

# BW-Fixators® / BWF 固定器

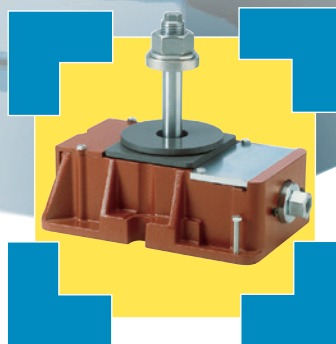
## Series RK / RK 系列

...for the Levelling,  
Adjustment and  
Fixation of Machinery and  
Other Heavy Equipment

Installation Varieties and  
Technical Information

用于机器、设备和仪器的矫  
平、校正、校准与固定的机械  
部件

装配方式与技术规格



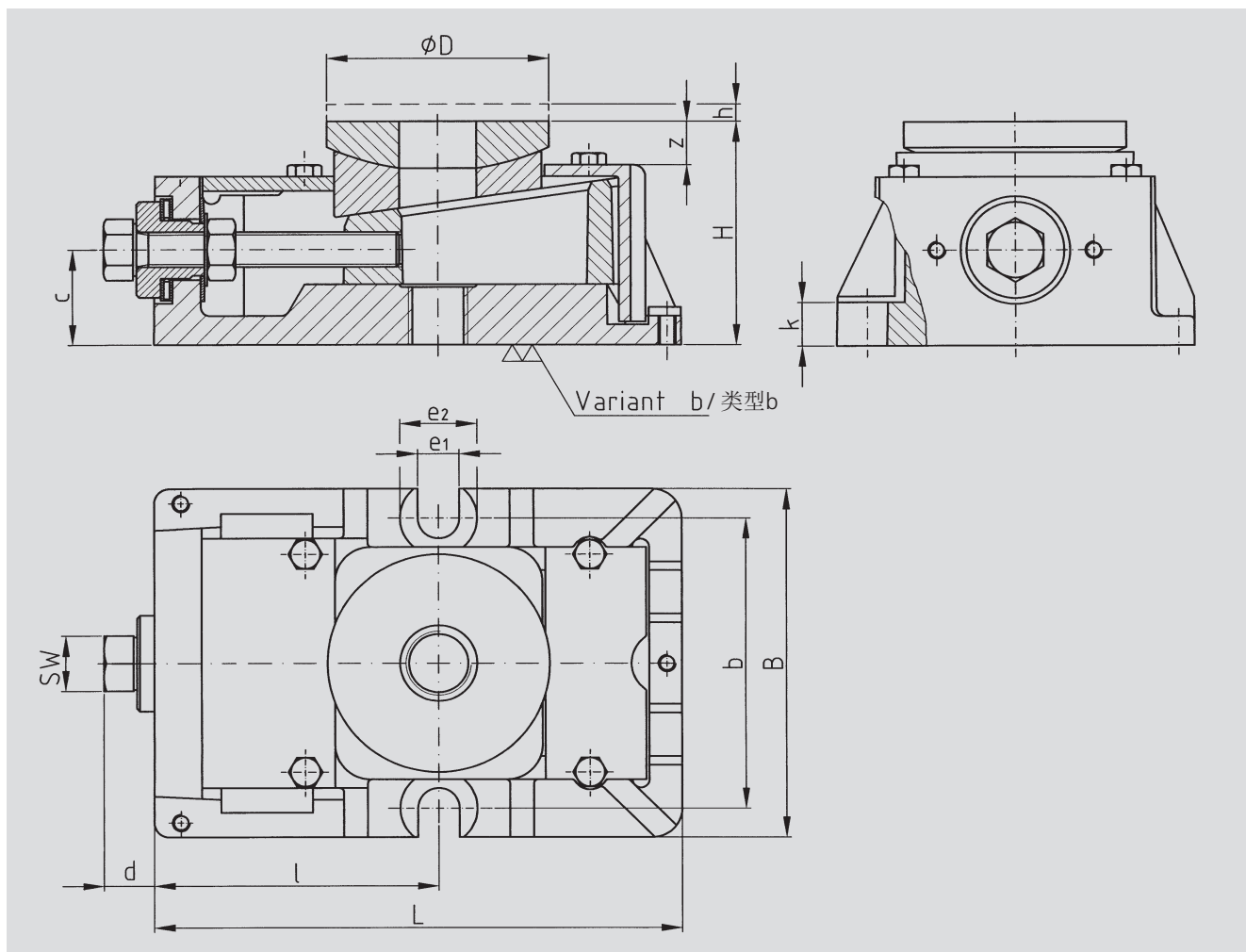
**BWF**

*...the best for accuracy.*

# Dimensions of Series RK

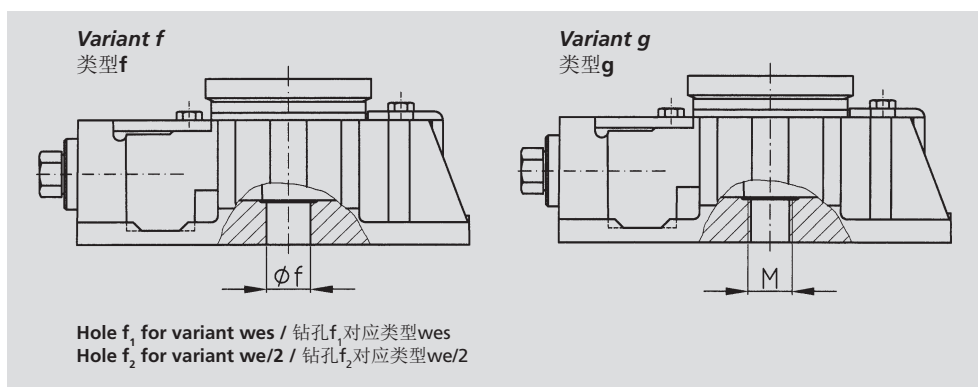
## RK 系列规格

### GA Basic unit / GA 基础构造部分



Size / 尺寸	L	B	H*	$\phi D$	SW	d	c	z	h	l	b	e1	e2	k
I	175	105	55	60	19	16	21	13	5	92	90	14	26	12
II	178	120	75	75	19	15	31	15	5	96	100	14	26	13
III	220	150	95	90	24	22	40	17	6	118	130	18	32	22
IV	275	180	115	110	30	24	49	17	8	142	160	24	38	24
V	345	230	135	150	36	34	58	20	10	180	205	28	46	34
VI	420	270	165	200	46	34	67	32	13	230	245	28	46	31

\*Height with machined bottom (Variant b) / \*所示高度为加工底面上的高度 (类型b)



Hole  $f_1$  for variant wes / 钻孔 $f_1$ 对应类型wes  
Hole  $f_2$  for variant we/2 / 钻孔 $f_2$ 对应类型we/2

Size / 尺寸	$\phi f_1$	$\phi f_2$	g
I	17	19	M12
II	21	25	M20
III	25	31	M30
IV	31	37	M30
V(M36)	37	44	M36
V(M42)	44	-	-
VI	58	-	M42

# Technical Datas for Series RK

## RK 系列技术规格

Size / 尺寸	Dim	RKI	RKII	RKIII	RKIV	RKV	RKVI	
Permissible maximum load <sup>1)</sup> / 最高允许载荷 <sup>1)</sup>	N	90 000	120 000	240 000	360 000	700 000	1 200 000	
Recommended machine dead weight <sup>2)</sup> / 推荐参与机械载荷 <sup>2)</sup>	N	10 000	20 000	40 000	60 000	120 000	200 000	
Spring constant in operation range <sup>3)</sup> / 运行范围内的劲度系数 <sup>3)</sup>	N/μm	2 000	4 500	8 000	10 000	14 000	18 000	
Torque at adjusting screw / 调节螺栓上的扭矩	Specific / 比扭矩	N·m / 10 <sup>3</sup> kg	3	3	4	4,5	5,5	7
