

Additional dimensional drawings for motor-mounted components

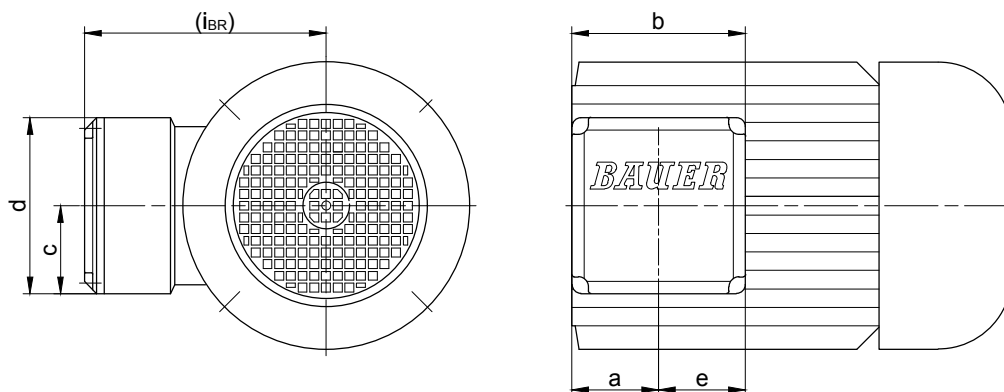
467-488

- Dimensional drawing, standard terminal box
- Dimensional drawing, plug-connector terminal box
- Dimensional drawings, standard brakes without terminal box
- Dimensional drawings for brakes with terminal box
- Dimensional drawing, motor with back stop
- Dimensional drawing, motor with second shaft end
- Dimensional drawing, motor with protective hood
- Dimensional drawing, motor with independent fan
- Dimensional drawing, motor with brake and independent fan
- Dimensional drawing, motor with encoder
- Dimensional drawing, motor with brake and encoder
- Dimensional drawing, motor in IEC design
- Motor Length Comparison

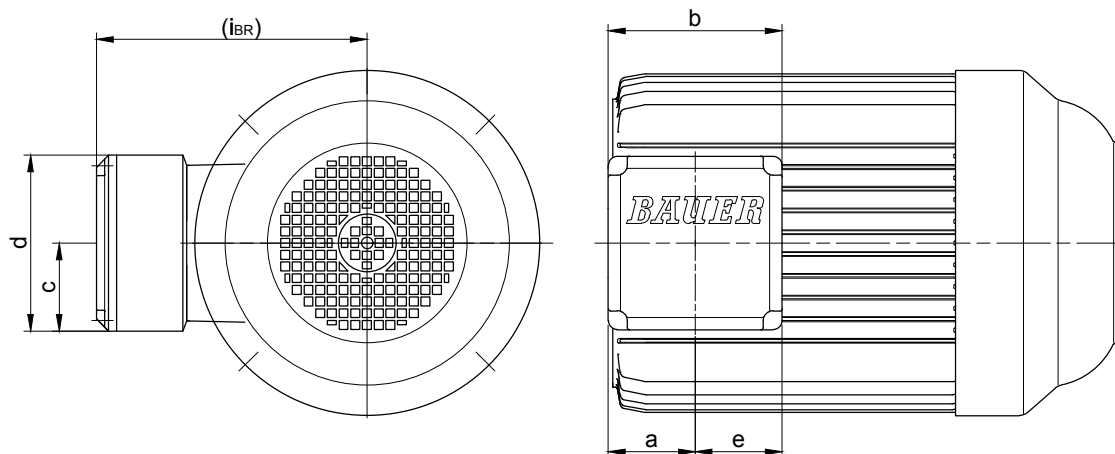
Motor-mounted components

Dimension

Standard terminal box



D04 - D..13



D..16 - D..22

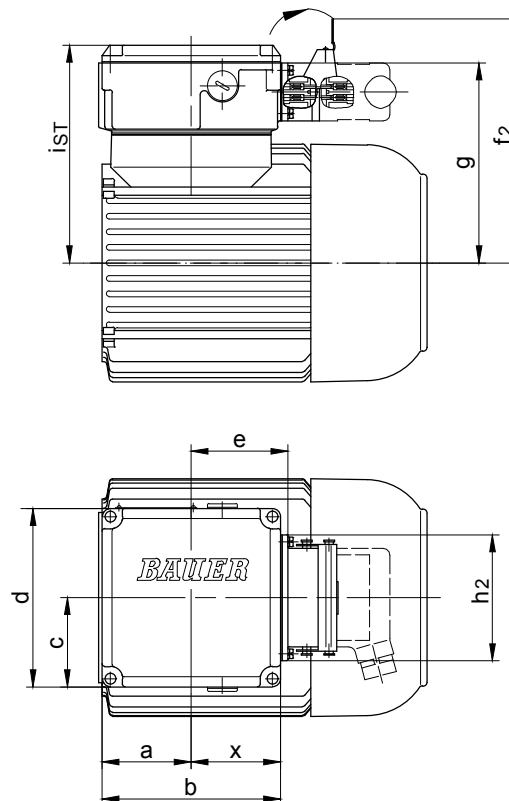
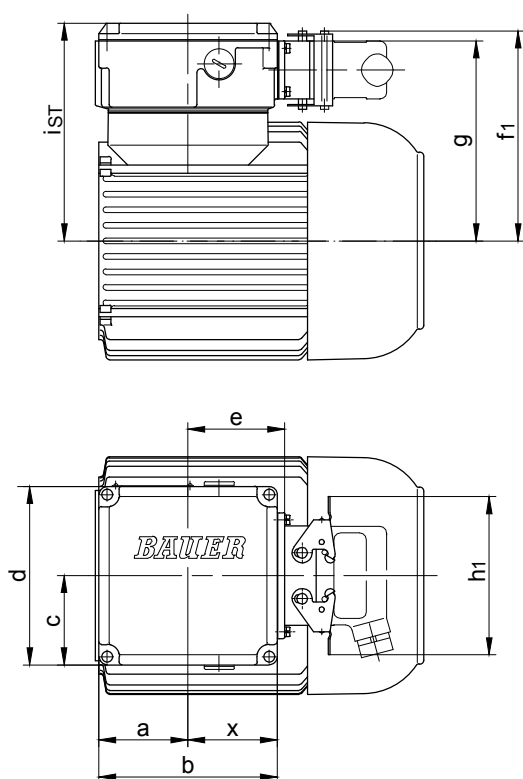
Motor/ Motor with Brake	Dimensions (mm)						Code	Cable entry Major (M) Minor (N)	max. wrench size for cable entry gland
	a	b	c	d	e	i / i _{BR}			
D04..	42.5	88	44	88	44	90	KAG1	M=2xM20x1.5	24 mm
D05..	50	100	50	100	50	100	KAG2	M=2xM25x1.5	29 mm
D06..	50	100	50	100	50	100	KAG2	M=2xM25x1.5	29 mm
D07..	50	100	50	100	50	100	KAG2	M=2xM25x1.5	29 mm
D..08..	50	100	50	100	50	115	KAG2	M=2xM25x1.5	29 mm
D..09..	50	100	50	100	50	124	KAG2	M=2xM25x1.5	29 mm
D..11..	62	132	66.5	135	66	181	TB222	M=2xM32x1.5; N=2xM25x1.5	-
D..13..	78	156	78.5	158	78	217	TB322	M=2xM40x1.5; N=2xM25x1.5	-
D..16..	74	156	78.5	158	78	243	TB322	M=2xM40x1.5; N=2xM25x1.5	-
D..18..	94	200	100.5	201	100	288	TB422	M=2xM50x1.5; N=2xM25x1.5	-
D..20L	100	200	100.5	201	100	303.5	TB422	M=2xM50x1.5; N=2xM25x1.5	-
D..22S	100	200	100.5	201	100	303.5	TB422	M=2xM50x1.5; N=2xM25x1.5	-
D..22M	100	200	100.5	201	100	303.5	TB422	M=2xM50x1.5; N=2xM25x1.5	-

The actual gearbox design can vary from the geometry shown.

