy), the user can quickly and easily compile the best KIT combination for his application. Since it is not appropriate or technically feasible to produce all combinations, he will also see which combinations can be considered in his case.

The following descriptions give brief information about the composition and advantages of the KIT elements. They are described in detail in catalogue “PF 1, Monorail Guidance Systems”.

On page 8, ordering examples show which activities are necessary for ordering linear ball bearing and guideway assemblies that are equipped with examples of various KITs.

## End wipers

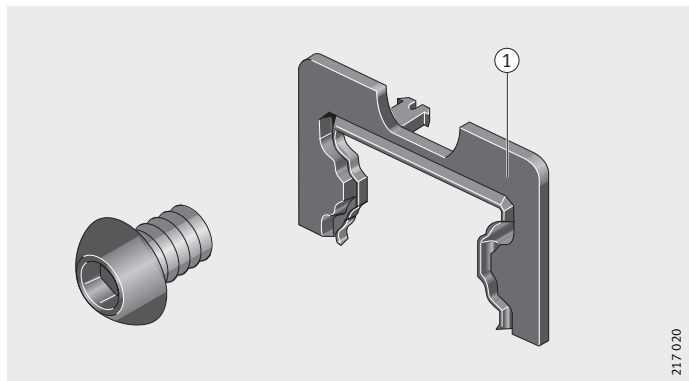
End wipers are contact and non-contact seals/components that are fixed to the end faces of the carriage. They are available in single and double lip designs and are made from TPE, *Figure 1*.

In many cases, standard wipers made from TPE are sufficient. In the case of single lip wipers, a cleaning effect can be achieved through the use of targeted relubrication. Double lip wipers prevent loss of lubricant and are used, for example, in applications where lubrication is critical.

Additional wipers for particularly aggressive environmental conditions are available by agreement.

① TPE wiper, single lip

*Figure 1*  
End wiper



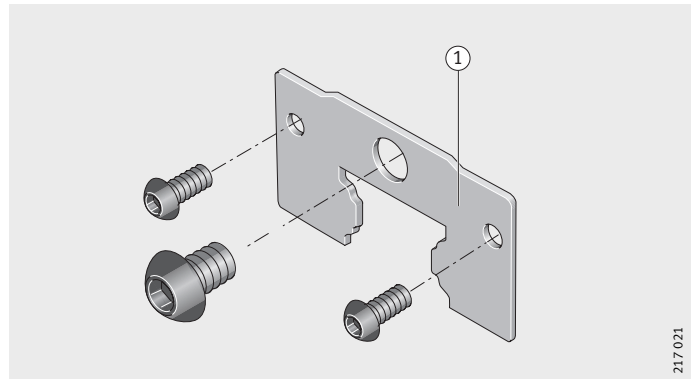
217 020

## Sheet steel wipers

Sheet steel wipers are non-contact components made from sheet steel, *Figure 2*. They are located in front of the end wipers and protect these against, for example, coarse contaminants and hot swarf. There is a narrow gap between the guideway and the wiper. Depending on the environmental conditions and the application, the sheet steel wiper can be fitted to one or both ends of the carriage.

- ① Sheet steel wiper, non-contact

*Figure 2*  
Sheet steel wiper



## Easy-running sealing unit

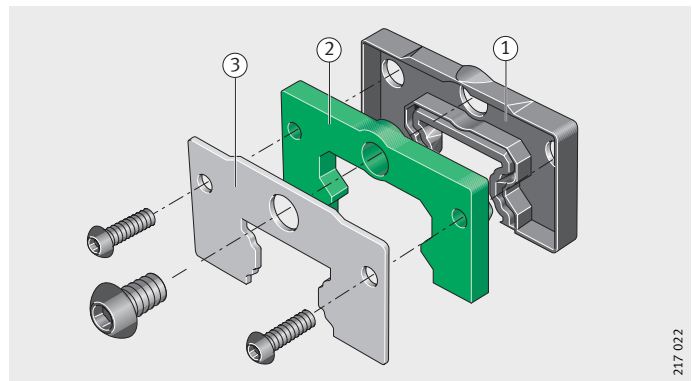
This unit comprises a non-contact sheet steel wiper and a single lip, contact end wiper made from special TPE with low seal preload.