	Maximum / 最高	N·m	27	36	96	160	385	700
	Security / 安全	N·m	2,5-5	2,5-5	3,5-7	4-8	5-10	20
Vertical Adjustment per screw turn / 每转高度调节	mm	0,25	0,25	0,29	0,35	0,43	0,5	
Weight of basic unit / 基础构造部分重量	kg	4	5,5	11,5	21	42	70	

1) BW-Fixators® are adjustable up to this load.

2) This is the standard factor for the determination of the BW-Fixator® size.

3) Found by applying a changing load equal to the recommended proportional machine load. The operating range will be covered when the machine has been levelled and bound down with the anchor bolts.

1) BWF固定器最高可调整至承载此负荷。

2) 推荐参与机械载荷用于确定BWF固定器尺寸的参考值。

3) 此运行范围在调整机器和拧紧底座螺栓之后达到。给出的劲度系数是通过在运行范围内施加强度为推荐参与机械负荷的交变载荷得出的。

Formula for calculating the Resilience of BW-Fixators® Serie RK

$$\Delta f[\mu\text{m}] = \frac{\Delta F}{C} = \frac{\text{Load change N}}{\text{Spring constant N}/\mu\text{m}}$$

**Note:**

**The total of the forces a - e exerted must not exceed the permissible maximum load**

- a) Proportional machine load
- b) Tensile force exerted by anchor bolt
- c) Dynamic forces
- d) Changing loads (moving machine parts or workpieces)
- e) Forces counteracting moments

### Determination of BW-Fixator® size

The proportional machine load recommended is a function of the net weight of the machine divided by the number of support points (BW-Fixators®).

For machinery with sizable variations in partial weight, it is the heaviest machine load that has to be divided by the number of bearing points and the resulting BW-Fixator® size has to be used everywhere under the machine.

BWF固定器RK系列刚度计算公式

$$\Delta f[\mu\text{m}] = \frac{\Delta F}{C} = \frac{\text{载荷变化N}}{\text{劲度系数 N}/\mu\text{m}}$$

