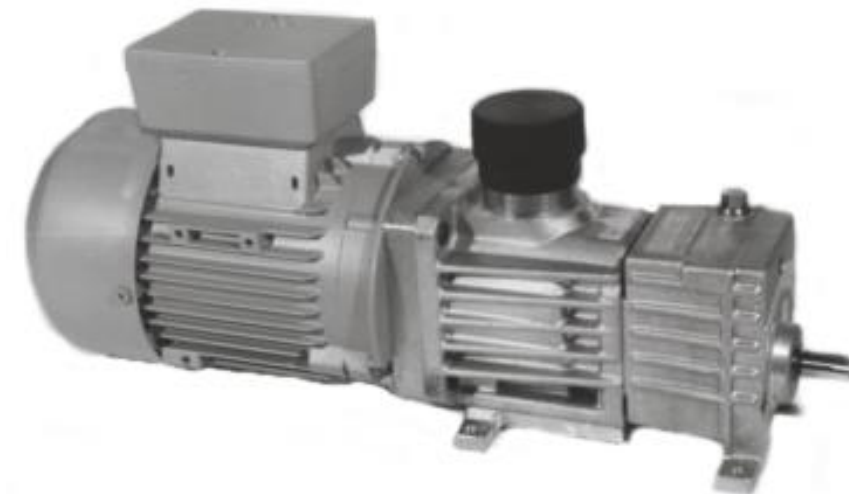


Actuator

## Series K



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Catalogue K 01/96

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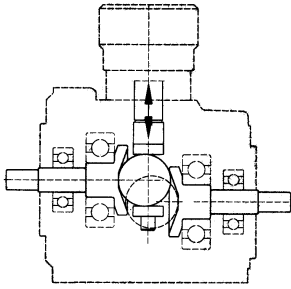
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This catalogue contains product specifications,  
but no assurance of properties.  
We reserve the right for technical changes and changes of availability.  
All dimensions are given in mm.



- Drive power = 0.18 kW
- Output torques up to 70 Nm
- Output speeds from 0.13 to 4,200 1/min
- Adjusting range 1: 9
- Adjustment option at standstill
- Consistent speed, quiet running, long life and high efficiency
- Lifetime lubrication means maintenance-freedom
- Completely closed design, all of the transmission parts running in oil bath, thereby suitable for use in hazardous areas

## Function

Two axially parallel hollow cones enclose a steel ball under prestressing. The ball moves along the hollow cones on an almost punctiform contact area, transmitting the power from the drive shaft to the output shaft in the same direction. The direction of rotation is arbitrary. A sliding ball guide at the control device steplessly varies the transmission ratio between the input and output shafts. Thus, an adjusting range between 3:1 and 1:3 is possible (total R = 9). Speed is set using an adjustment screw; it takes 10 turns to traverse the entire adjusting range.

## Drive-side attachments

### Free drive shaft

In this version maximum drive speed at continuous operation must not exceed 2000 1/min. Permissible radial load in the drive shaft is 44 N.

### Motor mounting

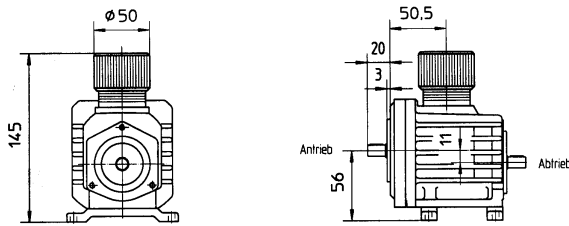
Powered by a B14 standard motor. Standard version includes either 4-pole three-phase AC motors, three-phase explosion-proof motors or single phase AC motors.

## Output-side attachments

The following devices can be attached to adjust the output speed to requirements:

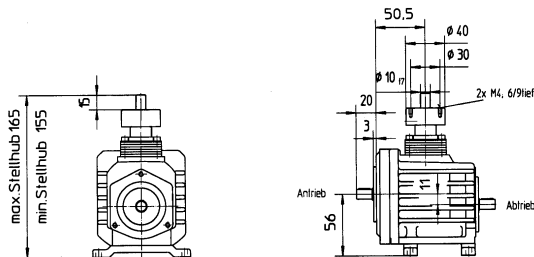
- Spur gear units, 1 to 7 steps
- Spur and bevel gears
- Worm gears