## Additional wipers

Additional wipers are used alone or in combination with other wipers such as sheet steel and end wipers. They are available in single and double lip designs and are made from TPE. An example structure of a wiper combination is shown in *Figure 3*.

- ① Additional wiper, single lip  
② Carrier plate  
③ Sheet steel wiper, non-contact

*Figure 3*  
Additional wiper



# KIT system for KUVE

## Long term lubrication unit

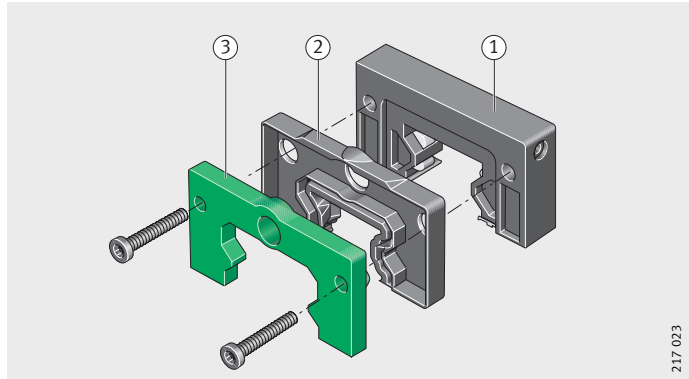
Long-term lubrication units are screw mounted between the end piece and the wiper. They have a reservoir that stores the lubricant and a transfer material that dispenses lubricant to the raceways. The long term lubrication unit is supplied with an initial greasing, *Figure 4*.

The units are used in applications where lubrication is critical. They can be relubricated and allow long running times by means of long relubrication intervals. The integrated double lip seal prevents loss of lubricant.

- ① Long term lubrication unit
- ② Additional wiper
- ③ Carrier plate

*Figure 4*

Long term lubrication unit



## Sealing strips

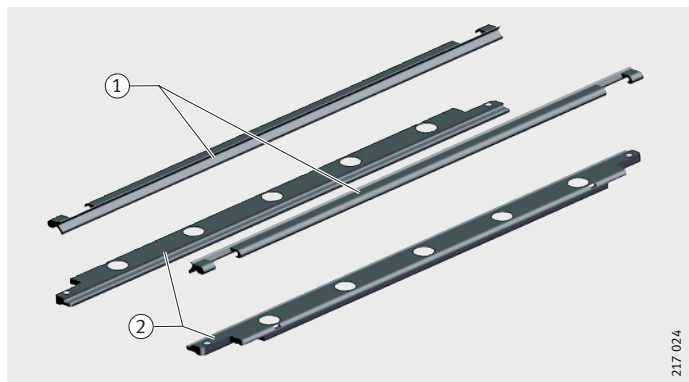
Sealing strips are contact components that are fitted to the upper and lower longitudinal faces of the carriage. They protect the rolling element system against contamination and loss of lubricant.

Sealing strips should be used in addition to end wipers especially in applications where lubrication is critical, such as those involving fine dust or aggressive coolants, *Figure 5*.

- ① Upper sealing strip (TPE)
- ② Lower sealing strip (NBR), single lip

*Figure 5*

Sealing strips



## Degree of contamination

### **Caution!**

The degree of contamination will vary depending on the market sector, the application and the environmental conditions.

The following definitions are therefore only an initial step in the selection of KITS.

We will be pleased to assemble the complete package for your particular application.

### **Very slight contamination**

Example:

- Clean environment.

### **Light contamination**

Example:

- Coarse (large) metal swarf, clean environment.

### **Moderate contamination**

Example:






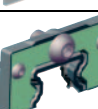
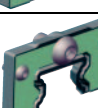



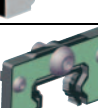
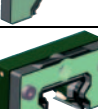

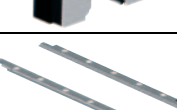

- Coarse (large) metal swarf, light (slight) contact with, for example, cooling lubricants.

### **Heavy contamination**

Example:

- Swarf (metal, aluminium) of widely varying size and shape, including very small swarf from HSC machining, aggressive media and cooling lubricants.

