

Technical Data Sheet TI-A30

SITEMA flanges for Safety Catchers and spring bases

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1 General Information

The SITEMA Safety Catchers of the K, KR and KRP series in the standard design are supplied with a set of threaded boreholes to bolt the unit directly to the machine frame.

However, often a mounting flange is required because bolting from below is impossible or a floating attachment is necessary (see also "Technical Information TI-A10", Chapter "Attachment").

This Technical data sheet describes the different standard mounting flanges for typical applications, e.g. *Flanges for spring bases - FL/SF types* and *Flanges for KR/T and KRP/T series - tensile load direction*.

All flanges for SITEMA Safety Catchers with compressive load direction (KR and KRP series) are slit mounting flanges (see Fig. 1). They allow you to install the Safety Catcher without removing the pre-adjusted proximity switch holders.

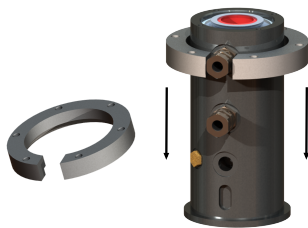


Fig. 1: Slit mounting flange for Safety Catchers with compressive load direction (KR and KRP series)

For all SITEMA Safety Catchers with tensile load direction (KR/T and KRP/T series), use mounting flanges without slot.

2 Mounting flanges for K, KR, and KRP series - compressive load direction

2.1 Standing fixed flanges - FL/SF types

For mounting Safety Catchers KR and KRP on the machine frame or upside down travelling with the load

As an alternative to bolting from below, the FL/SF mounting flange can be used to fix the Safety Catcher to the machine frame.

In this case, the clamping rod must have sufficient play at its attachment, so that any lateral or tilting movements of the load will not create lateral forces to the rod.

For design reasons, this flange is only available for KR and KRP series Safety Catchers. Fixed flange attachments for the K series units are available on request.

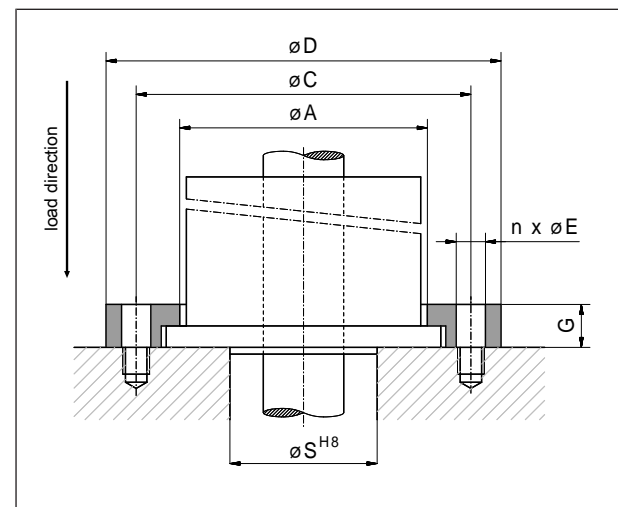


Fig. 2: KR and KRP series

Flange type (order no.)	For Safety Catcher		D	C	A	G	E	n	S	
			mm	mm	mm	mm	mm		mm	
FL/SF 25	KR 25	or	KRP 25	108	97	76	15	6.6	6 x 60°	40
FL/SF 28*	KR 28	or	KRP 28	129	113	87	15	9	6 x 60°	45
FL/SF 40	KR 40	or	KRP 40	160	144	113	19	9	6 x 60°	52
FL/SF 56	KR 56	or	KRP 56	198	180	147	19	11	6 x 60°	70
FL/SF 80	KR 80	or	KRP 80	255	235	201	24	11	6 x 60°	100

Flanges for KR and KRP series; * = special sizes

Subject to modification without prior notice

2.2 Standing/floating flanges - FL/SL types

For mounting Safety Catchers K, KR, and KRP on the machine frame

To avoid constraint forces, it is often useful to mount the Safety Catcher with a FL/SL type flange **floating** on the machine frame so that lateral movements of the rod are compensated.

In the case of hydraulic types, pressure must be supplied via a flexible line to allow movements of the housing. This means that the housing moves freely in rotation direction and aligns itself with the pressure line.

In the case of pneumatic types, a pin can be installed as anti-rotation lock. The pin (in scope of delivery) is carefully driven into the Safety Catcher and plunges into a bore in

the machine frame. In pictures 5 and 6 and the table on page 3, you find information about diameter, position, and depth of the bore for the anti-rotation lock.

i Lay all connection lines without kinking. If there is a danger of kinks, take appropriate safety measures (anti-rotation pin, protective tube, thicker hose etc.).