## Control devices



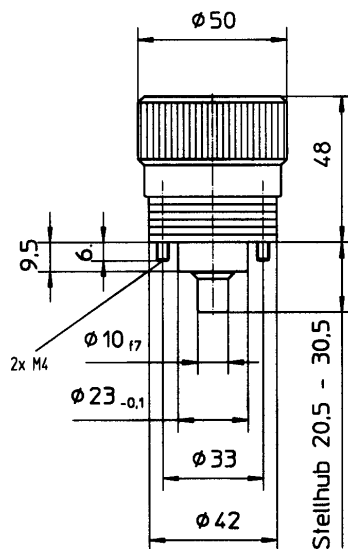
### Default control device

The entire adjusting range is traversed by 10 turns of the handwheel. The control sleeve is provided with a linear 1-10 scale, yet with no direct relation to the output speed, since the control curve is approximately logarithmic.



### Control device II

Using rigid or flexible shafts, this version with a free adjusting shaft is used for extending the control device; sprockets or the like can also be used. Travel is 10 mm, the required torque approximately 1.3 nm.

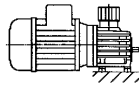


### Attached control device

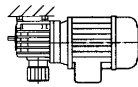
Together with control device II and the corresponding shaft extension, mechanical remote adjustment is possible with series K actuators.

## K2 designs according to DIN 42950

### Fußausführung



B3



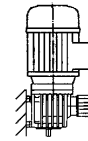
B8



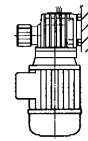
B6



B7

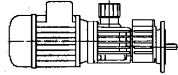


V5

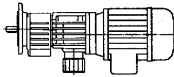


V6

### Flanschsführung



B5



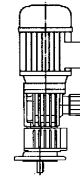
B8/B5 o.Füße



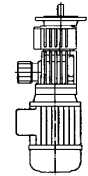
B6/B5  
ohne Füße



B7/B5  
ohne Füße

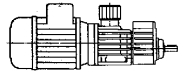


V1

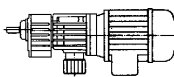


V3

### Flanschsführung



B14



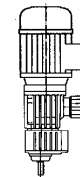
B8/B14 o.Füße



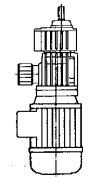
B6/B14  
ohne Füße



B7/B14  
ohne Füße



V18

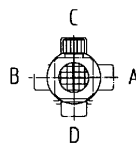


V19

### Klemmenkastenanordnung

normal C

Anordnung A, B, D auf Wunsch  
Die Bezeichnungen beziehen sich auf  
Blickrichtung Lüfterhaube und Getriebe  
in Normallage.



## Type designation

K2 69 W3 - 18/4

### Series

K2

Actuator, freely adjustable

### Reduction gear unit

1	1-step spur gear
2	2-step spur gear
3-7	3- to 7-step spur gear
39-69	3- to 6-step spur gear
40-60	4- to 6-step spur gear
S1	1-step worm gear

