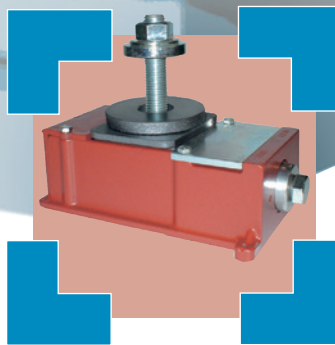


# BW-Fixatoren®

## Series EK

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

Installation Varieties and  
Technical Information

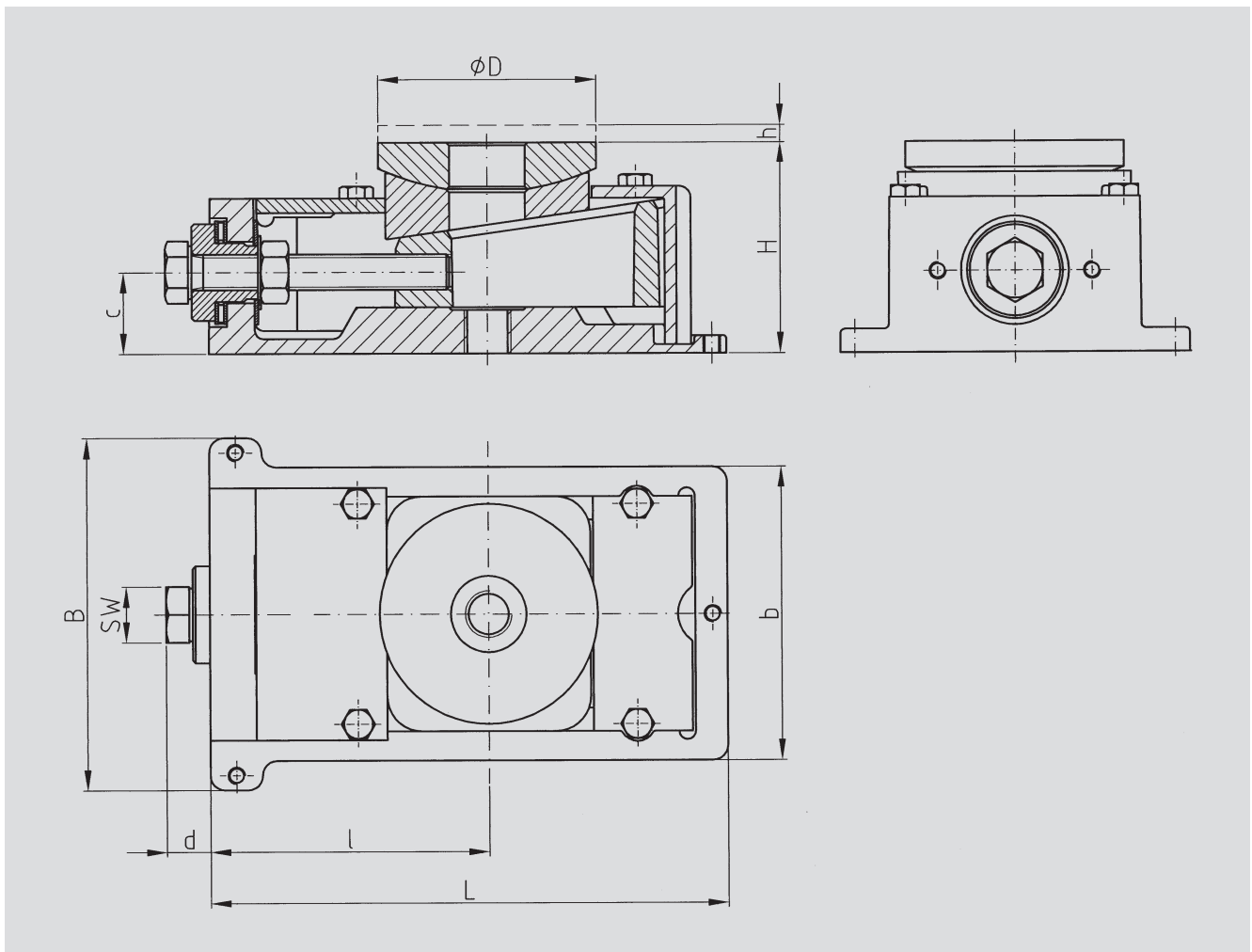


**BWF**

*...the best for accuracy.*

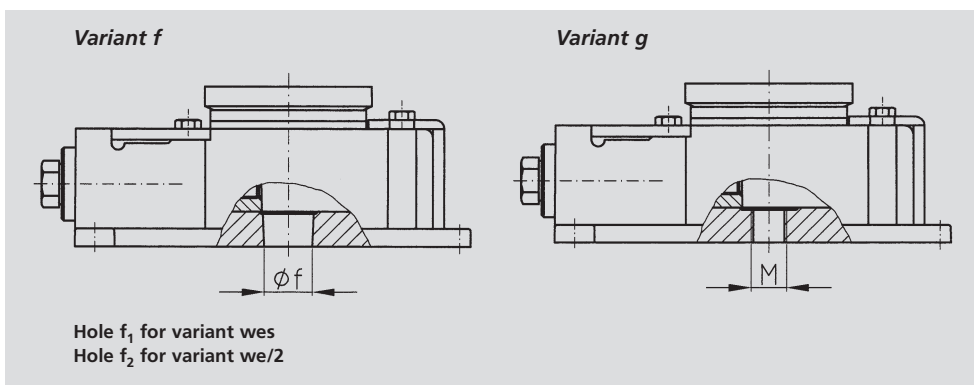
# Dimensions of Series EK

**GA** Basic unit



Size	L	B	H	$\phi D$	SW	d	c	h	l	b
II	178	120	72	75	19	15	27	5	96	100
III	220	150	92	90	24	22	36	6	118	120
IV	275	180	110	110	30	34	46	8	142	145

**Variant b** :Machined bottom of the housing, the height is 2 mm less



Size	$\phi f_1$	$\phi f_2$	g
II	21	25	M16
III	25	31	M20
IV	31	37	M24

# Technical Datas for Series EK

Size	Dim	EKII	EKIII	EKIV	
Permissible maximum load <sup>1)</sup>	N	120 000	240 000	360 000	