Plug-connector terminal box

Standard design (two brackets)

Optional for DESINA (one bracket)



Fan cover geometry for D..16 - D..22, see dimensional drawing: terminal box as standard version

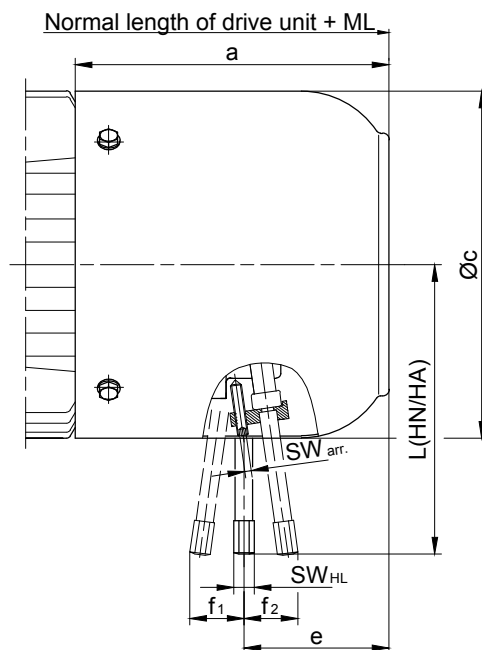
Motor	Size of terminal box	a	b	c	d	e	f ₁	f ₂	g	h ₁	h ₂	IST	x
D04	TBS1	30	90	52.5	106	49	118.5	147	111	117	93	124.5	46
D05	TBS1	57	90	52.5	106	49	123.5	152	116	117	93	129.5	46
D06	TBS1	45	90	52.5	106	49	125.5	154	118	117	93	131.5	46
D07	TBS1	45	90	52.5	106	49	125.5	154	118	117	93	131.5	46
D..08	TBS1	45	90	52.5	106	49	143.5	172	136	117	93	149.5	46
D..09	TBS2	62	132	66	135	71.5	158.5	187	158	117	93	164	68.5
D..11	TBS2	62	132	66	135	71.5	175.5	191	166	117	93	181	68.5
D..13	TBS3	78	156	78	158	83.5	199	227.5	191.5	117	93	216	79.5
D..16	TBS3	74	156	78	158	83.5	225	253.5	225	117	93	242	79.5
D..18	TBS4	94	200	100	201	105.5	257	299	257	117	93	287	100.5
D..20L	TBS4	94	200	100	201	105.5	274	299	266.5	117	93	303.5	100.5
D..22S	TBS4	94	200	100	201	105.5	274	299	266.5	117	93	303.5	100.5
D..22M													

The actual gearbox design can vary from the geometry shown.

Motor-mounted components

Dimension

Standard brakes



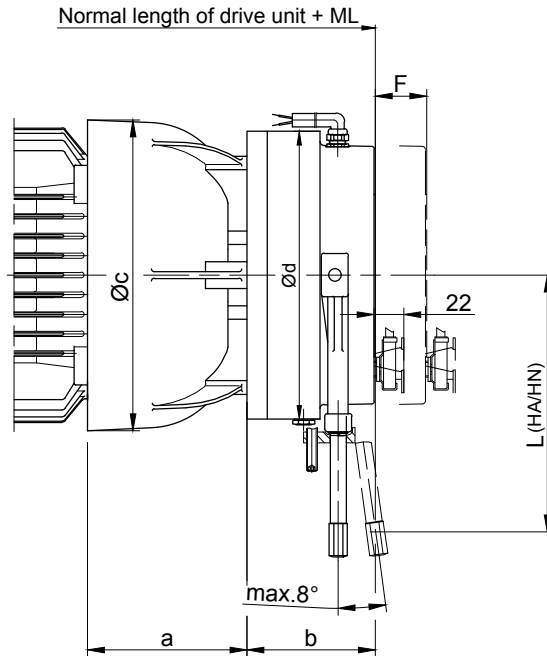
Motor Type	Brake Type	ML(mm) Additional length with brake	Dimensions (mm)								Add. weight kg		
			a	Øc	e	f ₁	f ₂	L(HN/HA)	SW _{HL}	SW _{arr.}			
D04	E003	43.5	97	110.5	58.5	20.5	24	96/102	11	11	1.0		
D05		42	102	123	60								
D06					58.5								
D07					E003 / E004								
D..08	ES(X)010	66	141	156	68	-	29	132	8	2.5	2.6		
D..09	ES(X)010	93	173	176	99	-	29	132	8	2.5	2.7		
	ES(X)027				91	-	35.5	162			4.2		
D..11	ES(X)027	98	195	218	103	-	35.5	162	8	2.5	4.5		
	ES(X)040				100	-	37	172			6.3		
	ES(X)070				96	-	34.5	190			12	4	8.5
	ES(X)040				111	225	258	125			-	41	202
ES(X)070	121	-	38	225				8.5					
ES(X)125	116	-	45	223				12.5					
D..16	ES(X)125	144	290	310	148	-	48.5	244	12	4	13.5		
	ES(X)200				141	-	50	256			19		
	ZS(X)300				112	-					22		
D..18	ES(X)250	150	339	348	153	-	58.5	286	12	4	28		
	ZS(X)500				123	-			19	5	30		
D..20L	ES(X)250	127.5	399	363	183	49	-	286	19	5	27.5		
	ZS(X)500				152.5								
	ZS(X)800				149			313					
D..22S	ES(X)250	127.5	399	363	183	49	-	286	19	5	27.7		
	ZS(X)500				152.5			313					
	ZS(X)800				149								
D..22M	ES(X)250	127.5	399	363	183	49	-	286	19	5	61.5		
	ZS(X)500				152.5								
	ZS(X)800				149			313					

HN = Manual release non-locking

HA = Manual release locking

The actual gearbox design can vary from the geometry shown.

“Heavy-Duty“- brake



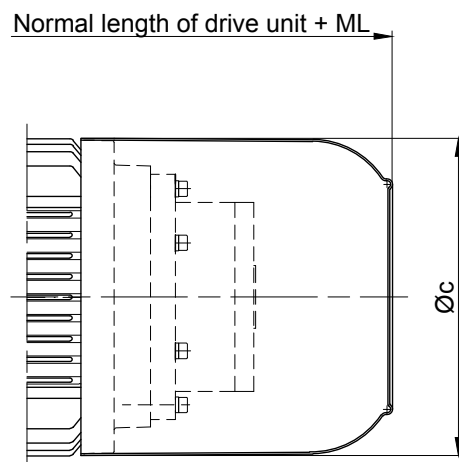
Motor	Brake	ML(mm) Additional length with brake		Dimensions (mm)					Add. weight kg
		Standard	Micro s.	a	b	c	Ød	L (HA/HN)	
D..08	EH(X)027	79	101	83.5	66.5	166	145	162	5.5
D..09	EH(X)040	90	112	102	73	191	168	172	8.3
D..11	EH(X)125	114	136	120	95	231	213	208.5	19.5
D..13	EH(X)200	128	150	140	106	274.5	245	221	29.3
D..16	EH(X)400	141	163	155	124	326	324	313	55.8
D..18		152	174	183		366			61

The actual gearbox design can vary from the geometry shown.