**重要提示:**

载荷**a-e**的总和不可超过最高允许载荷。

- a) 参与机械载荷
- b) 锚固螺栓产生的夹紧力
- c) 动态载荷（加速度力）
- d) 交变载荷（运动的机器部件或工件）
- e) 力矩的反作用力

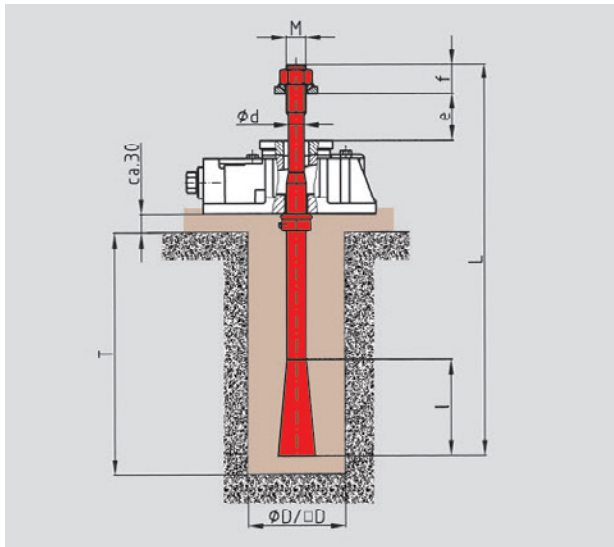
### BWF固定器的尺寸确定

“推荐参与机械载荷”是用于确定BWF固定器尺寸的参考值，是由机器重量与支撑点（BWF固定器）相除得到。

对于机器各部分重量差异较大的情况，机器重量最高的区域应该用与之相应的支撑点数量区分对待。但此处得出的BWF固定器尺寸对应的是机器整体。

# Anchor bolts and studs

## 固定方式

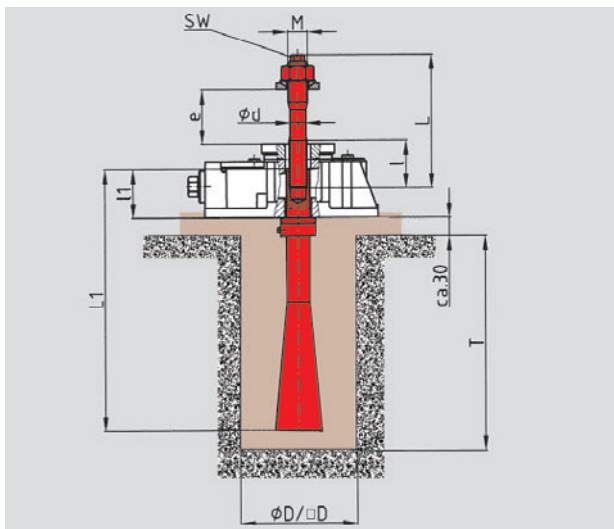


### wes

Anchor bolt for direct connection of the machine to the foundation

Wellenstein张紧螺栓用于机器与地基的直接连接

RK	M	L	I	f	ød	e		Foundations/ 地基		Clamping force/ 夹紧力
						from/从	to/到	D	T	max. N
I	M16	330	90	30	13	20	60	70	230	53 000
II	M20	400	100	40	16	20	90	80	270	81 000
III	M24	500	135	50	19	30	100	100	340	115 000
IV	M30	600	150	55	24	35	135	120	410	182 000
V	M36	800	180	65	29	40	150	150	570	265 000
	M42	1000	260	75	35	40	200	170	760	385 000
VI	More information on request. / 详细信息欢迎垂询。									



### we/2

Split anchor bolt for direct connection of the machine to the foundation

组合Wellenstein张紧螺栓用于直接将机器固定在地基上

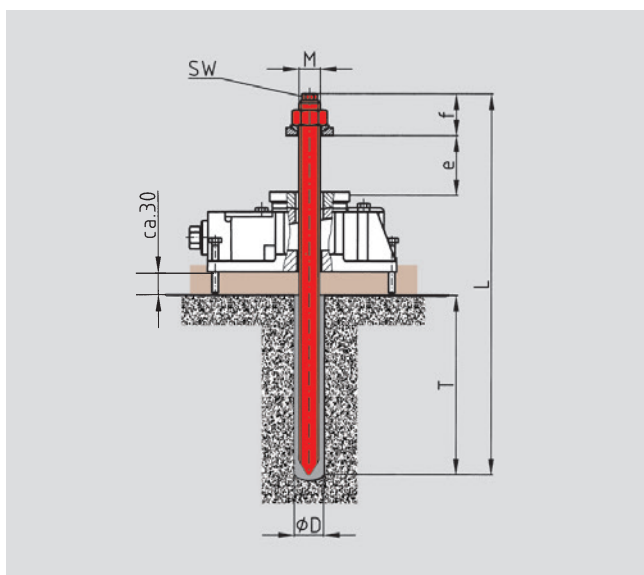
**Note:**  
Specify dimension „e“ (thickness of machine leg) in your order

提示：  
订购时标明请将机器底座高度“e”。

RK	M	short/ 短		ød	SW	L	I	e		long/ 长		e		Foundations/ 地基		Clamping force/ 夹紧力
		L1	I1					from/从	to/到	L	I	from/从	to/到	D	T	max. N
I	M16	190	39	13	10	130	55	20	55	155	60	60	80	80	150	53 000
II	M20	275	48	16	13	140	50	20	50	190	80	55	100	100	220	81 000
III	M24	360	63	19	17	165	60	30	60	225	90	65	120	120	290	115 000
IV	M30	450	85	24	19	190	70	35	70	255	110	75	135	150	360	182 000
V	M36	600	105	29	24	220	80	80	275	275	120	85	135	170	500	265 000
VI	More information on request. / 详细信息欢迎垂询。															

# Anchor bolts and studs

## 固定方式

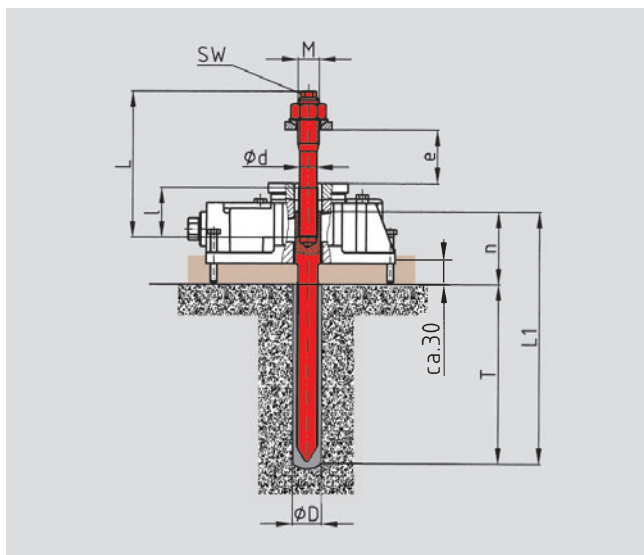


## due

Resin anchor  
(Capsule and stud)  
反作用锚由灌浆筒和螺纹  
杆组成

RK	M	L	SW	f	e		Hole/ 钻孔		Clamping force*/ 夹紧力*	
					from/从	to/到	$\phi D$	T	max. N	
I	M16	300	10	35	20	60	18	125	15 000	
II	M20	400	13	40	20	90	25	170	27 000	
III	M24	450	17	50	20	70	28	210	37 000	