Recommended machine dead weight <sup>2)</sup>	N	20 000	40 000	60 000	
Spring constant in operation range <sup>3)</sup>	N/ $\mu$ m	4 500	8 000	10 000	
Torque at adjusting screw	Specific	$\frac{N \cdot m}{10^3 \text{ kg}}$	3	4	4,5
	Maximum	N-m	36	96	160
	Security	N-m	2,5-5	3,5-7	4-8
Vertical Adjustment per screw turn	mm	0,25	0,29	0,35	
Weight of basic unit	kg	4,5	9	16	

<sup>1)</sup> BW-Fixators® are adjustable up to this load.

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

<sup>3)</sup> 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.

## 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.

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

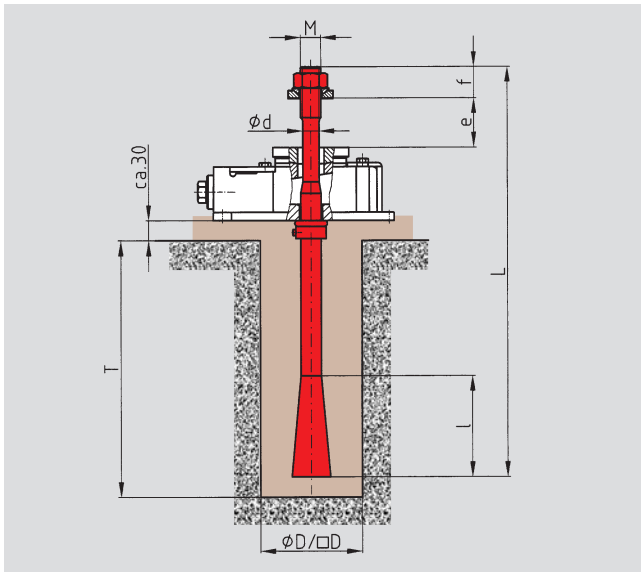
$$\Delta f[\mu\text{m}] = \frac{\Delta F}{c} = \frac{\text{Load change N}}{\text{Spring constant N}/\mu\text{m}}$$