### Spiral bevel gear

W2	20 Nm
W3	30 Nm

### Motor

18/4

0.18 KW, 4-pole, three-phase or 1-phase AC

## Actuator with spur gear

Driving power  
**0.18 KW**

## Series K

Adjusting range  
**1:9**

Output speeds $n_2$ at $n_1 = 1400$ 1/min	Output torque $M_2$		Gearing ratio	Appr. weight w motor	Appr. weight w/o motor	Dimensions
1/min	Nm	Type	$i =$	kg	kg	Fig. no.
465 - 4200	0.9 - 0.27	K2-18/4	-----	5.8	1.8	2
155 - 1400	2.5 - 0.75	K21-18/4	3	6.8	2.8	3
111 - 996	3.4 - 1.02	K23-18/4	4.2	6.6	2.6	5
92 - 824	4.3 - 1.3	K21-18/4	5.1	6.8	2.8	3
71 - 640	5.6 - 1.7	K21-18/4	6.6	6.8	2.8	3
58 - 522	6.6 - 2.0	K22-18/4	8.0	7.3	3.3	4
45 - 405	8.4 - 2.5	K23-18/4	10.4	6.6	2.6	5
34 - 306	11.2 - 3.3	K22-18/4	13.7	7.3	3.3	4
30 - 268	*10 - 3.8	K23-18/4	15.6	6.6	2.6	5
26 - 234	14.6 - 4.3	K22-18/4	17.8	7.3	3.3	4
22 - 194	17.2 - 5.1	K239-18/4	21.6	7.8	3.8	6
21 - 188	*10 - 5.3	K24-18/4	22.3	6.7	2.7	5
16.5 - 149	*10 - 6.7	K24-18/4	28	6.7	2.7	5
13.7 - 123	*10 - 8.3	K24-18/4	34	6.7	2.7	5
12.6 - 113	29 - 8.5	K239-18/4	37	7.8	3.8	5
10.8 - 97	*10 - *10	K24-18/4	43	6.7	2.7	6
9.7 - 87	*30 - 11.5	K239-18/4	48	7.8	3.8	6
9 - 81	*10 - *10	K24-18/4	51.3	6.7	2.7	5
8 - 72	*30 - 13.7	K249-18/4	59	7.8	3.8	6
8 - 72	48 - 13.7	K240-18/4	59	9.3	5.3	7
5.9 - 53	*10 - *10	K24-18/4	78	6.7	2.7	5
5 - 45	*10 - *10	K25-18/4	93	6.7	2.7	5
4.7 - 42	*30 - 23	K249-18/4	100	7.8	3.8	6
4.7 - 42	*70 - 23	K240-18/4	100	9.3	5.3	7
4.1 - 37	*10 - *10	K25-18/4	112	6.7	2.7	5
3.5 - 31	*30 - *30	K249-18/4	130	7.8	3.8	6
3.5 - 31	*70 - 31	K240-18/4	130	9.3	5.3	7
3.3 - 30	*10 - *10	K25-18/4	142	6.7	2.7	5
3 - 27	*30 - *30	K259-18/4	158	7.9	3.9	6
3 - 27	*70 - 37	K250-18/4	158	9.5	5.5	7
2.8 - 25	*10 - *10	K25-18/4	169	6.7	2.7	5
1.9 - 17.3	*10 - *10	K26-18/4	242	6.8	2.8	5
1.7 - 15	*30 - *30	K259-18/4	272	7.9	3.9	6
1.7 - 15	*70 - 64	K250-18/4	272	9.5	5.5	7
1.5 - 13.2	*10 - *10	K26-18/4	305	6.8	2.8	5
1.3 - 12	*30 - *30	K259-18/4	353	7.9	3.9	6
1.3 - 12	*70 - *70	K250-18/4	353	9.5	5.5	7
1.26 - 11.3	*10 - *10	K26-18/4	371	6.8	2.8	5

\* Design-related permissible torque of transmission gear

## Actuator with spur gear

## Series K

Driving power

**0.18 KW**

Adjusting range

**1:9**

Output speed $n_2$ at $n_1 = 1400$ 1/min	Output torque $M_2$	Type	Gearing ratio $i =$	Appr. weight w motor kg	Appr. weight w/o motor kg	Dimensions Fig. no.
1.1 - 10	*30 - *30	K269-18/4	429	7.9	3.9	6
1.1 - 10	*70 - *70	K260-18/4	429	5.7	5.7	7
1.0 - 9.0	*10 - *10	K26-18/4	467	6.8	2.8	5
0.8 - 7.5	*10 - *10	K26-18/4	556	6.8	2.8	5
0.63 - 5.7	*30 - *30	K269-18/4	735	7.9	3.9	6
0.63 - 5.7	*70 - *70	K260-18/4	735	9.7	5.7	7
0.48 - 4.3	*30 - *30	K269-18/4	955	7.9	3.9	6
0.48 - 4.3	*70 - *70	K260-18/4	955	9.7	5.7	7
0.46 - 4.16	*10 - *10	K27-18/4	1006	6.8	2.8	5
0.38 - 3.4	*10 - *10	K27-18/4	1221	6.8	2.8	5
0.30 - 2.7	*10 - *10	K27-18/4	1540	6.8	2.8	5
0.25 - 2.3	*10 - *10	K27-18/4	1833	6.8	2.8	5
0.17 - 1.5	*10 - *10	K27-18/4	2806	6.8	2.8	5