\*Concrete  $\geq$  B25 / \*水泥



## due/2

Split resin anchor  
(Capsule and split stud)  
反作用锚由灌浆筒和组合  
螺纹杆组成

**Note:**  
Specify dimension „e“  
(thickness of machine leg)  
in your order

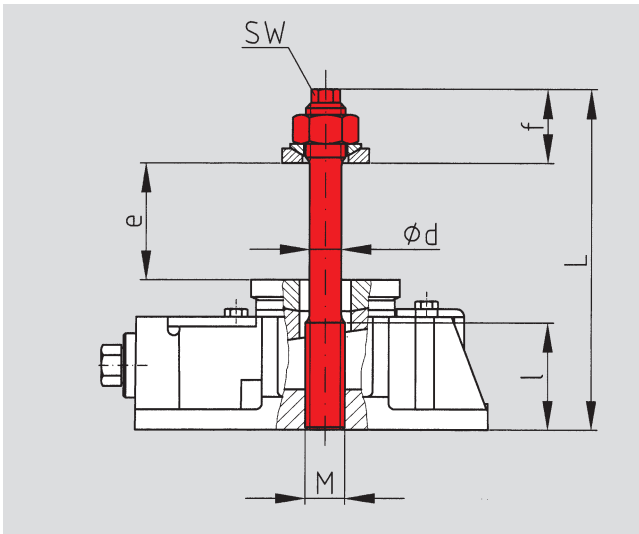
提示：  
订购时标明请将机器底座  
高度“e”。

RK	M	short/ 短		e		long/ 长		e		Hole/ 钻孔		Clamping force*/ 夹紧力*				
		$\phi d$	SW	L	I	from/从	to/到	L	I	from/从	to/到	L1	n	$\phi D$	T	max. N
I	M16	13	10	130	55	20	55	155	60	60	80	185	60	18	125	15 000
II	M20	16	13	140	50	20	50	190	80	55	100	240	70	25	170	27 000
III	M24	19	17	165	60	30	60	225	120	65	120	290	80	28	210	37 000

\*Concrete  $\geq$  B25 / \*水泥

# Anchor bolts and studs

## 固定方式



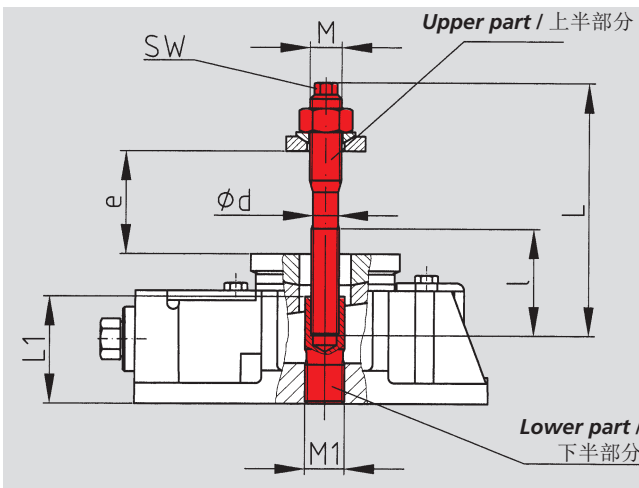
### ste

Short or long stud bolt for attaching the machine to the BW-Fixator®  
短和长张紧螺栓用于将机器固定在BWF固定器上

**Note:**  
Specify dimension „e“ (thickness of machine leg) in your order

提示:  
订购时标明请将机器底座高度“e”。

RK	M	ød	SW	short/ 短		e		long/ 长		e		Clamping force/ 夹紧力 max. N	
				L	I	from/从	to/到	L	I	from/从	to/到		
I	M12	-	-	-	130	-	20	40	160	-	40	70	32 000
II	M20	16	13	40	175	55	20	55	205	55	50	85	81 000
III	M24	19	17	50	215	70	20	70	260	70	65	115	115 000
IV	M30	24	19	55	260	85	30	85	310	85	80	135	182 000
V	M36	29	24	65	315	105	40	105	360	105	100	150	265 000
VI	More information on request. / 详细信息欢迎垂询。												



### ste/2

Short or long split stud bolt for attaching the machine to the BW-Fixator®  
组合张紧螺栓用于将机器固定在BWF固定器上

