

# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 132 – Forced ventilation

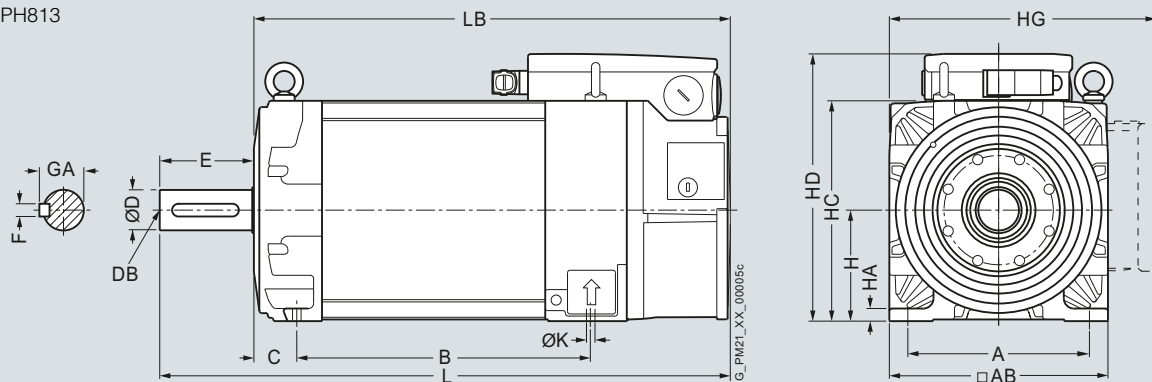
#### Dimensional drawings

For motor Dimensions in mm (inches)

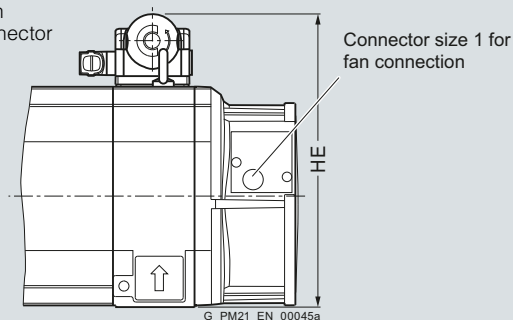
Shaft height	Type	IEC A	AB	B	C	H	HA	HC	HD	HE
<b>1PH8, type of construction IM B3, forced ventilation</b>										
132	1PH8131	216 (8.50)	260 (10.24)	220.5 (8.68)	53 (2.09)	132 (5.20)	15 (0.59)	262 (10.31)	317.5 (12.50)	347 (13.66)
	1PH8133			265.5 (10.45)						
	1PH8135			310.5 (12.22)						
	1PH8137			350.5 (13.80)						

Shaft height	Type	IEC HG	K	L	LB	Shaft extension DE				
						D	DB	E	F	GA
132	1PH8131	357.5 (14.07)	12 (0.47)	549 (21.61)	439 (17.28)	<b>48</b> <b>(1.89)</b>	M16	110 (4.33)	14 (0.55)	51.5 (2.03)
	1PH8133			594 (23.39)	484 (19.06)					
	1PH8135			639 (25.16)	529 (20.83)					
	1PH8137			679 (26.73)	569 (22.40)					

1PH813



Variant with  
power connector  
size 3



Connector size 1 for  
fan connection

G\_PM21\_EN\_00045a

# SIMOTICS main motors

## Dimensional drawings

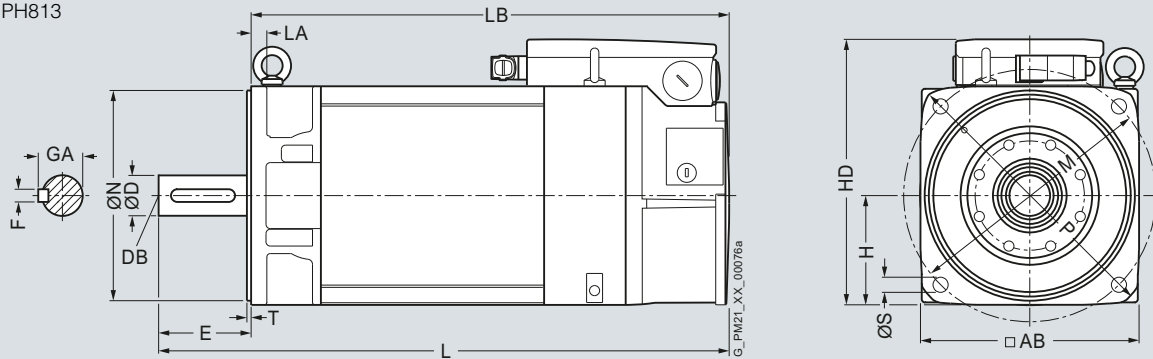
### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 132 – Forced ventilation