Motor-mounted components

Dimension

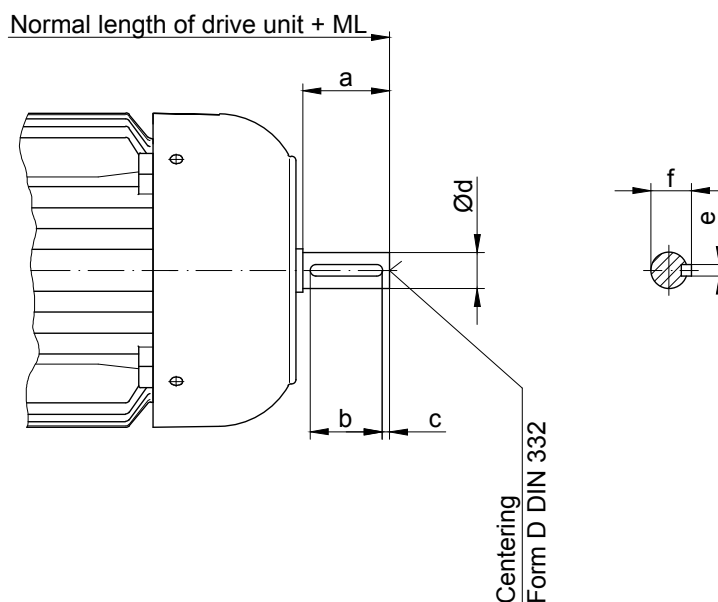
Motor with back stop



Motor	ML (mm) Add. length with backstop	Dimensions (mm)	Add. weight
		c	kg
D..08	66	156	6.5
D..09	93	181	6.5
D..11	98	228	8
D..13	111	258	13.5
D..16	144	310	16
D..18	150	348	17
D..20L	-	363	9.5
D..22S			
D..22M			

The actual gearbox design can vary from the geometry shown.

Motor with second shaft end



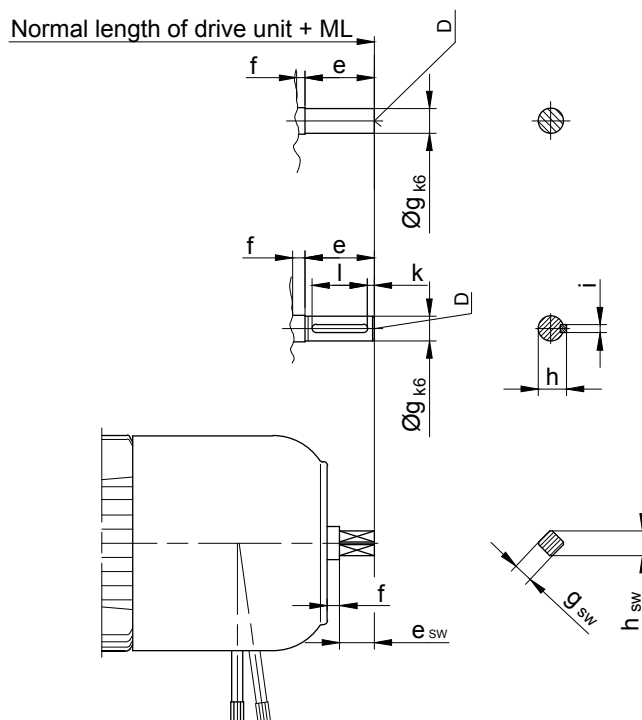
Motor	ML(mm) Add. length with second shaft end	Dimensions (mm)						Centering DIN 332
		a	b	c	d	e	f	
D04	20	15	-	-	8g6	-	-	-
D05	25	20	-	-	10k6	-	-	-
D06	25	20	-	-	10k6	-	-	-
D07	25.5	20	-	-	10k6	-	-	-
D..08	45	40	30	5	16k6	5	18	D 5
D..09	55	50	40	5	20k6	6	22.5	D 5
D..11	65	60	50	5	25k6	8	28	D 8
D..13	85	80	60	10	35k6	10	38	D 12
D..16	115	110	90	10	40k6	12	43	D 16
D..18	115	110	90	10	45k6	14	48.5	D 16
D..20L	115	110	90	10	45k6	14	48.5	D 16
D..22S	115	110	90	10	45k6	14	48.5	D 16
D..22M								

The actual gearbox design can vary from the geometry shown.

Motor-mounted components

Dimension

Motors with brake and second shaft end

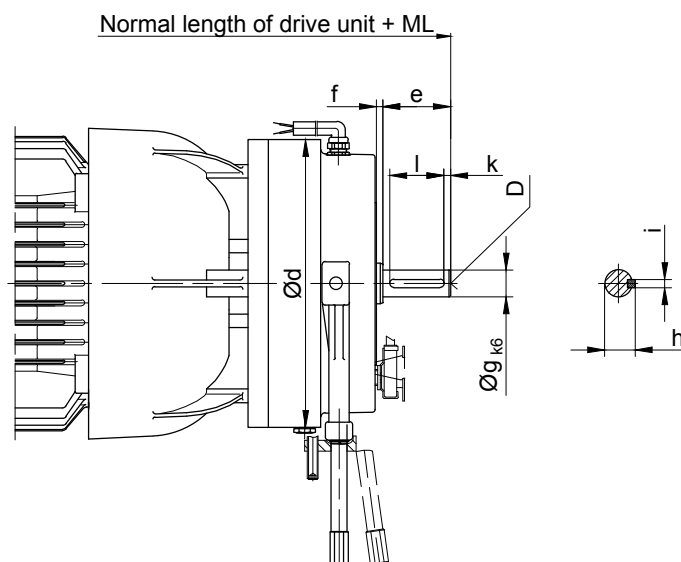


Motor	Brake	Additional length		Dimensions (mm)											Center D DIN332	
		ML	ML _{SW}	e	e _{SW}	f	g	g _{SW}	h	h _{SW}	i	k	l	Center D	sw	
D04	E003	63	-	15	-	5	8	-	-	-	-	-	-	-	-	-
D05				20			10									
D06				20			10									
D07				20			10									
D..08	ES(X)..	121	96 *	50	25 *	5	18	SW14 *	20.5	18 *	6	5	40	D6	D4 *	
D..09		98	123 *				20 *	SW14	22.5 *	18	6 *	40 *	D6 *	D4		
D..11		153.5 *	128	50 *	25		20 *	SW14	22.5 *	18	6 *	40 *	D6 *	D4		
D..13		176 *	156	60 *	40		28 *	SW22	31 *	28	8 *	5 *	50 *	D10 *	D10	
D..16	ES(X).. / ZS(X)..	208.5 *	188.5	60 *	40	4.5	28 *	SW22	31 *	28	8 *	5 *	50 *	D10 *	D10	
D..18		359 *	194.5													5
D..20L	ES(X).. / ZS(X)..	127.5 *	172.5	60 *	40	5	28 *	SW22	31 *	28	8 *	5 *	50 *	D10 *	D10	
D..22S																
D..22M																

* Special design with manual release

The actual gearbox design can vary from the geometry shown.

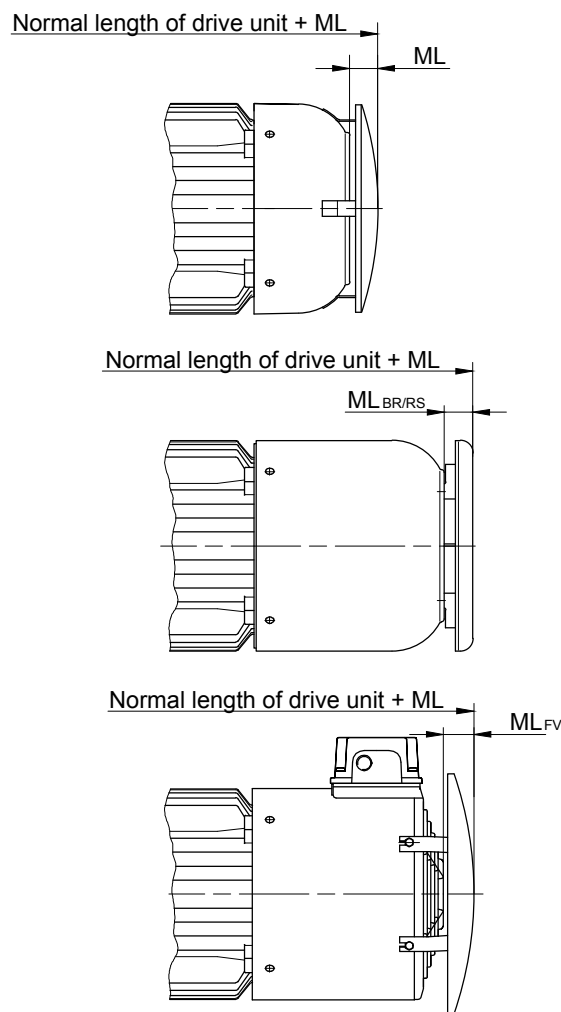
Motor with "heavy duty" brake and second shaft end



Motor	Brake	ML(mm) Additional length with brake and encoder	Dimensions (mm)								Centring D 332	Add. weight kg
			Ød	e	f	g	h	i	k	k		
D..08	EH(X)027	132	145	50	4	18	20.5	6	5	6	D6	6
D..09	EH(X)040	144	168		18	22.5	9					
D..11	EH(X)125	169	213		20	29.5						
D..13	EH(X)200	192	245	60	5	28	31	8	8	D10	29.5	
D..16	EH(X)400	205.5	324			30	33				56	
D..18		216.5	61									

The actual gearbox design can vary from the geometry shown.