\* Design-related permissible torque of transmission gear

## Actuator with spur and bevel gear

## Series K

Driving power  
**0.18 KW**

Adjusting range  
**1:9**

Output speed $n_2$ at $n_1 = 1400$ 1/min <b>1/min</b>	Output torque $M_2$ <b>Nm</b>	<b>Type</b>	Gearing ratio <b>i =</b>	Appr. weight w motor <b>kg</b>	Appr. weight w/o motor <b>kg</b>	Dimensions <b>Fig. no.</b>
71 - 640	4.9 - 1.5	K23W2-18/4	6.6	7.4	3.4	9
56 - 500	6.5 - 1.9	K23W2-18/4	8.4	7.4	3.4	9
46 - 414	7.6 - 2.3	K23W2-18/4	10.2	7.4	3.4	9
36 - 327	9.6 - 2.8	K23W2-18/4	12.8	7.4	3.4	9
29 - 261	12.5 - 3.8	K22W2-18/4	16	8.1	4.1	8
22 - 202	15.4 - 4.6	K23W2-18/4	20.7	7.4	3.4	9
17 - 155	*20 - 6.3	K22W2-18/4	27	8.1	4.1	8
15 - 135	*20 - 7.2	K23W2-18/4	31.2	7.4	3.4	9
14.5 - 131	24.5 - 7.3	K239W3-18/4	32	9.3	5.3	10
13.3 - 120	*20 - 8.2	K22W2-18/4	35	8.1	4.1	8
10.5 - 94	*20 - 10	K24W2-18/4	44.6	7.5	3.5	9
8.3 - 75	*20 - 12.7	K24W2-18/4	56	7.5	3.5	9
8.3 - 75	*30 - 12.7	K239W3-18/4	56	9.3	5.3	10
6.8 - 61	*20 - 15.2	K24W2-18/4	68	7.5	3.5	9
6.5 - 58	*30 - 16.4	K239W3-18/4	72	9.3	5.3	10
5.4 - 48	*20 - 19.2	K24W2-18/4	86	7.5	3.5	9
5.3 - 48	*30 - 19.5	K249W3-18/4	88	9.3	5.3	10
4.5 - 41	*20 - *20	K24W2-18/4	103	7.5	3.5	9
3.2 - 28	*30 - *30	K249W3-18/4	151	9.3	5.3	10
3.0 - 27	*20 - *20	K24W2-18/4	157	7.5	3.5	9
2.5 - 23	*20 - *20	K25W2-18/4	185	7.5	3.5	9
2.4 - 21	*30 - *30	K249W3-18/4	196	9.3	5.3	10
2.1 - 18.7	*20 - *20	K25W2-18/4	225	7.5	3.5	9
1.97 - 17.6	*30 - *30	K259W3-18/4	238	9.4	5.4	10
1.6 - 14.8	*20 - *20	K25W2-18/4	284	7.5	3.5	9
1.4 - 13	*20 - *20	K25W2-18/4	338	7.5	3.5	9
1.15 - 10.3	*30 - *30	K259W3-18/4	407	9.4	5.4	10
0.96 - 8.7	*20 - *20	K26W2-18/4	484	7.6	3.6	9
0.9 - 7.9	*30 - *30	K259W3-18/4	529	9.4	5.4	10
0.76 - 6.9	*20 - *20	K26W2-18/4	611	7.6	3.6	9
0.73 - 6.5	*30 - *30	K269W3-18/4	643	9.4	5.4	10
0.63 - 5.7	*30 - *30	K26W2-18/4	741	7.6	3.6	9
0.50 - 4.5	*20 - *20	K26W2-18/4	935	7.6	3.6	9
0.42 - 3.8	*20 - *20	K26W2-18/4	1113	7.6	3.6	9
0.42 - 3.8	*30 - *30	K269W3-18/4	1102	9.4	5.4	10
0.33 - 2.9	*30 - *30	K269W3-18/4	1432	9.4	5.4	10
0.23 - 2.1	*20 - *20	K27W2-18/4	2011	7.6	3.6	9
0.19 - 1.72	*20 - *20	K27W2-18/4	2442	7.6	3.6	9
0.15 - 1.36	*20 - *20	K27W2-18/4	3079	7.6	3.6	9
0.13 - 1.15	*20 - *20	K27W2-18/4	3665	7.6	3.6	9
0.08 - 0.75	*20 - *20	K27W2-18/4	5611	7.6	3.6	9