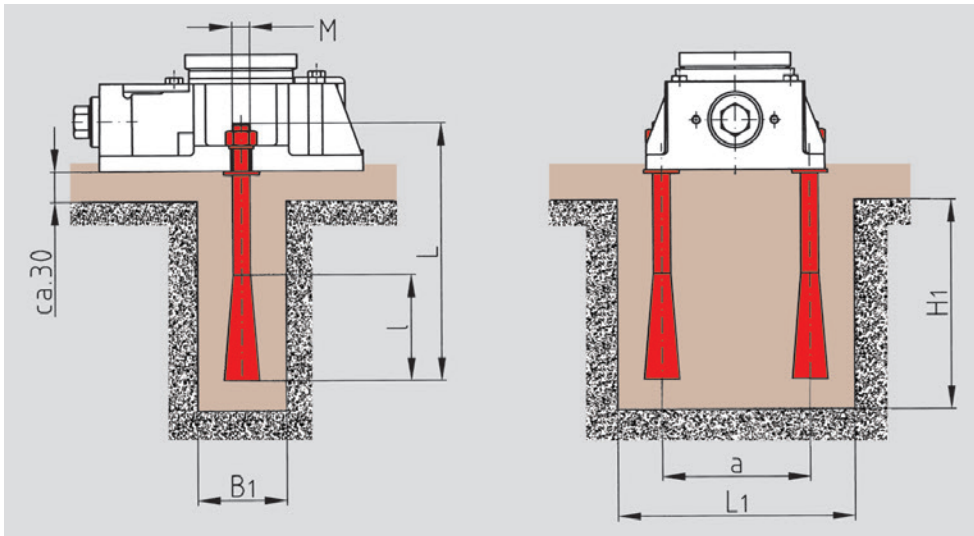
**Note:**  
Specify dimension „e“ (thickness of machine leg) in your order

提示:  
订购时标明请将机器底座高度“e”。

RK	M	ød	SW	short/ 短		e		long/ 长		e		Clamping force/ 夹紧力 max. N		
				L	I	from/从	to/到	L	I	from/从	to/到		L1	M1
II	M16	13	10	130	55	20	60	155	60	65	85	55	M20	53 000
III	M20	16	13	140	50	20	50	190	80	55	100	70	M24	81 000
IV	M24	19	17	165	60	30	60	225	90	65	120	85	M30	115 000
V	M30	24	19	190	70	40	70	255	110	75	135	105	M36	182 000

# Anchor bolts and studs

## 固定方式

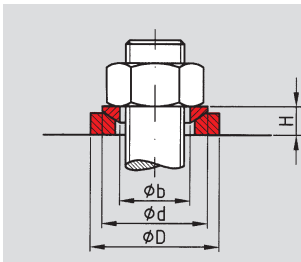


**C**

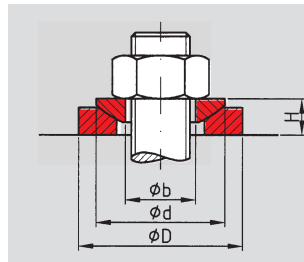
Side anchor bolts for connecting BW-Fixator® to the foundation  
使用两个侧面地脚螺栓固定BWF固定器

RK	M	L	I	a	Foundations/ 地基			Clamping force/ 夹紧力
					L1	B1	H1	max. N
I	M12	150	70	90	140	60	140	65 000
II	M12	150	70	100	160	60	140	65 000
III	M16	250	90	130	200	70	240	120 000
IV	M20	300	100	160	240	80	290	190 000
V	M24	350	135	205	305	100	350	275 000

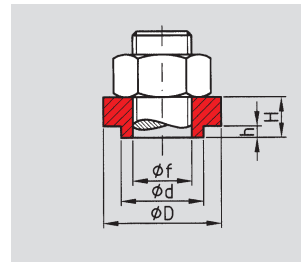
## Other applications / 附件



**p** Spherical washer set for non-parallel bearing surfaces  
用于非直角支撑面的球形垫片



**r** Large spherical washer set for non-parallel bearing surfaces  
用于非直角支撑面的球形垫片



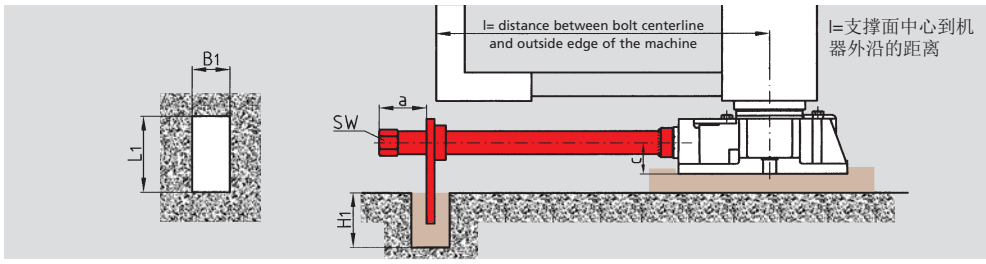
**z** Foam centering bushing for the concentric location of the anchor bolts in the machine foot holes  
用于装配锚固螺栓时对准机器锚孔的装配辅助

RK	ØD	H	Ød	Øb
I (M12)	40	9	30	13
I (M16)	40	9	30	17
II	44	10	36	21
III	56	13	44	25
IV	68	16	56	31
V (M36)	78	20	68	37
V (M42)	100	26	90	44

RK	ØD	H	Ød	Øb
I	44	10	36	17
II	56	13	44	21
III	68	16	56	25
IV	80	16	56	31
V (M36)	100	20	68	37
V (M42)	125	26	90	44

RK	Øf	ØD	H	Ød	h
I	16,2	32	13	22	4
II	20,2	40	14	28	4
III	24,2	44	18	32	5
IV	30,2	54	21	42	5
V (M36)	36,3	60	26	45	6
V (M42)	42,5	70	32	56	6