Motoren mit Schutzhaube

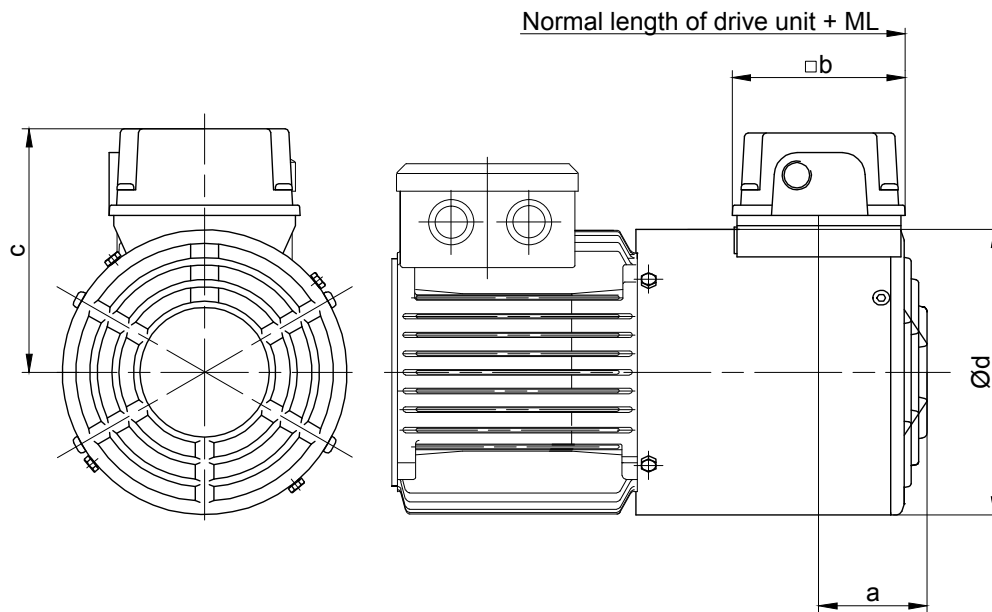


Fan cover geometry for D..16 - D..22,
see dimensional drawing: terminal box as standard version

Motor	ML(mm) Add. length with attached protective cover				Add. weight kg
	ML	ML _{BR}	ML _{RS}	ML _{FV}	
D06	18	-	-	-	0.15
D07	18	-	-	-	0.15
D..08	14.5	24.5	24.5	40	0.20
D..09	22	24.5	24.5	30	0.30
D..11	29	29.5	29.5	33	0.40
D..13	30	29.5	29.5	25	0.6
D..16	30.5	34.5	34.5	32	1.8
D..18	30.5	34.5	34.5	32	5.5
D..20L	31	31	31	31	6.4
D..22S	31	31	31	31	6.4
D..22M	31	31	31	31	6.4

Tatsächliche Getriebeausführung kann von der dargestellten Geometrie abweichen.

Motor with independent fan



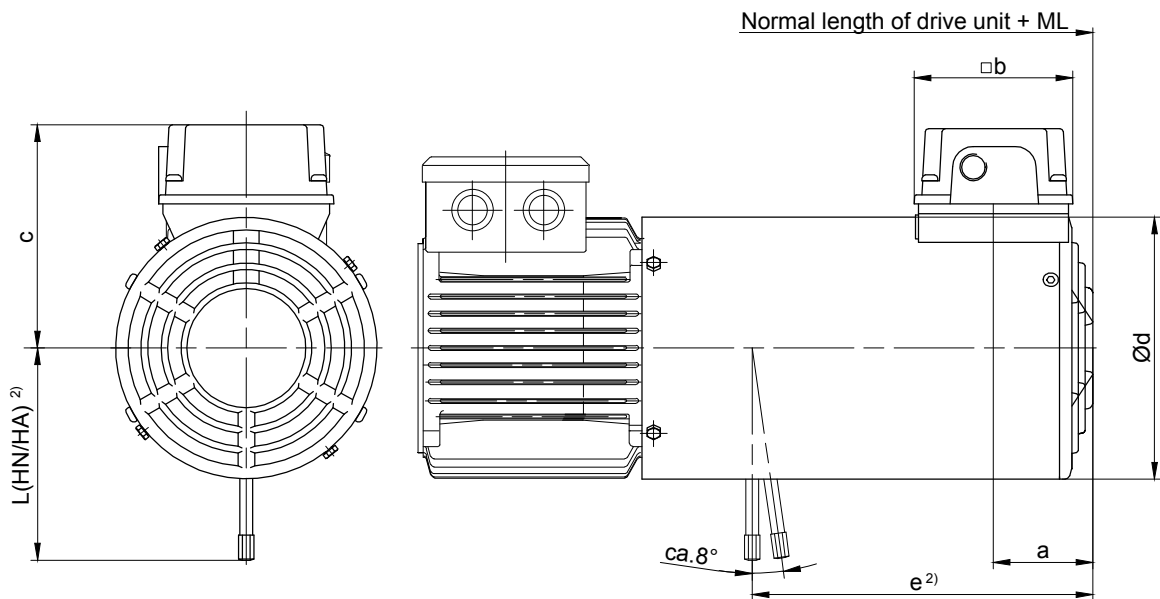
Drive Motor Type	Fan Motor Type	kW	r/min	400 V A	ML (mm) Additional length forced vent.	Dimensions (mm)				Add. weight ~ kg
						a	b	c	d	
D..08	FV D08	0.019	2670	0.029	92	69.5	95	131.5	157	2.2
D..09	FV D09	0.046	2820	0.106	97	69.5	95	141.5	176	2.7
D..11	FV D11	0.051	2660	0.110	97	79.5	95	162.5	219	3.2
D..13	FV D13	0.073	2820	0.169	119	78.8	95	182	258	4.6
D..16*	FV D16	0.154	2760	0.347	144	78.8	95	208.5	311	6.4
D..18*	FV D18	0.154	2760	0.347	303	78.8	95	208.5	348	8.4

The actual gearbox design can vary from the geometry shown.