\* Design-related permissible torque of transmission gear



## Actuator with worm gear

## Series K

Driving power  
**0.18 KW**

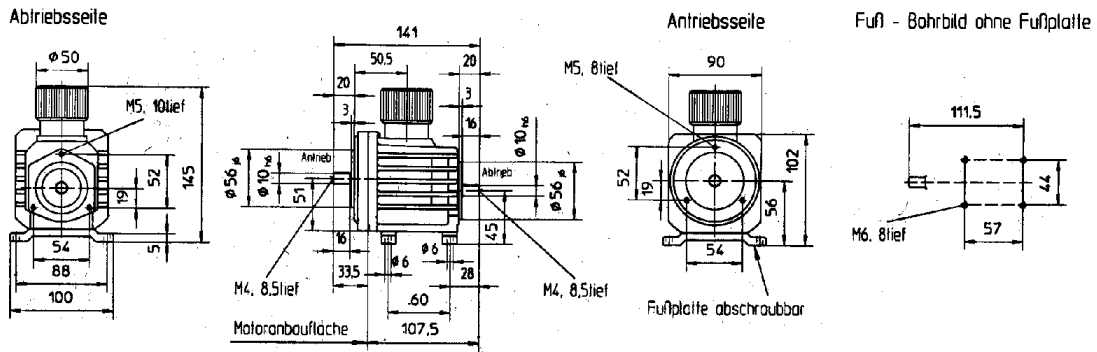
Adjusting range  
**1:9**

Output speed $n_2$ at $n_1 = 1400$ 1/min <b>1/min</b>	Output torque $M_2$ <b>Nm</b>	Type	Gearing ratio <b>i =</b>	Appr. weight w motor <b>kg</b>	Appr. weight w/o motor <b>kg</b>	Dimensions <b>Fig. no.</b>
92 - 830	2.9 - 0.87	K2S1-18/4	5	6.7	2.7	11
67 - 600	4.1 - 1.2	K2S1-18/4	7	6.7	2.7	11
47 - 420	5.4 - 1.6	K2S1-18/4	10	6.7	2.7	11
31 - 280	8.1 - 2.4	K2S1-18/4	15	6.7	2.7	11
26 - 233	8.1 - 2.4	K2S1-18/4	18	6.7	2.7	11
19 - 174	*9.2 - 2.9	K2S1-18/4	24	6.7	2.7	11
15 - 135	*10.3 - 3.2	K2S1-18/4	30	6.7	2.7	11
12 - 108	*11.4 - 4.1	K2S1-18/4	38	6.7	2.7	11
8.5 - 7.6	*10.4 - 4.5	K2S1-18/4	55	6.7	2.7	11
6.2 - 56	*7.3 - 5.1	K2S1-18/4	75	6.7	2.7	11
4.7 - 42	*7.4 - 6.7	K2S1-18/4	100	6.7	2.7	11