### 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

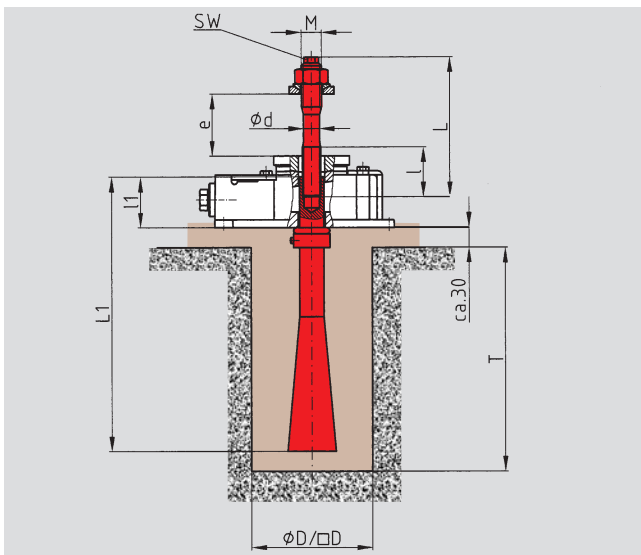
# Anchor bolts and studs



## wes

Anchor bolt for direct connection of the machine to the foundation

EK	M	L	l	f	Ø d	e		Foundations		Clamping force max. N
						from	to	D	T	
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



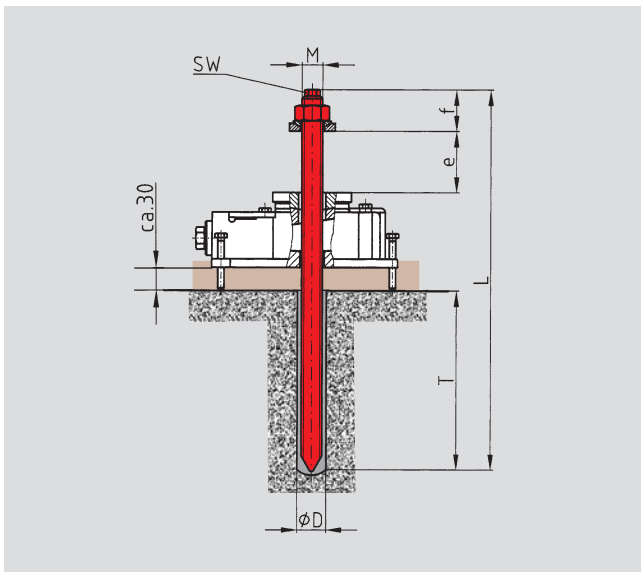
## we/2

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

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

EK	M	L1	l1	Ø d	SW	short		e		long		e		Foundations		Clamping force max. N
						L	l	from	to	L	l	from	to	D	T	
II	M20	275	43	16	13	140	50	20	50	190	80	55	100	100	220	81 000
III	M24	360	59	19	17	165	60	30	60	225	90	65	120	120	290	115 000
IV	M30	450	80	24	19	190	70	35	70	255	110	75	135	150	360	182 000

# Anchor bolts and studs

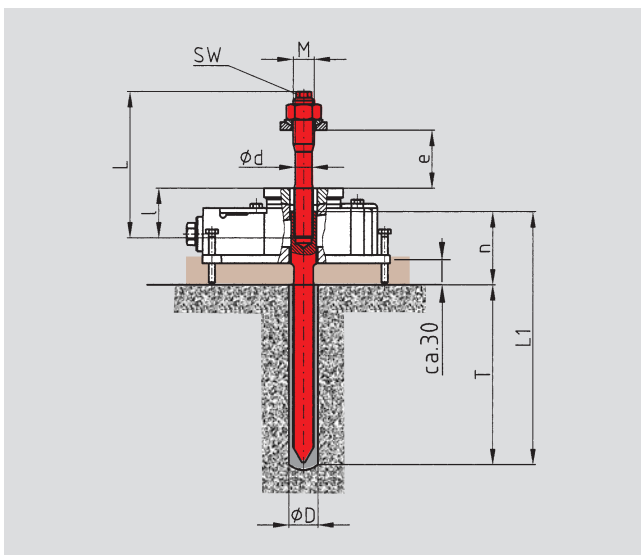


## due

Resin anchor  
(Capsule and stud)