Motor-mounted components

Dimension

Motor with brake and independent fan



Motor	Brake	ML (mm) ¹⁾ Additional length with attached brake and forced ventilation	Dimensions (mm)						Add. weight ~kg
			a	b	c	Ød	e ²⁾	L(HN/HA) ²⁾	
D..08	ES(X)010	202	59	95	131.5	157	204	132	5.0
D..09	ES(X)010	214	69.5	95	141.5	176	220	132	5.5
	212						162	7.5	
D..11*	ES(X)027	221	69.5	95	162.5	219	226	162	8.0
	ES(X)040						223	172	10
	ES(X)070						218	184	12
D..13*	ES(X)040	237	79.5	95	182	258	254	202	11.5
	ES(X)070						250	225	13.5
	ES(X)125						245	223	17.5
D..16*	ES(X)125	294	78.8	95	208.5	311	298	244	19.5
	ES(X)200						291	256	25
	ZS(X)300						262		27
D..18*	ES(X)250	303	78.8	95	208.5	348	307	286	37
	ZS(X)500						277		38.5

* bayonet joint

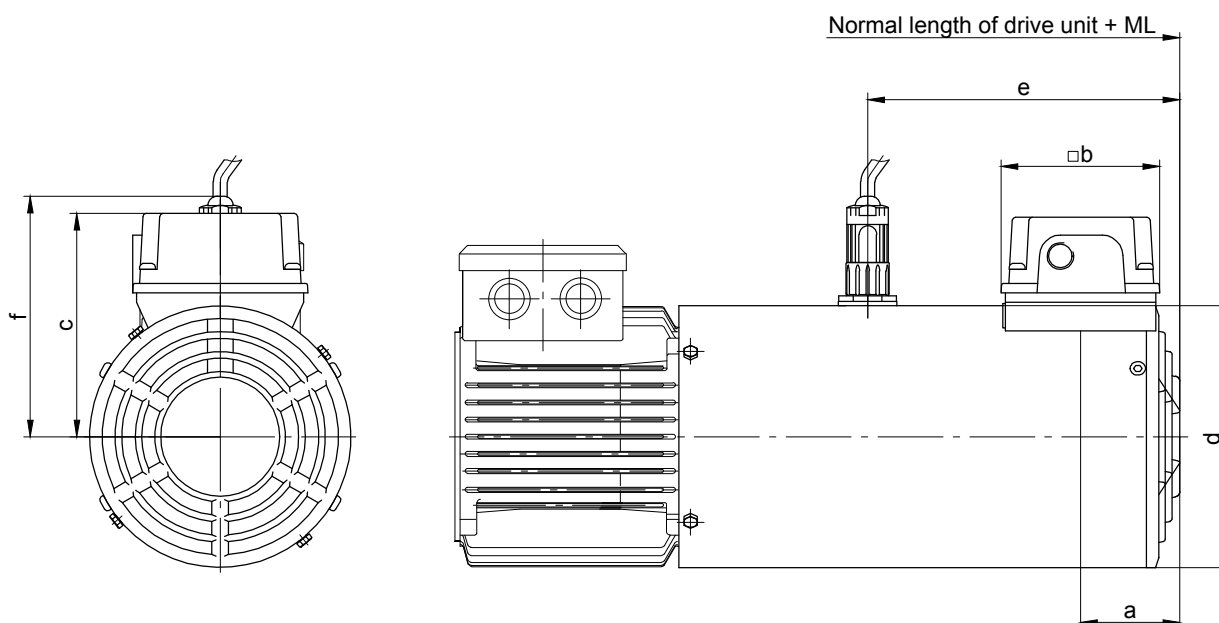
1) The additional length is for normal motor unit without brake.

Other dimensions see the appropriate normal dimensioned sketch

2) Brake release on request

The actual gearbox design can vary from the geometry shown.

Motor with encoder with built-on independent fan



Motor	ML(mm) ¹⁾ Additional length with attached encoder and forced ventilation	Dimensions (mm)						Add. weight ~ kg
		a	b	c	d	e	f	
D..08	202	59	95	131.5	157	187	144	2.6
D..09	214	69.5	95	141.5	176	192	153.5	3.3
D..11*	221	69.5	95	162.5	218	192	-	4.0
D..13*	240	79.5	95	182	258	217	-	5.7
D..16*	294	78.8	95	208.5	311	252	-	7.9
D..18*	303	78.8	95	208.5	348	267	-	10.9

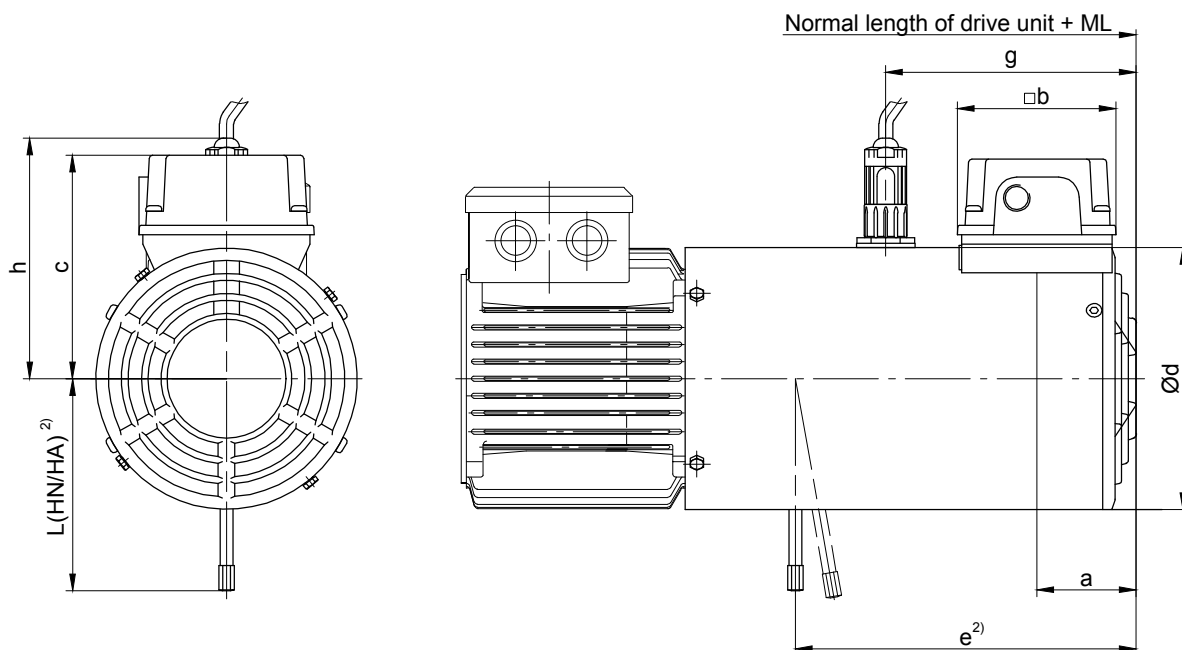
* with bayonet joint

1) The additional length is for normal motor unit without brake.
Other dimensions see the appropriate normal dimensioned sketch

Motor-mounted components

Dimension

Motor with brake and encoder with built-on independent fan



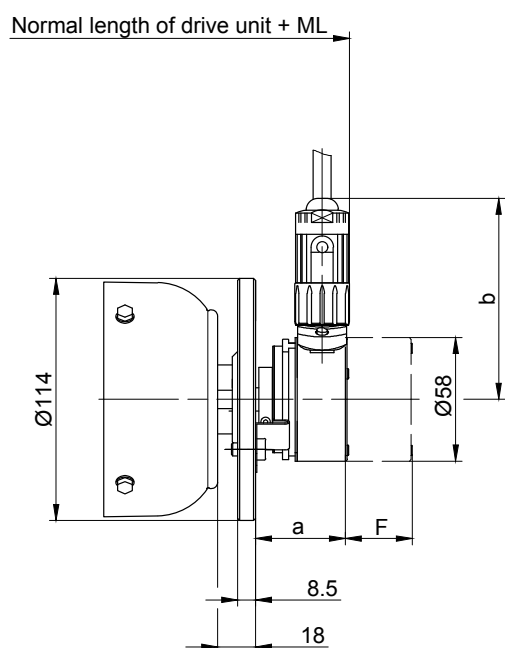
Motor	Brake	ML (mm) ¹⁾ Additional length with attached brake, encoder and forced ventilation	Dimensions (mm)								Add. weight ~ kg
			a	b	c	Ød	e ²⁾	g	h	L(HN/HA) ²⁾	
D..08	ES(X)010	202	59	95	131.5	157	204	150	150	132	6.0
D..09	ES(X)010	214	69.5	95	141.5	176	220	160	160	132	6.5
	212						160	162		8.5	
D..11*	ES(X)027	221	69.5	95	162.5	219	226	155	155	162	9.0
	ES(X)040						223	155		172	11.5
	ES(X)070						218	155		184	13.5
D..13*	ES(X)040	240	79.5	95	182	258	254	175	175	202	13
	ES(X)070						250	175		225	15
	ES(X)125						245	175		223	19
D..16*	ES(X)125	294	78.8	95	208.5	311	298	195	195	244	21
	ES(X)200						291	195		256	27
	ZS(X)300						262	195			29
D..18*	ES(X)250	303	78.8	95	208.5	348	207	212	212	286	39
	ZS(X)500						277	212			40.5