#### Dimensional drawings

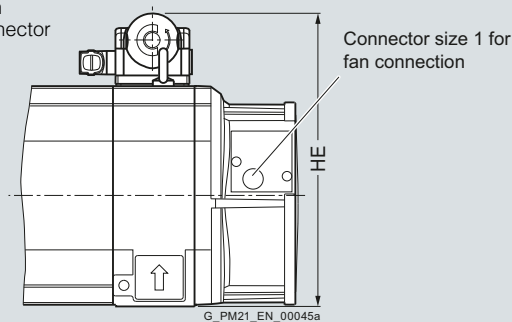
For motor		Dimensions in mm (inches)								
Shaft height	Type	IEC AB	H	HD	HE	L	LA	LB	M	N
<b>1PH8, type of construction IM B5, forced ventilation</b>										
132	1PH8131	260 (10.24)	130 (5.12)	315.5 (12.42)	345 (13.58)	549 (21.61)	18 (0.71)	439 (17.28)	300 (11.81)	250 (9.84)
	1PH8133					594 (23.39)		484 (19.06)		
	1PH8135					639 (25.16)		529 (20.83)		
	1PH8137					679 (26.73)		569 (22.40)		

Shaft height	Type	IEC P	S	T	Shaft extension DE				
					D	DB	E	F	GA
132	1PH8131	340 (13.39)	18 (0.71)	5 (0.20)	<b>48</b> <b>(1.89)</b>	M16	110 (4.33)	14 (0.55)	51.5 (2.03)
	1PH8133								
	1PH8135								
	1PH8137								

1PH813



Variant with power connector size 3



# SIMOTICS main motors

## Dimensional drawings

**SIMOTICS M-1PH8 asynchronous and synchronous motors  
Shaft height 132 – Forced ventilation**

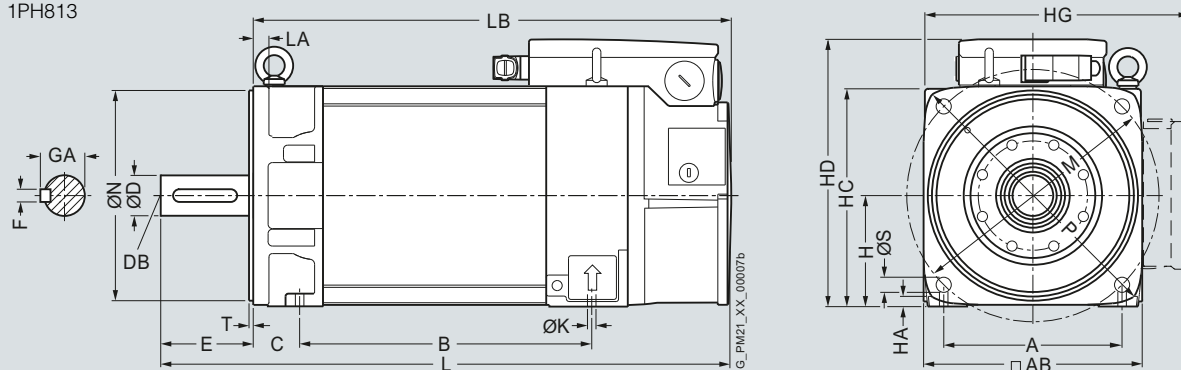
### Dimensional drawings

For motor Dimensions in mm (inches)

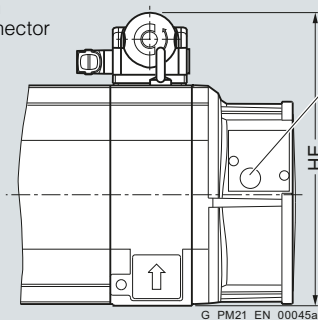
Shaft height	Type	IEC A	AB	B	C	H	HA	HC	HD	HE	HG	K	L
<b>1PH8, type of construction IM B35, forced ventilation</b>													
132	1PH8131	216 (8.50)	260 (10.24)	220.5 (8.68)	53 (2.09)	132 (5.20)	15 (0.59)	262 (10.31)	317.5 (12.50)	347 (13.66)	357.5 (14.07)	12 (0.47)	549 (21.61)
	1PH8133			265.5 (10.45)									594 (23.39)
	1PH8135			310.5 (12.22)									639 (25.16)
	1PH8137			350.5 (13.80)									679 (26.73)

Shaft height	Type	IEC LA	LB	M	N	P	S	T	Shaft extension DE				
									D	DB	E	F	GA
132	1PH8131	18 (0.71)	439 (17.28)	300 (11.81)	250 (9.84)	340 (13.39)	18 (0.71)	5 (0.20)	<b>48</b> <b>(1.89)</b>	M16	110 (4.33)	14 (0.55)	51.5 (2.03)
	1PH8133		484 (19.06)										
	1PH8135		529 (20.83)										
	1PH8137		569 (22.40)										