EK	M	L	SW	f	e		Hole		Clamping force* max. N
					from	to	Ø D	T	
II	M20	400	13	40	20	90	25	170	27 000
III	M24	450	17	50	20	70	28	210	37 000

\*Concrete ≥ B25



## due/2

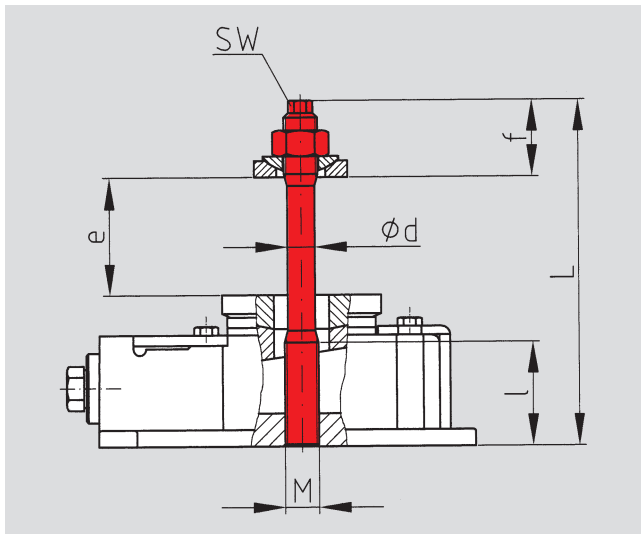
Split resin anchor  
(Capsule and split stud)

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

EK	M	Ø d	SW	short		e		long		e		L1	n	Hole		Clamping force* max.N
				L	l	from	to	L	l	from	to			Ø D	T	
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 ≥ B25

# Anchor bolts and studs



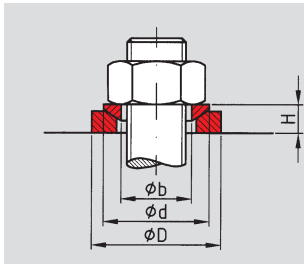
## ste

Short or long stud bolt for attaching the machine to the BW-Fixator®

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

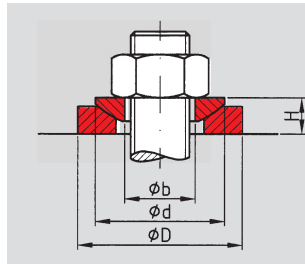
EK	M	short		e		long		e		Clamping force max. N
		L	l	from	to	L	l	from	to	
II	M16	170	55	20	60	200	85	65	90	53 000
III	M20	175	55	20	35	205	85	40	65	81 000
IV	M24	210	70	20	55	260	120	60	100	115 000

## Other applications



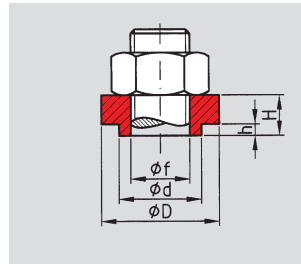
**p** Spherical washer set for non-parallel bearing surfaces

EK	∅ D	H	∅ d	∅ b
II (M16)	40	9	30	17
II (M20)	44	10	36	21
III (M20)	44	10	36	21
III (M24)	56	13	44	25
IV (M24)	56	13	44	25
IV (M30)	68	16	56	31