## KIT system for linear ball bearing and guideway assemblies KUVE

KIT	Description <sup>1)</sup>	Designation	Dimensions in mm S	Suitable for contamination <sup>2)</sup>				Appropriate combinations															
				very slight	light	moderate	heavy	100	110	200	210	220	300	309	310	319	360	370	400	430	900	910	
 217 029	■ End wiper, contact, single lip (TPE)	KIT.KWVE...-B-100	–		■	■		■		■				■	■	■	■	3)	3)	3)	3)	■	■
 217 030	■ End wiper, non-contact (TPE)	KIT.KWVE...-B-110	–	■					■														
 217 031	■ End wiper, contact, single lip (TPE) ■ Sheet steel wiper, non-contact	KIT.KWVE...-B-200	1		■	■				■												■	■
 217 032	■ Sheet steel wiper, non-contact	KIT.KWVE...-B-210	1	■							■				■	■							
 217 033	Easy-running sealing unit: ■ End wiper, contact, single lip (special TPE) ■ Sheet steel wiper, non-contact	KIT.KWVE...-B-220	1	■	■						■											■	
 217 034	■ Additional wiper, single lip (TPE) ■ End wiper, contact, single lip (TPE)	KIT.KWVE...-B-300	5			■						■	■									■	■
 217 035	■ Additional wiper, single lip (TPE)	KIT.KWVE...-B-309	5			■						■	■									■	■
 217 036	■ Additional wiper, single lip (TPE) ■ End wiper, contact, single lip (TPE) ■ Sheet steel wiper, non-contact	KIT.KWVE...-B-310	6			■	■								■	■						■	■
 217 037	■ Additional wiper, single lip (TPE) ■ Sheet steel wiper, non-contact	KIT.KWVE...-B-319	6			■	■								■	■						■	■
 217 042	■ Additional wiper, double lip (TPE) ■ Sheet steel wiper, non-contact	KIT.KWVE...-B-360	6			■	■										■					■	■
 217 043	■ Additional wiper, double lip (TPE)	KIT.KWVE...-B-370	5			■	■											■				■	■
 217 044	■ Long term lubrication unit, with additional wiper, double lip (TPE)	KIT.KWVE...-B-400	14 (20 – 35 <sup>4)</sup> ) 15,5 (45 <sup>4)</sup> )		■	■											■		■			■	■
 217 045	■ Long term lubrication unit, with additional wiper, double lip (TPE) ■ Sheet steel wiper, non-contact	KIT.KWVE...-B-430	15 (20 – 35 <sup>4)</sup> ) 16,5 (45 <sup>4)</sup> )		■	■												■		■	■	■	■
 217 046	■ Sealing strip, lower, single lip (NBR)	KIT.KWVE...-B-900	–		■	■						■	■	■	■	■	■						
 217 047	■ Sealing strip, lower, single lip (NBR) Sealing strip, upper (TPE)	KIT.KWVE...-B-910	–				■					■	■	■	■	■	■	■	■				

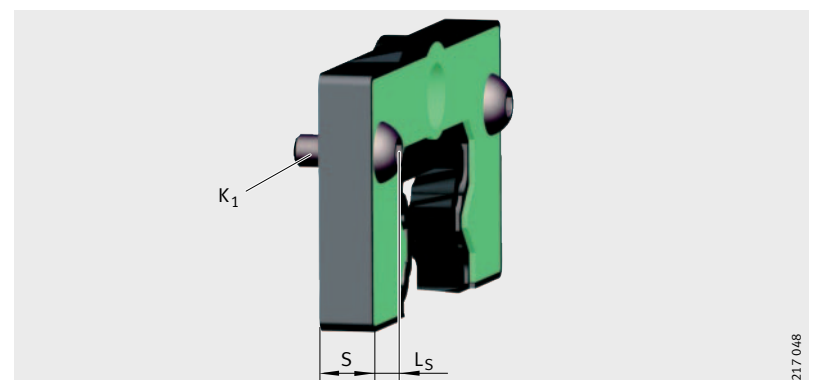
<sup>1)</sup> Description of parts: see page 2 to 4.

<sup>2)</sup> Definitions: see page 5.

<sup>3)</sup> Only to be used together with KIT 900.

<sup>4)</sup> Valid for size (...).

Size	Dimensions in mm	
	K <sub>1</sub>	L <sub>S</sub>
KIT.KWVE15-B-..	M2	1,3
KIT.KWVE20-B-..		
KIT.KWVE25-B-..	M3	1,65
KIT.KWVE30-B-..		
KIT.KWVE35-B-..		
KIT.KWVE45-B-..	M4	2,2
KIT.KWVE55-B-..		