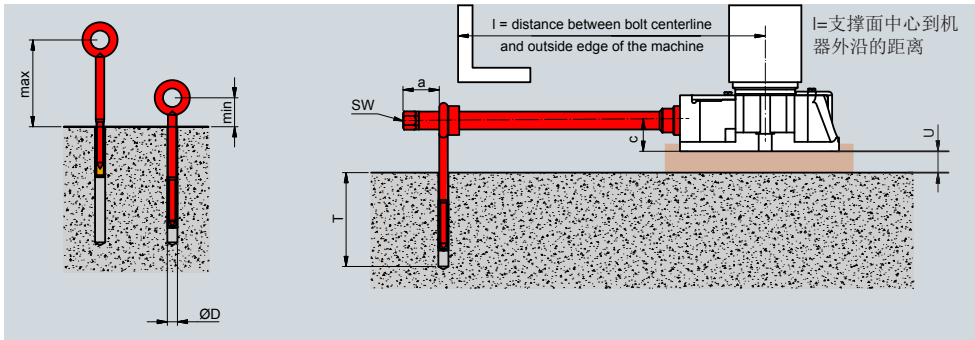
# Other applications / 附件



RK	a	c	SW	Minimum length l / 最低尺寸l	Tube / 管	Foundations/ 地基		
						L1	B1	H1
I	50	23	22	140	24 x 4	80	40	70
II	50	33	22	140	24 x 4	80	40	70
III	50	42	22	170	24 x 4	80	40	90
IV	50	51	32	200	38 x 5	100	50	100
V	50	60	32	250	38 x 5	100	50	110

## le

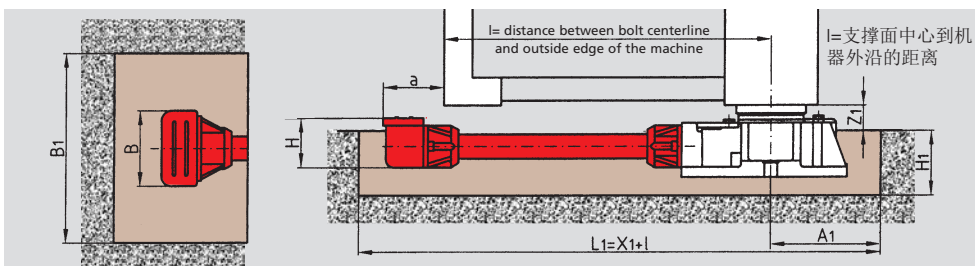
Extended set screw on BW-Fixator® arranged inwards of the machine side  
 装配于内侧的BWF固定器上的加长调节螺栓



RK	a	c	SW	Minimum length l / 最低尺寸l	Tube / 管	led		led - I			ØD	T
						min	max	U <sub>max</sub>	max	U <sub>max</sub>		
I	50	23	22	140	24 x 4	25	80	≤60	120	≤100	14	120
II	50	33	22	140	24 x 4	25	80	≤50	120	≤90	14	120
III	50	42	22	170	24 x 4	25	80	≤40	120	≤80	14	120
IV	50	51	32	200	38 x 5	40	120	≤70			14	120
V	50	60	32	250	38 x 5	40	120	≤60			14	120

## led

Extended set screw on BW-Fixator® arranged inwards of the machine side Fixing with Eye screw  
 装配于内侧的BWF固定器上由吊环螺栓固定的加长调节螺栓



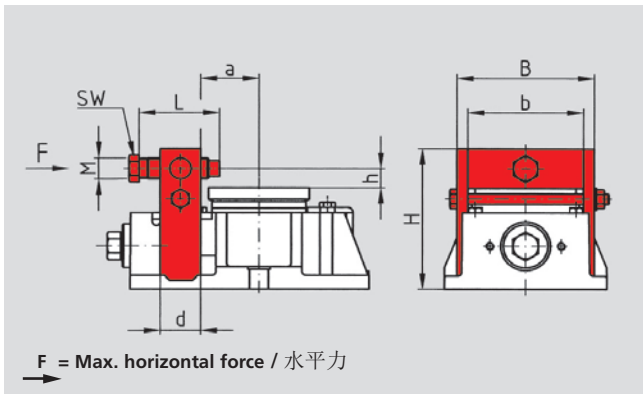
RK	a	B	H	Minimum length l / 最低尺寸l	Foundations/ 地基				
					A1	Z1	B1	H1	X1
I	61	81	47	140	130	20	160	70	230
II	65	92	59	140	140	25	200	80	240
III	72	92	59	180	160	30	250	100	270
IV	75	136	96	240	200	35	300	120	320
V	80	136	96	275	230	40	330	140	370

## les

Extended set screw on flush-mounted BW-Fixator® arranged inwards of the machine side  
 水泥灌封的、装配于内侧的BWF固定器上的加长调节螺栓