For design reasons the floating mounting flanges for the KR/KRP and K series are different. There are no functional differences. As the K series has no shoulder, the flanges for K series Safety Catchers consist of two parts. One part is first bolted to the Safety Catcher from below. The other part is then bolted to the machine frame.

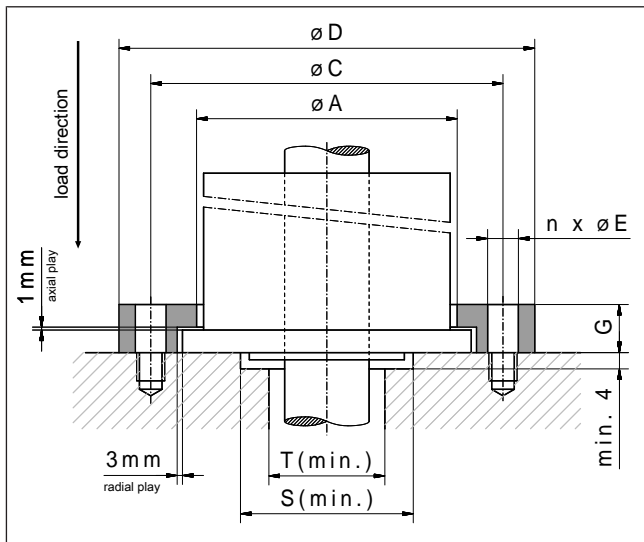


Fig. 3: For KR and KRP series

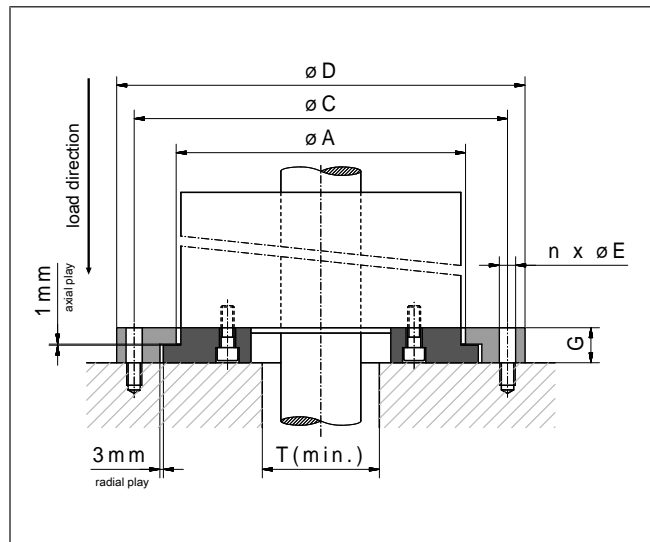


Fig. 4: Flange for K series with 2 parts

Flange type (order no.)	For Safety Catcher		D	C	A	G	E	n	T	S	
			mm	mm	mm	mm	mm		mm	mm	
FL/SL 25	KR 25	or	KRP 25	108	97	78	16	6.6	6 x 60°	32	47
FL/SL 28*	KR 28	or	KRP 28	129	113	89	18	9	6 x 60°	35	52
FL/SL 40	KR 40	or	KRP 40	160	144	113	20	9	6 x 60°	47	59
FL/SL 50*	KR 50			183	165	132	20	11	6 x 60°	57	72
FL/SL 56	KR 56	or	KRP 56	198	180	147	20	11	6 x 60°	63	77
FL/SL 80	KR 80	or	KRP 80	255	235	201	25	11	6 x 60°	87	107

Flanges for KR and KRP series; * = special sizes

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Flange type (order no.)	For Safety Catcher		D	C	A	G	E	n	T	
			mm	mm	mm	mm	mm		mm	
FL/SL 100	K 100	or	KRP 100	350	320	247	30	14	6 x 60°	107
FL/SL 125	K 125			370	330	277	35	18	4 x 90°	132
FL/SL 140	K 140			420	380	327	35	18	4 x 90°	147
FL/SL 160	K 160			450	420	367	38	18	4 x 90°	167

Flanges for K series (2 parts)

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2.3 For KRP series: position of anti-rotation lock