# KIT system for KUVE

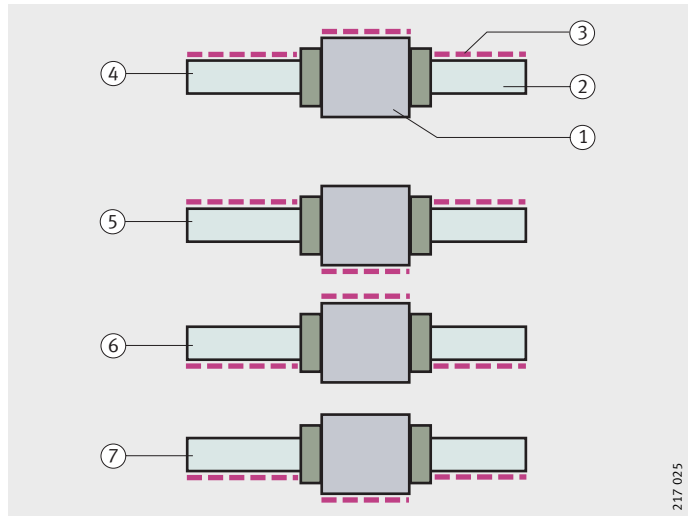
## Definition of locating faces

Possible locating faces for guideways and carriages are shown in *Figure 6*. The locating faces are indicated by the broken lines.

- ① Carriage
- ② Guideway
- ③ Locating faces
- ④ Standard KUVE...-B
- ⑤ KUVE...-B-OU
- ⑥ KUVE...-B-UO
- ⑦ KUVE...-B-UU

*Figure 6*

Locating faces on guideway and carriage



## Definition of KIT position

### Caution!

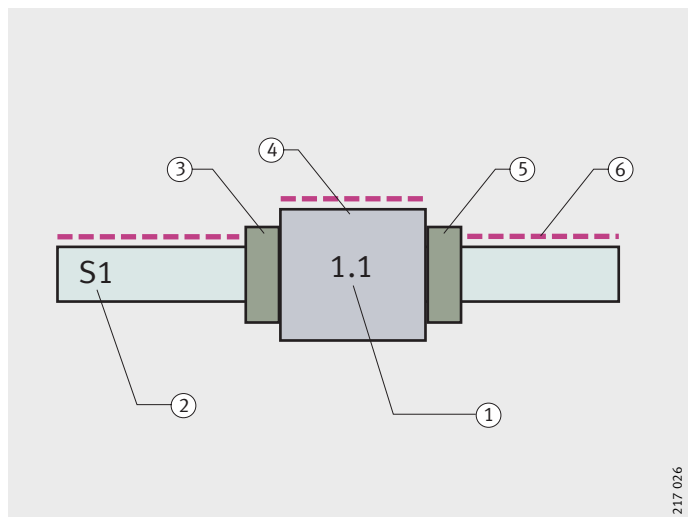
In order to clearly define the KIT series, the carriage is always shown with the locating face facing “up”.

KIT components can be fitted on the left, centre and right of the carriage, *Figure 7*.

- ① Carriage no. on guideway set (W1.1, W1.n, W2.n)  
W1.1: W = carriage  
1 = number of guideway  
.1 = number of carriage
- ② Guideway set (S1, S2, Sn)
- ③ KIT on left of carriage
- ④ KIT in centre of carriage
- ⑤ KIT on right of carriage
- ⑥ Locating face

*Figure 7*

KIT position on carriage, locating faces, definitions on guideway and carriage



## Ordering example

### Ordering example 1

#### Caution!

In order to clearly define the KIT components, the carriage is always shown with the locating face facing “up”.