\* Design-related permissible torque of transmission gear

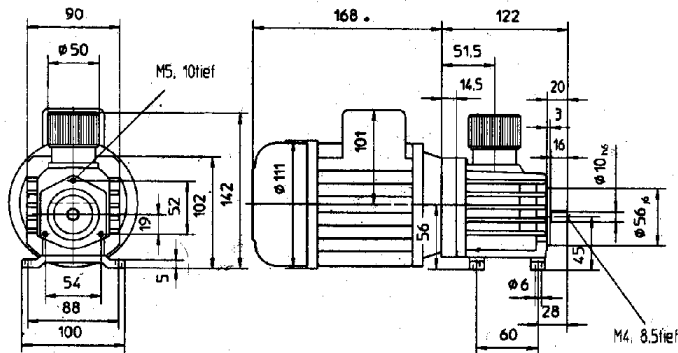
Typ K2 mit freier Antriebswelle

Bild 1



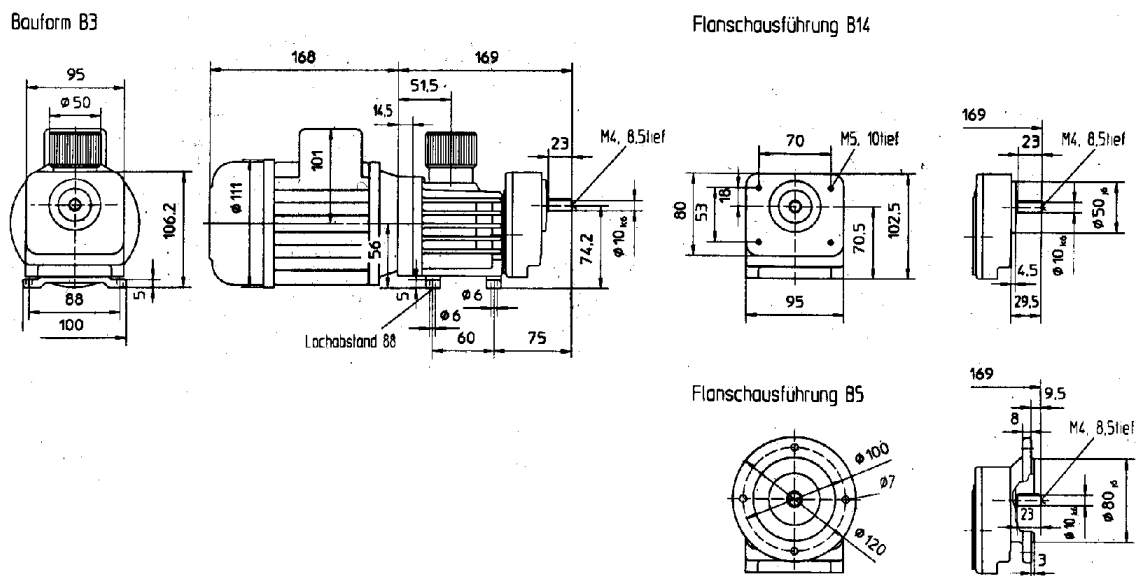
Typ K2

Bild 2



Typ K21

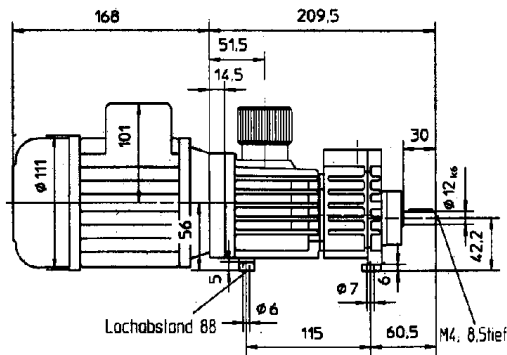
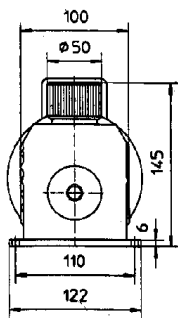
Bild 3



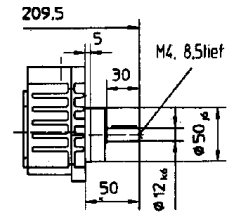
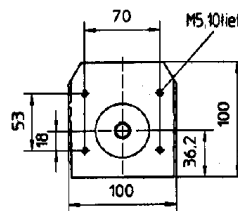
## Typ K22

Bild 4

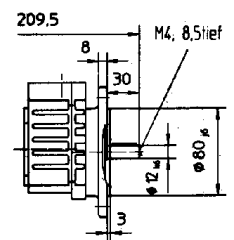
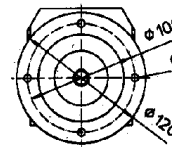
Bauform B3



Flanschausführung B14



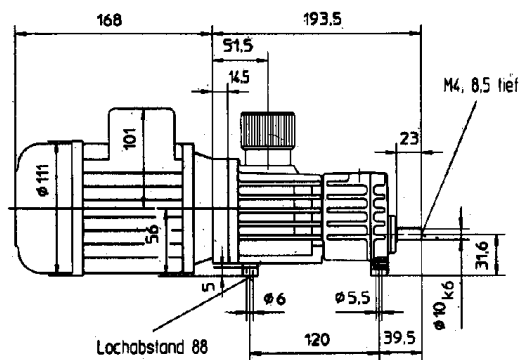
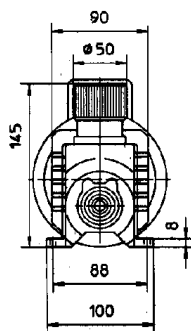
Flanschausführung B5



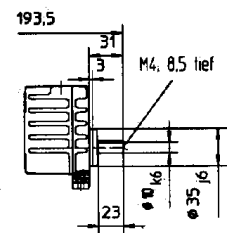
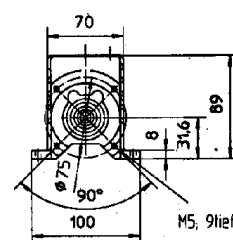
## Typ K23 - K27