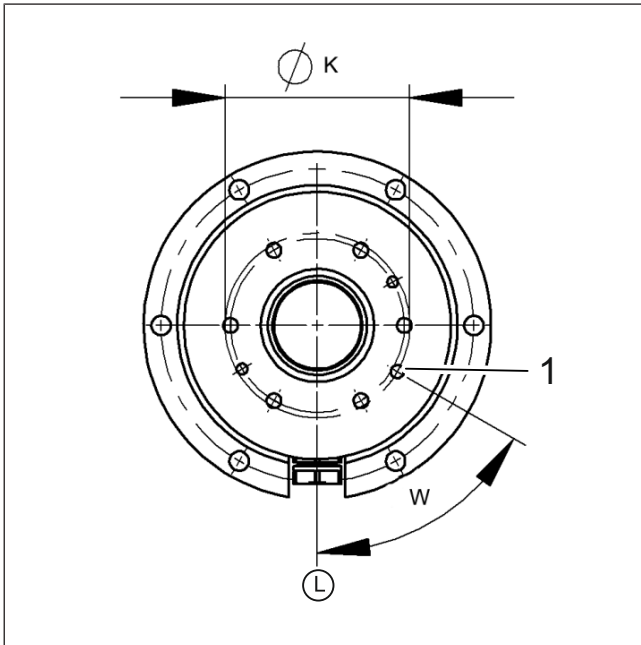


Fig. 5: Position of anti-rotation lock (1) at mounting surface

For the pin, which serves as anti-rotation lock, a bore is required in the machine frame. In figures 5 and 6 and the table below, you find information about position and depth of the bore.

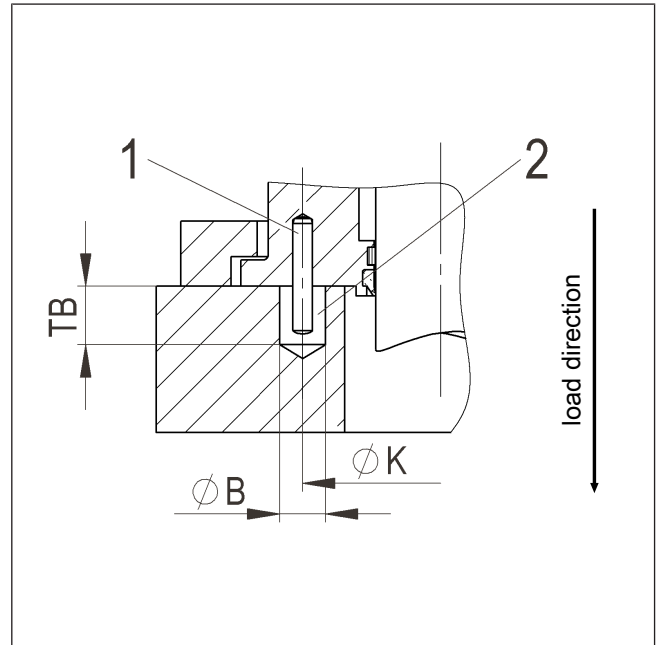


Fig. 6: Bore hole of anti-rotation lock

1	Pin
2	Bore hole

Flange type		For Safety Catcher	Pin DIN 6325 Tol. m6, $\phi \times$ length	ϕK bolt circle	ϕB (min.) bore machine	TB (min.) depth bore mach.	W angle to port L
			mm	mm	mm	mm	Degree
FL/SL 25	or	FL/HL 25	KRP 25	4 x 24	63	12	180 °
FL/SL 28*	or	FL/HL 28*	KRP 28	6 x 36	70	14	180 °
FL/SL 40	or	FL/HL 40	KRP 40	6 x 36	85	14	60 °
FL/SL 50*			KRP 50	8 x 40	110	16	60 °
FL/SL 56	or	FL/HL 56	KRP 56	8 x 40	120	16	60 °
FL/SL 80	or	FL/HL 80	KRP 80	10 x 50	160	18	60 °

Bore in machine frame for anti-rotation lock; * = special sizes

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2.4 Hanging/floating flanges - FL/HL types

For mounting Safety Catchers KR and KRP travelling under the load

The FL/HL flange is used if the Safety Catcher is mounted to the load from below and travelling with it, while the rod is fixed to the machine frame.

Due to the axial play of 8 mm, this flange also basically fulfills the function of a spring base (see "Technical Information TI-A10", chapter "Attachment").

In the case of hydraulic types, pressure must be supplied via a flexible line to allow movements of the housing. This means that the housing moves freely in rotation direction and aligns itself with the pressure line.