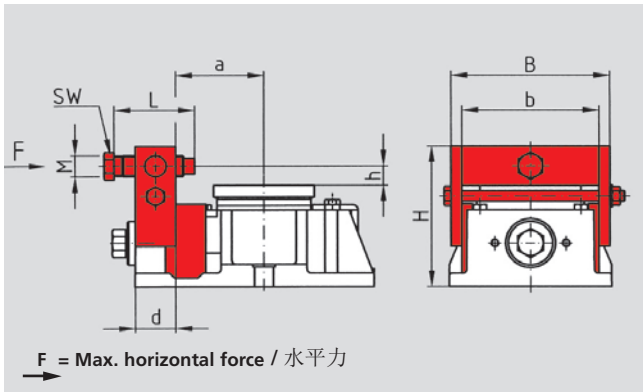
# Other applications / 附件



## d

Lateral adjuster for adjusting machine location  
用于侧面校正的压紧件

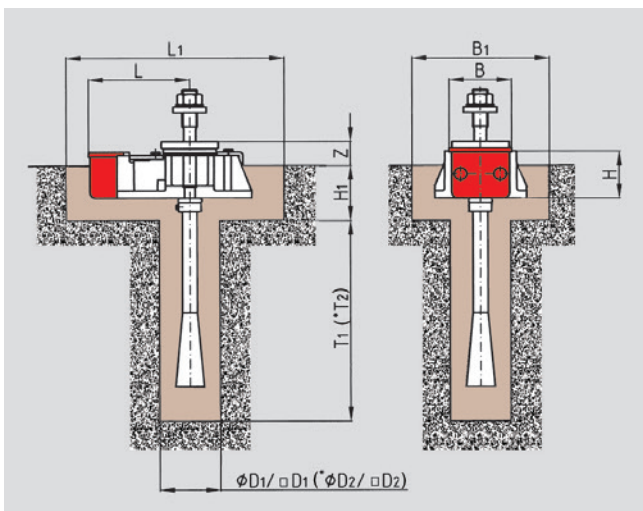
RK	M	L	SW	H	B	b	d	a	h	F	
										N	
I	M12	50	17	83	86	70	25	40	15	20 000	
II	M16	60	19	106	102	86	30	43	16	25 000	
III	M20	60	19	129	129	109	35	55	16	35 000	
IV	M20	70	24	160	150	130	40	70	20	40 000	
V	M24	80	30	192	199	175	45	90	24	60 000	



## dz

Offset lateral adjuster for adjusting machine location  
用于侧面校正的压紧件（后置构造）

RK	M	L	SW	H	B	b	d	a	h	F	
										N	
I	M12	50	17	83	102	86	25	57	15	20 000	
II	M16	60	19	106	118	102	30	65	16	25 000	
III	M20	60	19	129	149	129	35	80	16	35 000	
IV	M20	70	24	160	170	150	40	100	20	40 000	
V	M24	80	30	192	223	199	45	123	24	60 000	

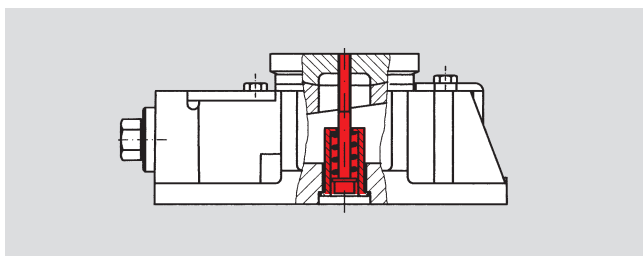


## m

Set screw guard on flush mounted BW-Fixator® Foundations at combination of variants **m** and **wes**  
用于灌封式BWF固定器的保护外壳。**m**和**wes**类型结合的地基凹槽。

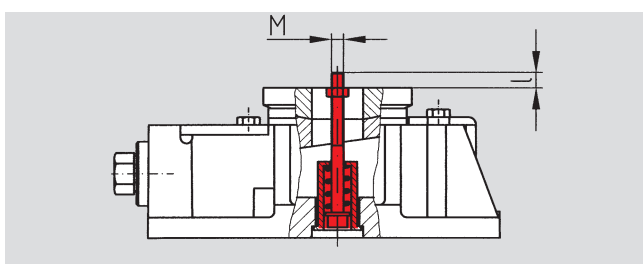
RK	Foundations / 地基							*Foundations 2/ *地基 2			
	L	B	H	Z	L1	H1	B1	D1	T1	D2	T2
I	129	81	47	20	310	70	160	70	230	-	-
II	138	92	59	25	310	80	200	80	270	100	360
III	160	92	59	30	380	100	250	100	340	120	430
IV	206	136	96	35	450	120	300	120	410	150	590
V	245	136	96	40	550	140	330	150	570	170	760

\*Foundations 2 in connection with the next size of anchor bolts  
\*规格2对应在使用较大的锚定螺栓时