Bild 5

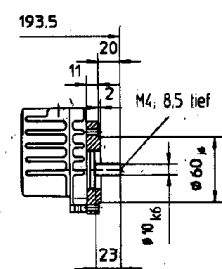
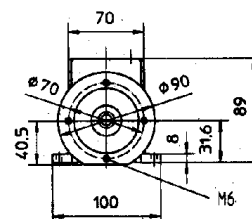
Bauform B3



Flanschausführung B14



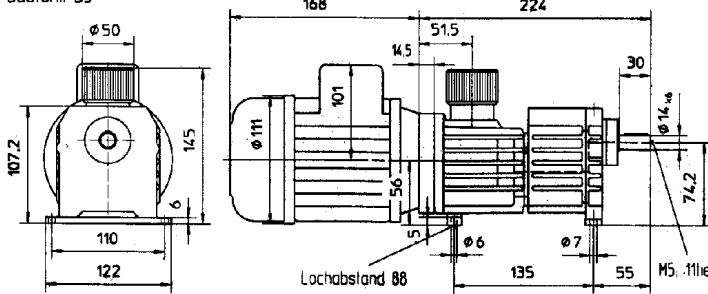
Flanschausführung B14R



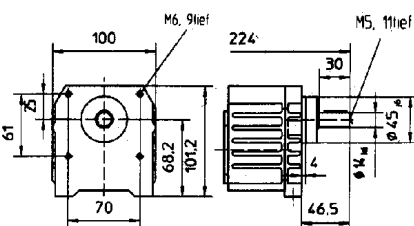
## Typ K239 - K269

Bild 6

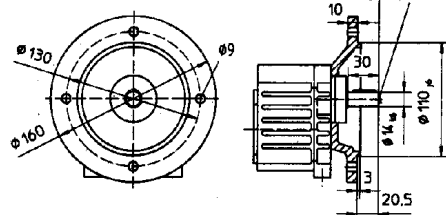
Bauform B3



Flanschführung B14



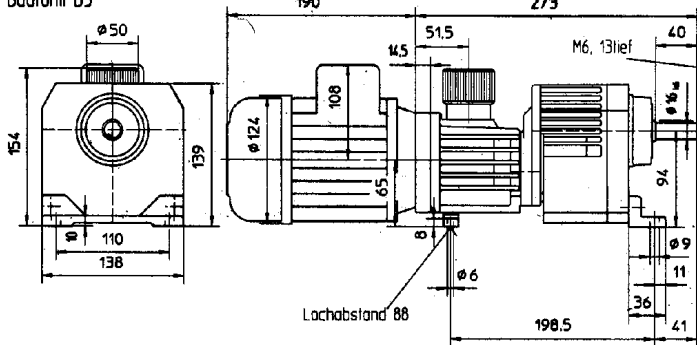
Flanschführung B5



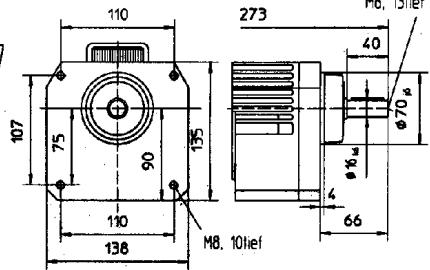
## Typ K240 - K260

Bild 7

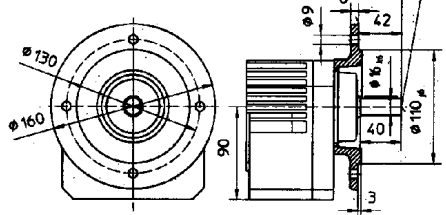
Bauform B3



Flanschführung B14



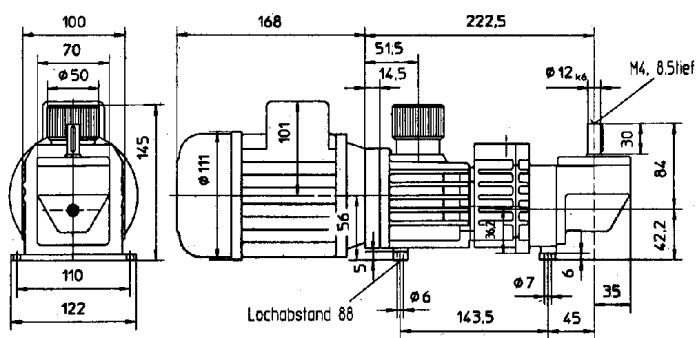
Flanschführung B5



## Typ K22W2

Bild 8

Bauform B3



Flanschführung B14