bayonet joint

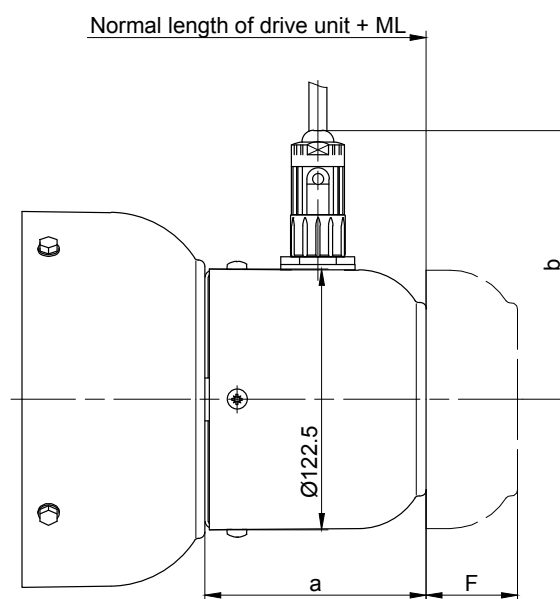
- 1) The additional length is for normal motor unit without brake.
Other dimensions see the appropriate normal dimensioned sketch
- 2) Brake release on request

The actual gearbox design can vary from the geometry shown.

Motor with encoder



D04



D05 - D..22

Fan cover geometry for D..16 - D..22, see dimensional drawing: terminal box as standard version

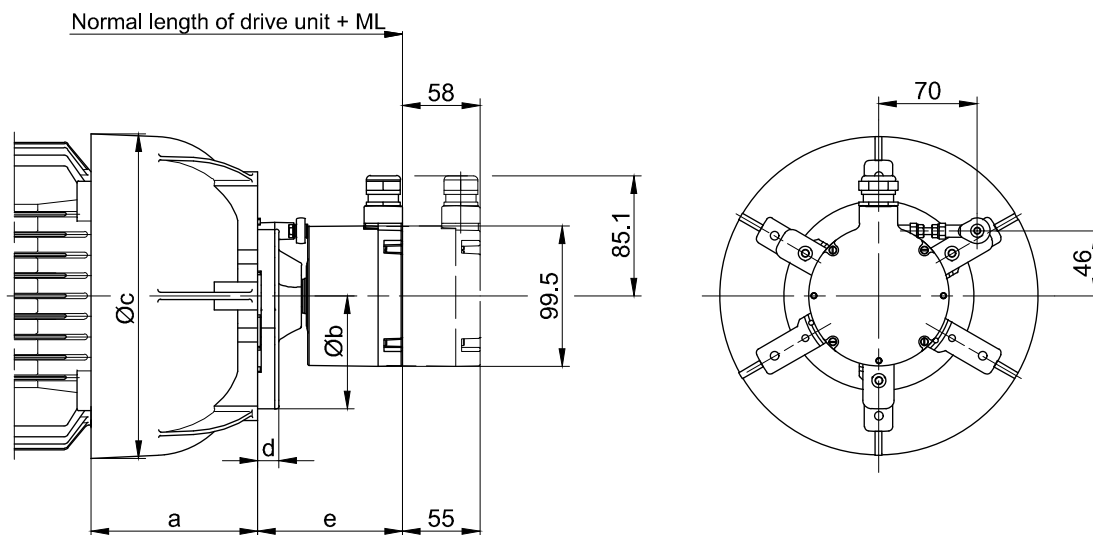
Motor	ML(mm) Additional length with encoder	Dimensions (mm)				Add. weight kg	Free space for removing encoder "F"	
		incremental encoder Fa. Kübler Typ 5820		absolute encoder Fa. TR Typ CS58-M			incremental encoder Fa. Baumer EIL580	absolute encoder Fa. TR Typ CS58-M
		a	b	a	b			
D04	62.5	43.5	95	69.5	109.5	0.7	30	55
D05	103	98.5	127	98.5	127	0.9	63	88
D06								
D07								
D..08	107	104	127	104	127	0.8	43	68
D..09								
D..11								
D..13								
D..16	110	106	127	106	127	0.8	43	68
D..18								
D..20L	106	106	127	106	127	1.2	43	68
D..22S								
D..22M								

The actual gearbox design can vary from the geometry shown.

Motor-mounted components

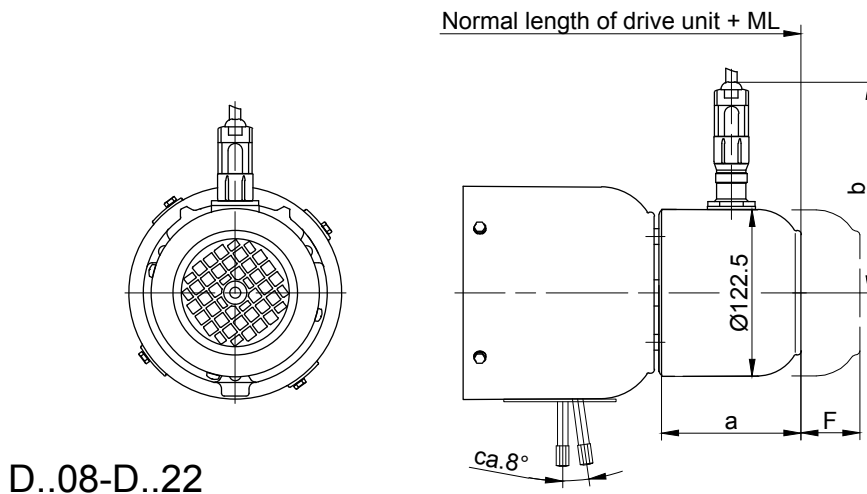
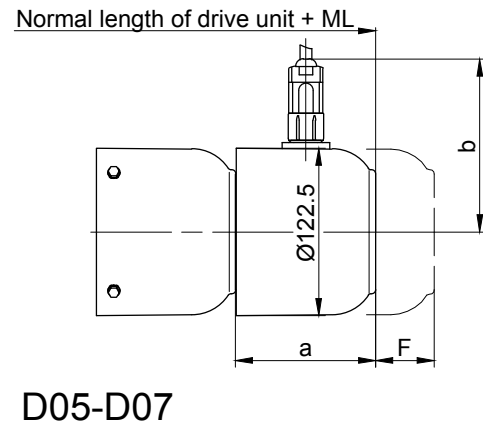
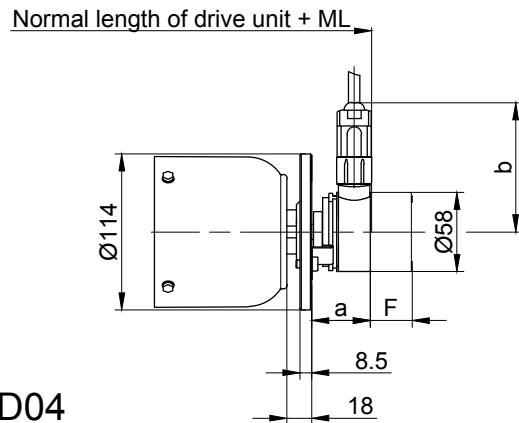
Dimension