## mon

Locking system for the spherical bearing plate  
球形垫片保险



## frot

Connection for mobile arrangement  
交变位置的固定

RK	M	I
I	6	8
II	6	8
III	8	8
IV	8	12
V	12	12

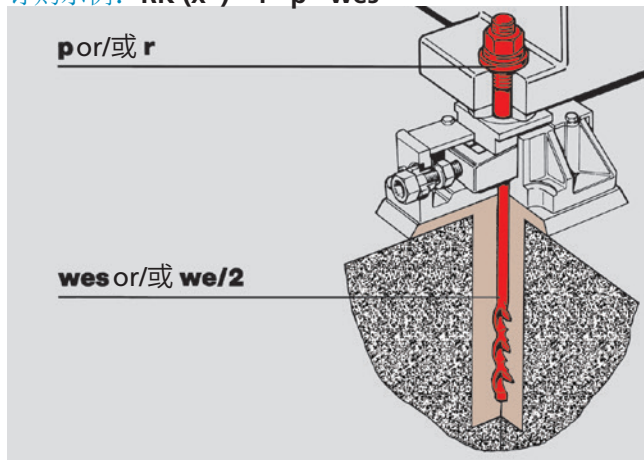
# Various Combinations and applications

## 组合与应用形式

### Combination 1 / 组合 1

Order specification

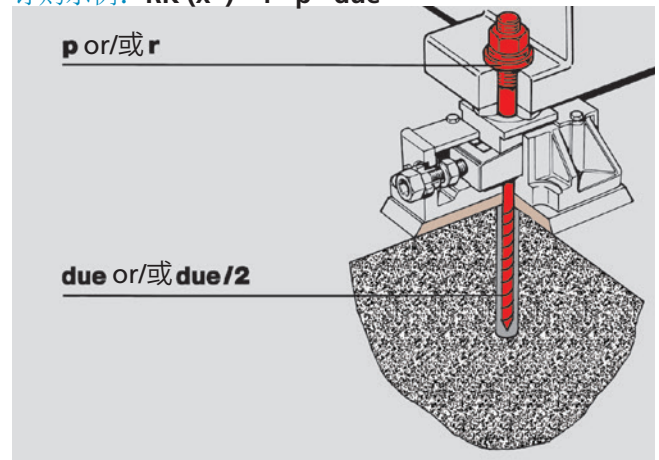
订购示例: RK (x\*) - f · p · wes



### Combination 2 / 组合 2

Order specification

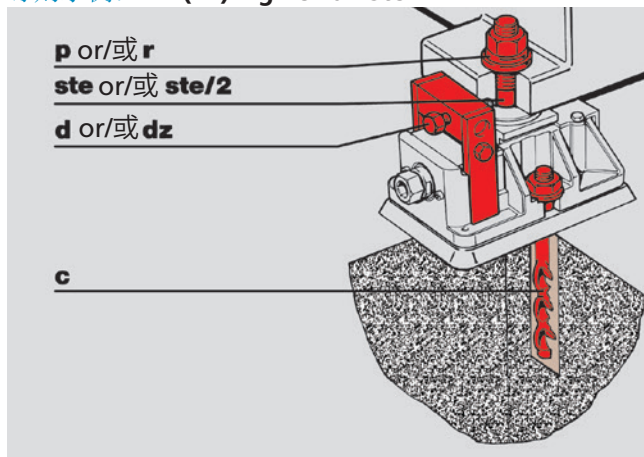
订购示例: RK (x\*) - f · p · due



### Combination 3 / 组合 3

Order specification

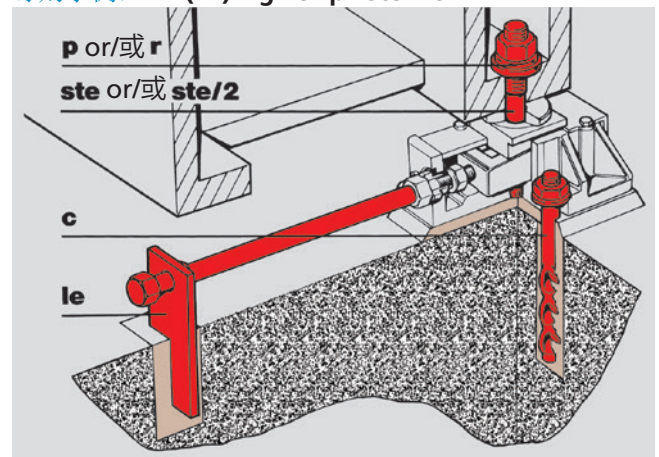
订购示例: RK (x\*) - g · c · d · ste



### Combination 4 / 组合 4

Order specification

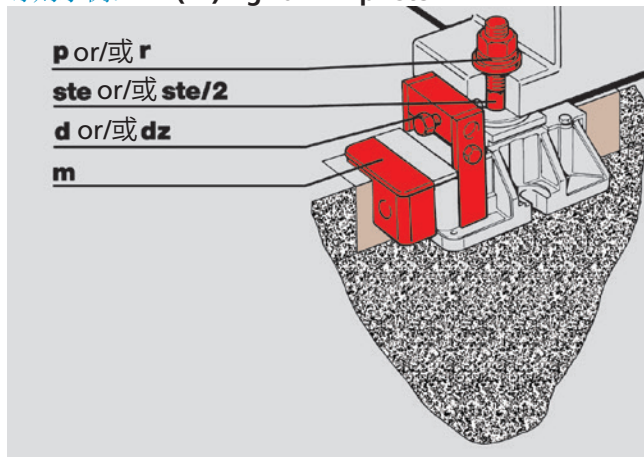
订购示例: RK (x\*) - g · c · p · ste · le



### Combination 5 / 组合 5

Order specification

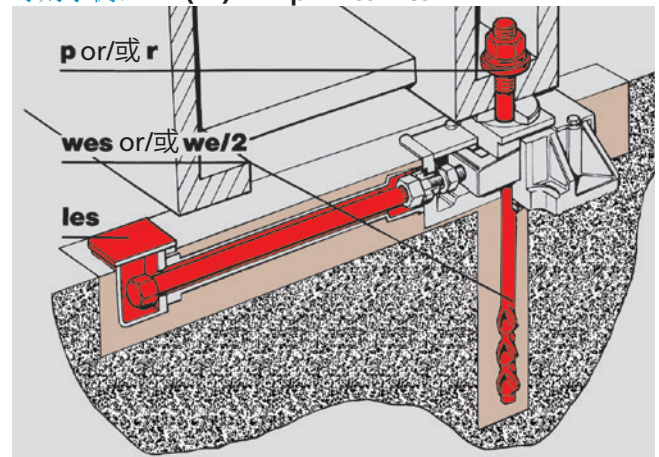
订购示例: RK (x\*) - g · d · m · p · ste



### Combination 6 / 组合 6

Order specification

订购示例: RK (x\*) - f · p · wes · les



(x\*) = size of BW-Fixator®  
(x\*)=BWF固定器尺寸

Subject to modification without notice!  
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