In the case of pneumatic types, a pin can be installed as anti-rotation lock. The pin (in scope of delivery) is carefully driven into the Safety Catcher and plunges into a bore in the machine frame. In figures 5 and 6 and the table on page 3, you find information about diameter, position and depth of the bore for the anti-rotation lock.

i Lay all connection lines without **kinking**. If there is a danger of kinks, take appropriate safety measures (anti-rotation pin, protective tube, thicker hose etc.).

For design reasons, this flange is only available for KR and KRP series Safety Catchers.

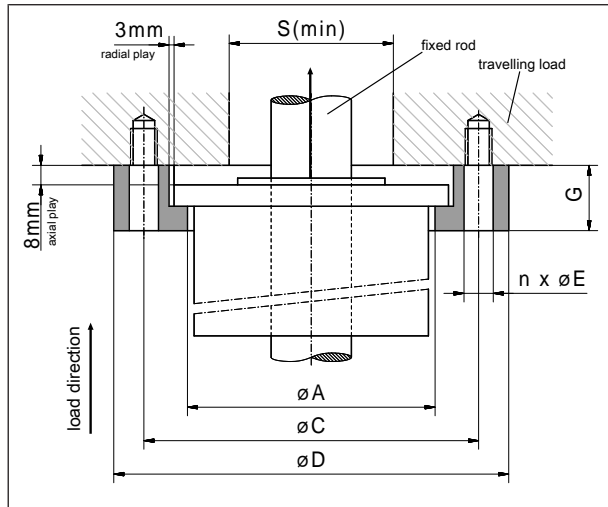


Fig. 7: Flange for KR and KRP series

Flange type (order no.)	For Safety Catcher		D	C	A	G	E	n	S
			mm	mm	mm	mm	mm		mm
FL/HL 25	KR 25	or KRP 25	108	97	78	23	6.6	6 x 60°	47
FL/HL 28*	KR 28	or KRP 28	129	113	89	25	9	6 x 60°	52
FL/HL 40	KR 40	or KRP 40	160	144	114	27	9	6 x 60°	59
FL/HL 56	KR 56	or KRP 56	198	180	148	27	11	6 x 60°	77
FL/HL 70	KR 70		234	214	180	32	11	6 x 60°	97
FL/HL 80	KR 80	or KRP 80	255	235	202	32	11	6 x 60°	107

Flanges for KR and KRP series; * = special size

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2.5 Flanges for spring bases - FL/FS types

For attachment of spring bases (FS) on a fixed machine frame

The FL/FS flange can be used as an alternative to bolting the FS spring base from below to the machine frame.



Lay all connection lines without **kinking**. If there is a danger of kinks, take appropriate safety measures (protective tube, thicker hose, etc.). Spring bases for Safety Catchers of the KRP series have an integrated anti-rotation lock.

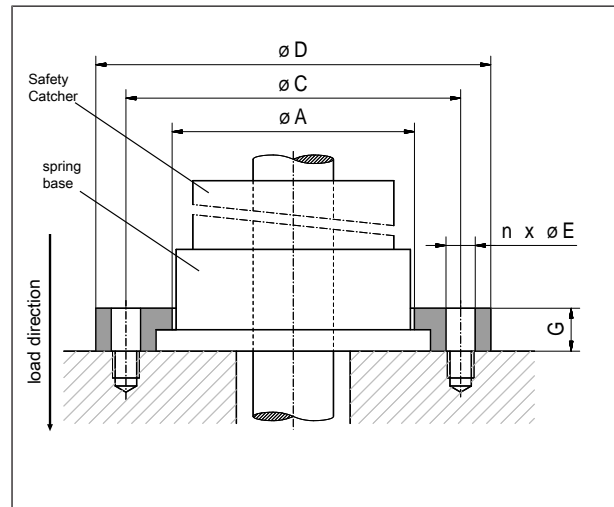


Fig. 8: Flange for KR and KRP series

Flange type (order no.)	For spring base	D mm	C mm	A mm	G mm	E mm	n
FL/FS 25	FS 25	120	110	93	18	6.6	6 x 60°
FL/FS 40	FS 40	175	160	141	24	9	6 x 60°
FL/FS 56	FS 56	230	210	178	30	11	6 x 60°
FL/FS 80	FS 80	284	264	238	30	11	6 x 60°
FL/FS 100	FS 100	304	280	248	40	14	6 x 60°
FL/FS 125	FS 125	376	350	315	40	18	4 x 90°
FL/FS 140	FS 140	406	380	345	40	18	4 x 90°

Flanges for KR and KRP series

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3 Flanges for KR/T and KRP/T series - tensile load direction

3.1 Fixed flanges - FL/TF types

If the clamping rod is attached with sufficient clearance to the load that misalignments are compensated and transverse forces are avoided, the Safety Catcher can be centered and bolted on the machine frame with a FL/TF type flange.