Motor with "heavy duty" encoder



Motor	ML(mm) Additional length with encoder	Dimensions (mm)					Add. weight kg
		a	b	c	d	e	
D..08	114	83.5	160	166	15	102.5	2
D..09	118.5	102		191			
D..11	121.5	120	185	231	17	94.5	5.4
D..13	115.5	140		274.5			8.6
D..16	113.5	155		326			9.6
D..18	122.5	183	366	11.5			

Motor with brake and encoder



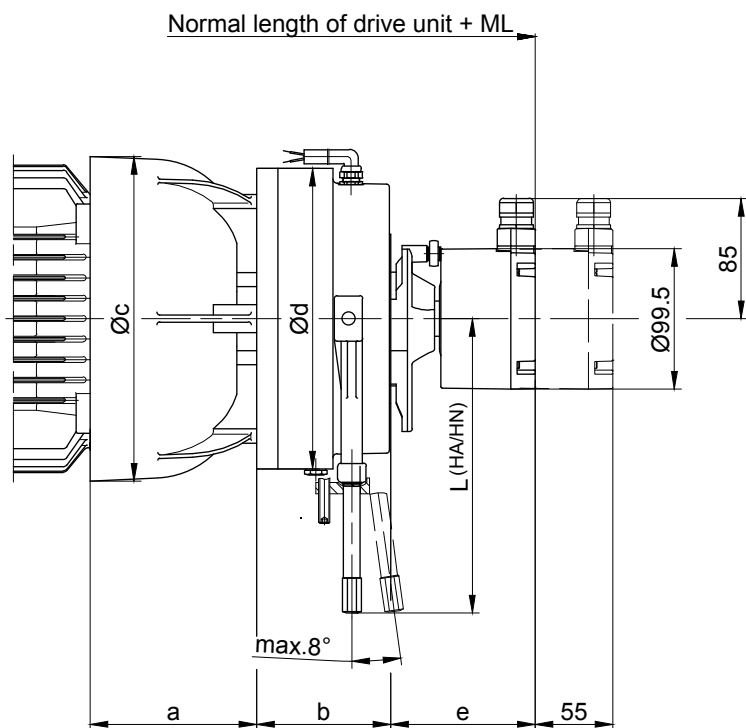
Motor	Brake	ML(mm) Additional length with brake and encoder	Dimensions (mm)				Add. weight kg	Free space for removing encoder "F"	
			incremental encoder		absolute encoder			incremental encoder	absolute encoder
			Fa. Kübler Typ 5820		Fa. TR Typ CS58-M				
a	b	a	b	Fa. Baumer EIL580	Fa. TR Typ CS58-M				
D04	E003 E003 / E004	105.5	43.5	95	69.5	109.5	0.7	30	55
D05		145	102	127	102	127	0.8	49	74
D06									
D07									
D..08	ES(X)..	173.5							
D..09	ES(X)..	197							
D..11	ES(X)..	200							
D..13	ES(X)..	212							
D..16	ES(X).. / ZS(X)..	248	104	102	127	127	0.8	49	74
D..18	ES(X).. / ZS(X)..	247.5							
D..20L	ES(X).. / ZS(X)..	233.5	106	102	127	127	1.2	49	74
D..22S	ES(X).. / ZS(X)..								
D..22M	ES(X).. / ZS(X)..								

The actual gearbox design can vary from the geometry shown.

Motor-mounted components

Dimension

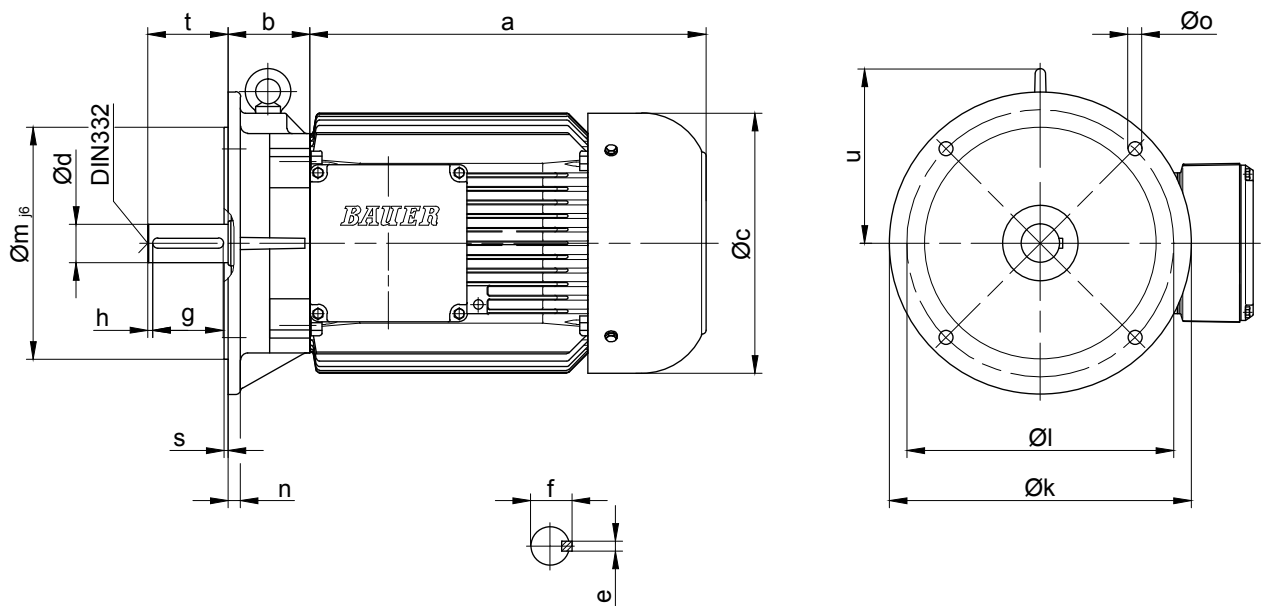
Motor with "heavy duty" brake and encoder



Motor	Brake	ML(mm) Additional length with brake and encoder	Dimensions (mm)						Add. weight kg
			a	b	c	Ød	e	L (HA/HN)	
D..08	EH(X)027	180.5	83.5	66.5	166	145	102.5	162	7.1
D..09	EH(X)040	191.5	102	73	191	168		172	10
D..11	EH(X)125	216.5	120	95	231	213		208.5	21.4
D..13	EH(X)200	259	140	106	274.5	245	94.5	221	32
D..16	EH(X)400	243	155	124	326	324		313	58
D..18		254	183		366			61	

The actual gearbox design can vary from the geometry shown.

Motor in IEC design



Fan cover geometry for D..16 and D..18, see dimensional drawing: terminal box as standard version