**r** Large spherical washer set for non-parallel bearing surfaces

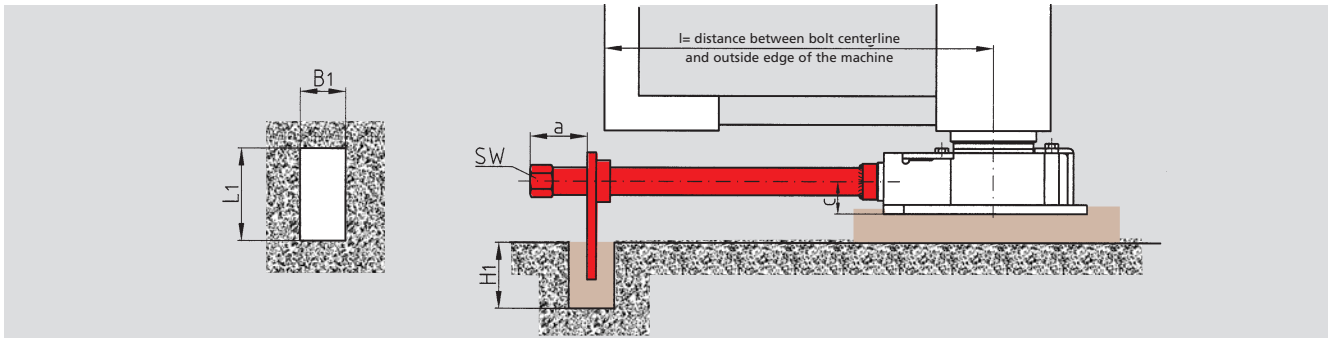
EK	∅ D	H	∅ d	∅ b
II (M16)	44	10	36	17
II (M20)	56	13	44	21
III (M20)	56	13	44	21
III (M24)	68	16	56	25
IV (M24)	68	16	56	25
IV (M30)	80	16	56	31



**z** Foam centering bushing for the concentric location of the anchor bolts in the machine foot holes

EK	∅ f	∅ D	H	∅ d	h
II	20,2	40	14	28	4
III	24,2	44	18	32	5
IV	30,2	54	21	42	5

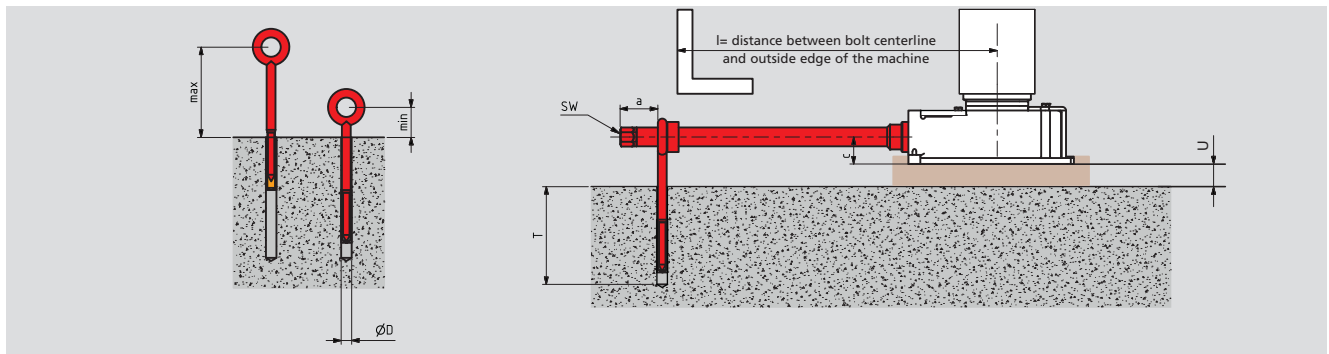
# Other applications



EK	a	c	SW	Minimum length l	Tube	Foundations		
						L1	B1	H1
II	50	27	22	140	24 x 4	80	40	70
III	50	36	22	170	24 x 4	80	40	90
IV	50	46	32	200	38 x 5	100	50	100

## le

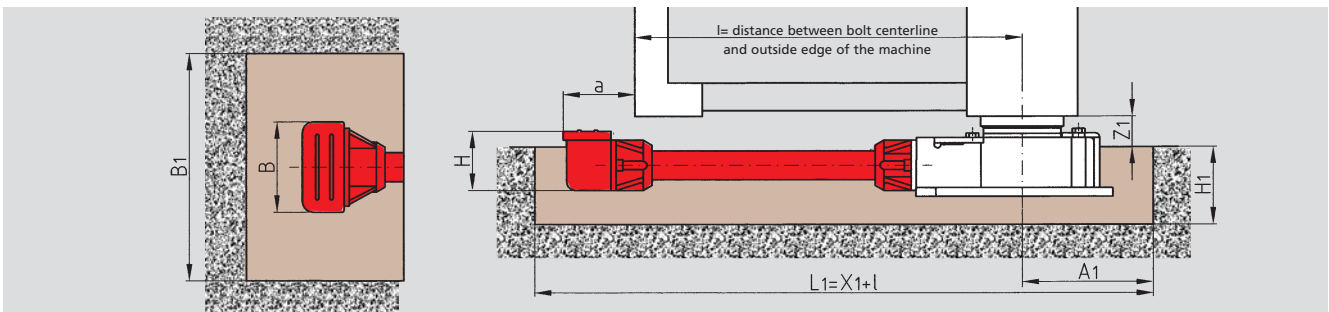
Extended set screw on BW-Fixator® arranged inwards of the machine side