#### Example

Linear recirculating ball bearing and guideway assembly KUVE...-B with KIT components:	
Four-row linear ball bearing and guideway assembly	KUVE
Size	35
Version with full complement ball set	-B
Guideways with covering strip clipped into place	-ADB+K
Number of guideway sets	1
Number of carriages per guideway set	W1
Accuracy class	G2
Preload class	V1
Length of guideway	800 mm
$a_L$	40 mm
$a_R$	40 mm
Long term lubrication unit, left	400
Sealing strips, upper and lower	910
Additional wiper, double row, right	370

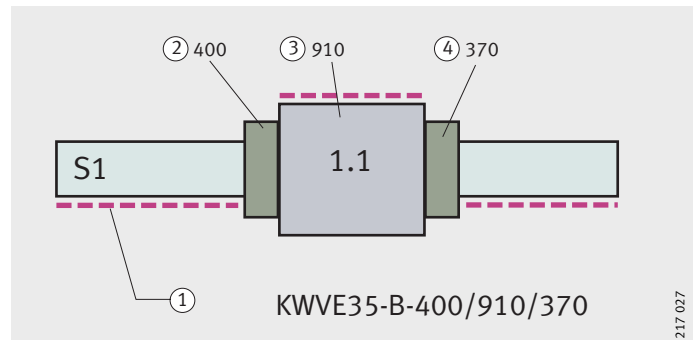
Designation of KIT components: see *Figure 8*.

#### Ordering designation

System:	KUVE35-B
Guideway set S1	KUVE35-B-ADB+K-UO-W1-G2-V1/800-40/40
Carriage W1.1	KWVE35-B-400/910/370-G2-V1

- ① Locating face
- ② Long term lubrication unit
- ③ Sealing strips
- ④ Additional wiper, double lip

*Figure 8*  
Ordering designation





# KIT system for KUVE

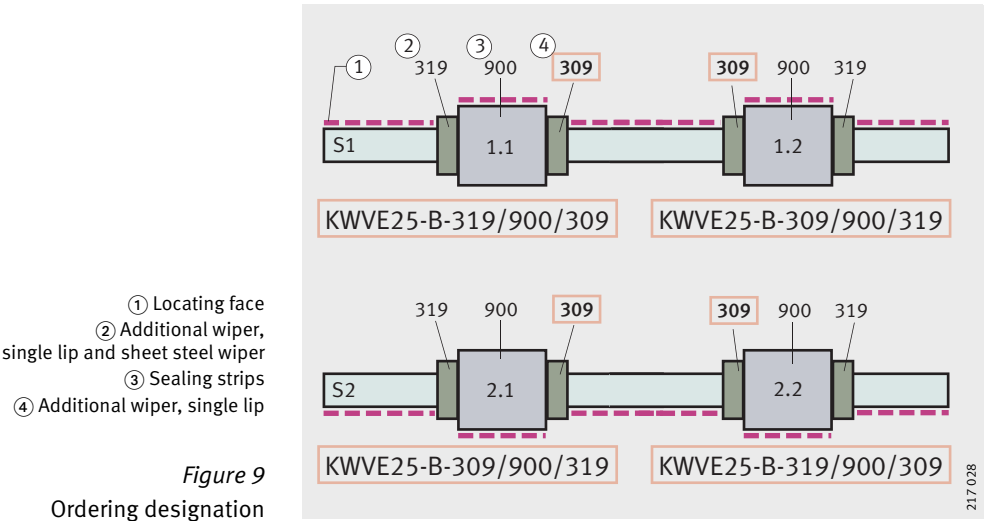
## Ordering example 2

**Caution!** In order to clearly define the KIT components, the carriage is always shown with the locating face facing “up”.

Example	Linear recirculating ball bearing and guideway assembly KUVE...B with KIT components:	
	Four-row linear ball bearing and guideway assembly	KUVE
	Size	25
	Version with full complement ball set	-B
	Number of guideway sets	2
	Number of carriages per guideway set	W2
	Accuracy class	G2
	Preload class	V1
	Length of guideway	2 500 mm
	$a_L$	20 mm
	$a_R$	20 mm
	Additional wiper, single lip (Elastollan) and sheet steel wiper (outside in each case)	319
	Sealing strips, lower	900
	Additional wiper, single lip (Elastollan) (inside in each case)	309

Designation of KIT components: see *Figure 9*.

Ordering designation	System:	KUVE35-B
	Guideway set S1	KUVE25-B-W2-G2-V1/2 500-20/20
	Carriage W1.1	KWVE25-B-319/900/309-G2-V1
	W1.2	KWVE25-B-309/900/319-G2-V1
	Guideway set S2	KUVE25-B-UU-W2-G2-V1/2 500-20/20
	Carriage W2.1	KWVE25-B-309/900/319-G2-V1
	W2.2	KWVE25-B-319/900/309-G2-V1





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