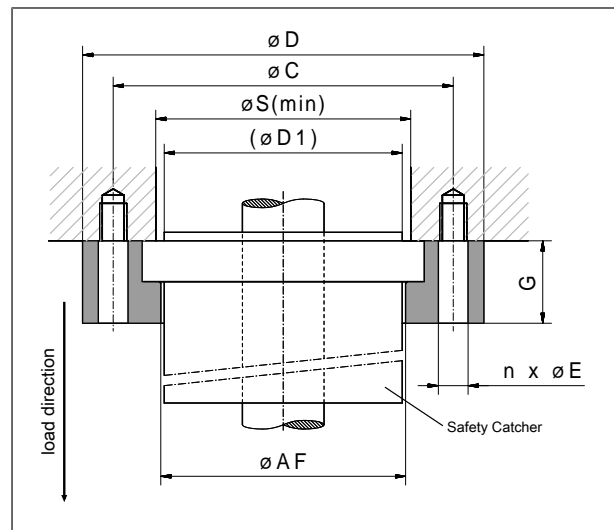


Fig. 9: Flange for KR/T and KRP/T series

Flange type (order no.)	For Safety Catcher			AF mm	C mm	D mm	G mm	E mm	n	S mm
FL/TF 25	KR/T 25	or	KRP/T 25	74	112	129	30	11	6 x 60°	73
FL/TF 40	KR/T 40	or	KRP/T 40	109	153	175	40	14	8 x 45°	109
FL/TF 56	KR/T 56	or	KRP/T 56	143	200	236	50	17.5	8 x 45°	143
FL/TF 80	KR/T 80	or	KRP/T 80	197	270	310	70	22	12 x 30°	203

Flanges for KR/T and KRP/T series

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3.2 Floating flanges - FL/TL types

To avoid constraint forces, it is often useful to mount the Safety Catcher with a FL/TL type flange floating on the machine frame so that any lateral movements of the rod are compensated.

Fixing pins prevent the Safety Catcher from twisting with the FL/TL flange and thereby protect the connection lines from kinking.

i Lay all connection lines without **kinking**. If there is a danger of kinks, take appropriate safety measures (protective tube, thicker hose, etc.).

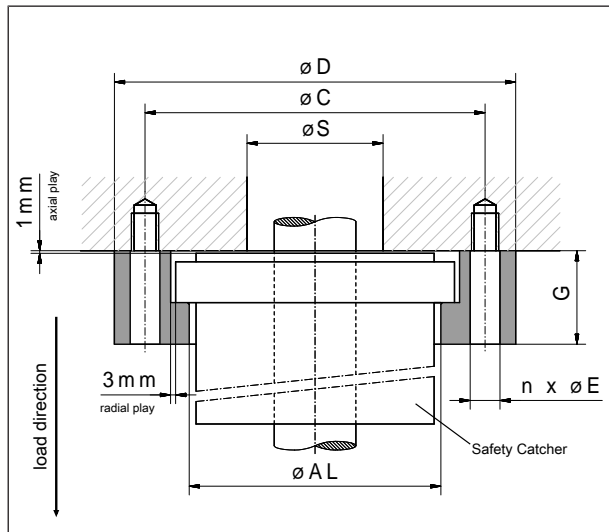


Fig. 10: Flange for KR/T and KRP/T series

Flange type (order no.)	For Safety Catcher			AL	C	D	G	E	n	S	
				mm	mm	mm	mm	mm		min. mm	max. mm
FL/TL 25	KR/T 25	or	KRP/T 25	79	112	129	33	11	6 x 60°	50	55
FL/TL 40	KR/T 40	or	KRP/T 40	114	153	175	44	14	8 x 45°	75	85
FL/TL 56	KR/T 56	or	KRP/T 56	148	200	236	55	17.5	8 x 45°	100	115
FL/TL 80	KR/T 80	or	KRP/T 80	202	270	310	76	22	12 x 30°	135	155

Flanges for KR/T and KRP/T series

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