RK	a	c	SW	Minimum length l	Tube	led		led - l		øD	T	
						min	max	U <sub>max</sub>	max			U <sub>max</sub>
I	50	23	22	140	24x4	25	80	≤60	120	≤100	14	120
II	50	33	22	140	24x4	25	80	≤50	120	≤90	14	120
III	50	42	22	170	24x4	25	80	≤40	120	≤80	14	120
IV	50	51	32	200	38x5	40	120	≤70			14	120
V	50	60	32	250	38x5	40	120	≤60			14	120

## led

Extended set screw on BW-Fixator® arranged inwards of the machine side  
Fixing with Eye screw

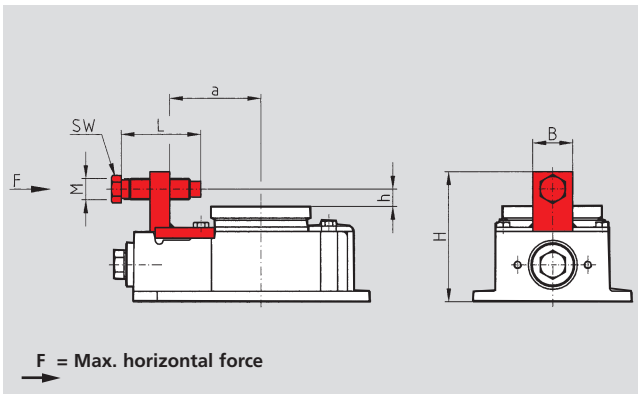


EK	a	B	H	Minimum length l	A1	Z1	Foundations		
							B1	H1	X1
II	65	92	59	140	140	25	200	80	240
III	72	92	59	180	160	30	250	100	270
IV	75	136	96	240	200	35	300	120	320

## les

Extended set screw on flush-mounted BW-Fixator® arranged inwards of the machine side

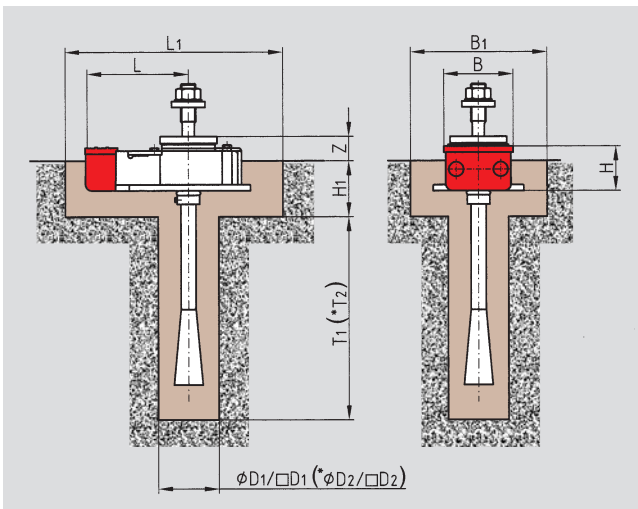
# Other applications



**d**

Lateral adjuster for adjusting machine location

EK	M	L	SW	H	B	a	h	F N
II	M16	60	19	98	30	67	12	25 000
III	M16	80	19	119	30	90	12	30 000
IV	M20	100	24	149	40	110	20	40 000



**m**

Set screw guard on flush mounted BW-Fixator®  
Foundations at combination of variants **m** and **wes**

EK	Foundations						*Foundations 2				
	L	B	H	Z	L1	H1	B1	D1	T1	D2	T2
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

\*Foundations 2 in connection with the next size of anchor bolts