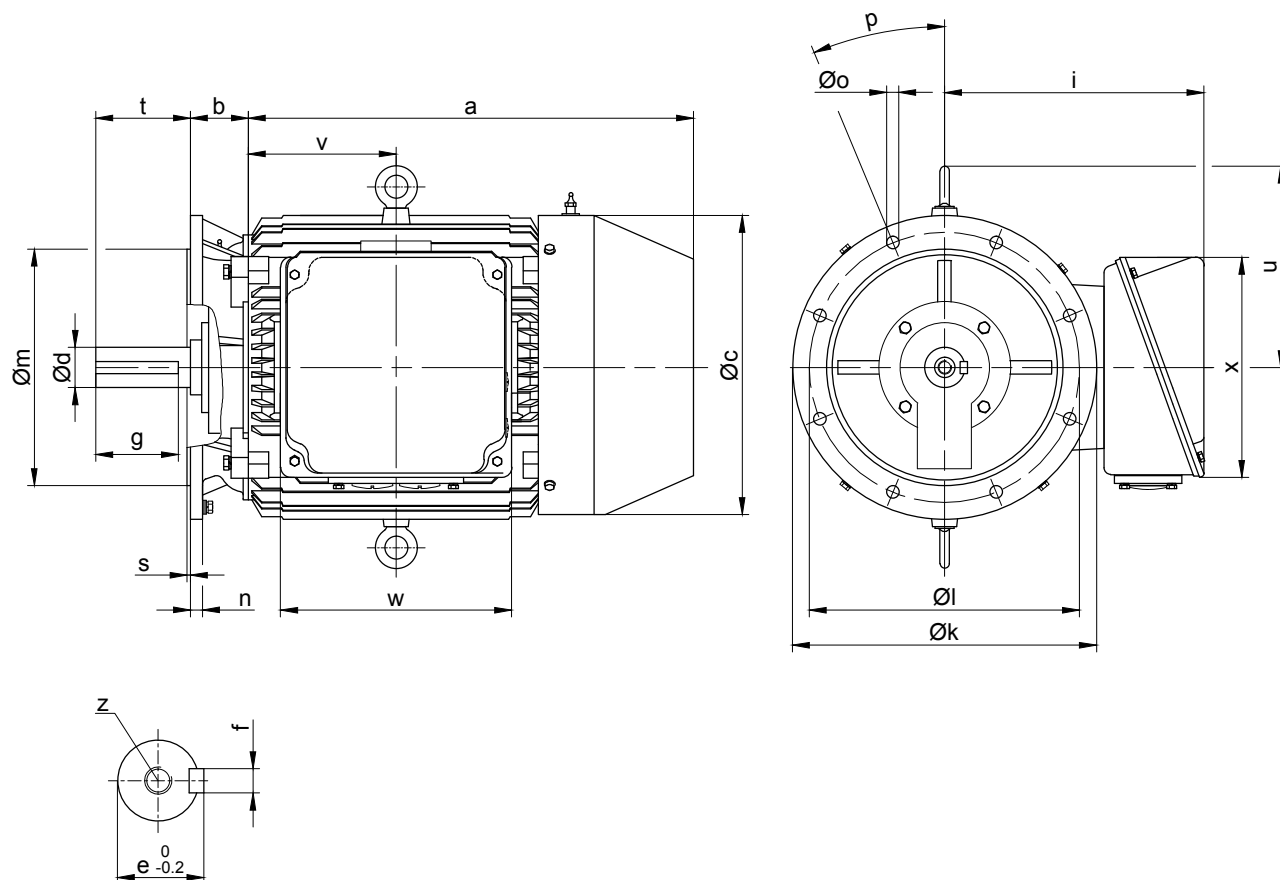
Motor	Dimensions (mm)																Center DIN 332
	a	b	c	d	e	f	g	h	k	l	m	n	o	s	t	u	
D06	170	45	123	11 _{j6}	4	12.5	18	2.5	140	115	95	9	10	2.75	23	-	D4
D07	190	45	123	11 _{j6}	4	12.5	18	2.5	140	115	95	9	10	2.75	23	-	D4
D..08	200	49	156	19 _{j6}	6	21.5	35	2.5	200	165	130	10	12	3.5	40	-	D4
D..09	251	66	176	24 _{j6}	8	27	40	5	200	165	130	10	12	3.5	50	128.5	D6
D..11	319	75	218	28 _{j6}	8	31	50	5	250	215	180	11	14.5	4	60	145.5	D10
D..13	393	81	266	38 _{k6}	10	41	70	5	300	265	230	12	14	4	80	173	D12
D..16	454.5	98.5	310	42 _{k6}	12	45	90	10	350	300	250	13	18.5	5	110	215.5	D16

The actual gearbox design can vary from the geometry shown.

Motor-mounted components

Dimension

Motor in IEC-design

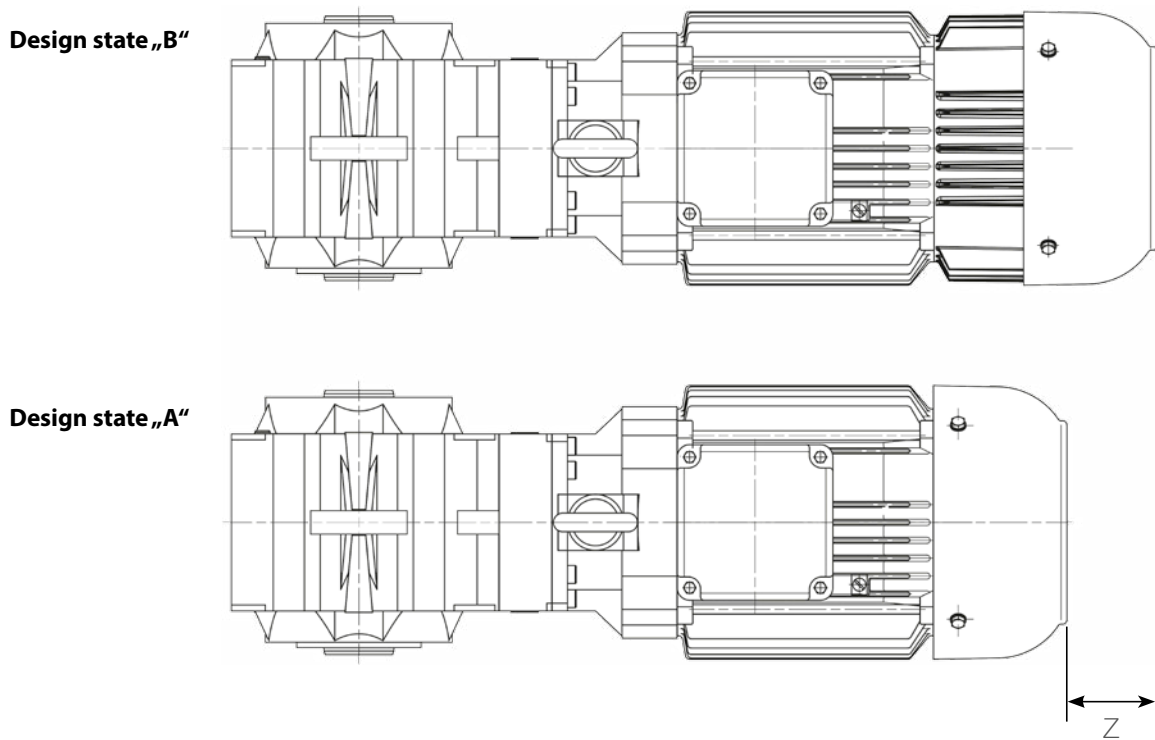


Motor	Dimensions (mm)																
	a	b	c	d	e	f	g	i	k	l	m	n	o	p	s	t	u
DNF18	551	79	355	48 ^{+0.018} / _{+0.002}	14	51.5	80	293	350	300	250	16	Ø19	4x45°	5	110	240
DNF20	613	82	395	55 ^{+0.030} / _{+0.011}	16	59	91	313	400	350	300	16	Ø19	4x45°	5	110	270
DNF22	659	86	442	60 ^{+0.030} / _{+0.011}	18	64	122	390	450	400	350	18	Ø19	8x22.5°	5	140	300
DNF25	730	95	485	65 ^{+0.030} / _{+0.011}	18	69	126	415	550	500	450	18	Ø19	8x22.5°	5	140	330
DNF28	797	98	544	75 ^{+0.030} / _{+0.011}	20	79.5	124	445	550	500	450	18	Ø19	8x22.5°	5	140	380

Motor	Center bore			Weight	
	v	w	x		
DNF18	194	200	221	M16x2x24	215
DNF20	203.5	200	221	M20x2.5x30	293
DNF22	218.5	342	326	M20x2.5x30	395
DNF25	247.5	342	326	M20x2.5x30	487
DNF28	276	342	326	M20x2.5x30	692

The actual gearbox design can vary from the geometry shown.

Motor Length Comparison



Motor Frame Size ¹	Additional length Design state „A“ to „B“
	z [mm]
DPE08.B4	30
DPE09.B4	58
DPE11.B4	68

¹ all motors in design state "A" remain unchanged



Motors in design state "B" = Extended Length

Type Example: BK70-74/DPE08**B**4

Comment: Dimension "z" is to be added to the dimensions "a*", "d*" and "d_M*" taken from the standard dimension sheet.