1PH813



Variant with power connector size 3



Connector size 1 for fan connection

# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 132 – Water cooling

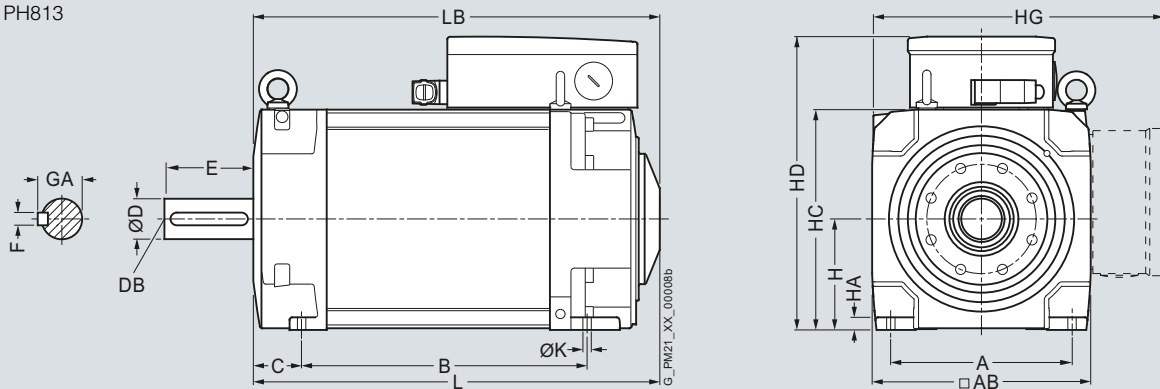
#### Dimensional drawings

For motor Dimensions in mm (inches)

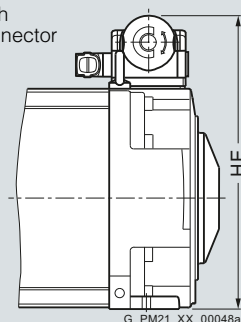
Shaft height	Type	IEC A	AB	B	C	H	HA	HC	HD	HE
<b>1PH8, type of construction IM B3, water cooling</b>										
132	1PH8131	216 (8.50)	260 (10.24)	220.5 (8.68)	53 (2.09)	132 (5.20)	15 (0.59)	262 (10.31)	347.5 (13.68)	347 (13.66)
	1PH8133			265.5 (10.45)						
	1PH8135			310.5 (12.22)						
	1PH8137/ 1PH8138			350.5 (13.80)						

Shaft height	Type	IEC HG	K	L	LB	Shaft extension DE				
						D	DB	E	F	GA
132	1PH8131	357.5 (14.07)	12 (0.47)	457.5 (18.01)	347.5 (13.68)	<b>48</b> <b>(1.89)</b>	M16	110 (4.33)	14 (0.55)	51.5 (2.03)
	1PH8133			502.5 (19.78)	392.5 (15.45)					
	1PH8135			547.5 (21.56)	437.5 (17.22)					
	1PH8137/ 1PH8138			587.5 (23.13)	477.5 (18.80)					

1PH813



Variant with  
power connector  
size 3



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 132 – Water cooling

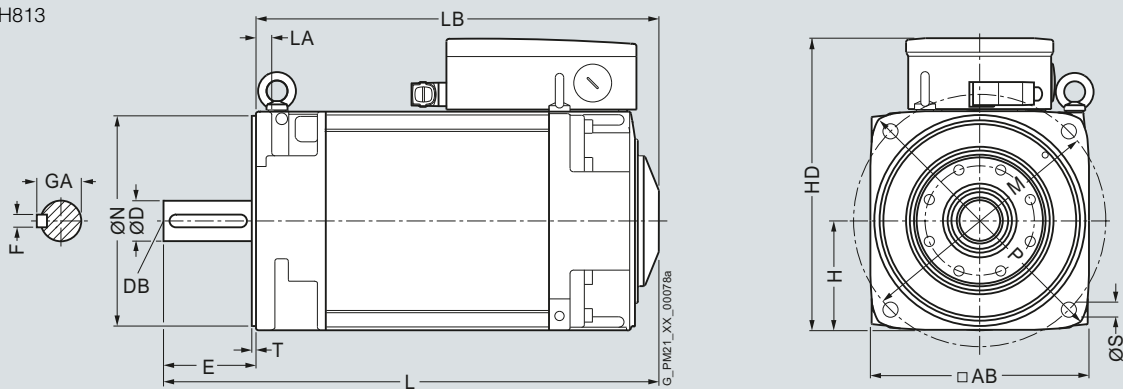
#### Dimensional drawings

For motor Dimensions in mm (inches)

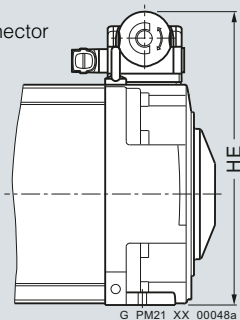
Shaft height	Type	IEC AB	H	HD	HE	L	LA	LB	M	N
<b>1PH8, type of construction IM B5, water cooling</b>										
132	1PH8131	260 (10.24)	132 (5.20)	345.5 (13.60)	345 (13.58)	457.5 (18.01)	18 (0.71)	347.5 (13.68)	300 (11.81)	250 (9.84)
	1PH8133					502.5 (19.78)		392.5 (15.45)		
	1PH8135					547.5 (21.56)		437.5 (17.22)		
	1PH8137/ 1PH8138					587.5 (23.13)		477.5 (18.80)		

Shaft height	Type	IEC P	S	T	Shaft extension DE				
					D	DB	E	F	GA
132	1PH8131	340 (13.39)	18 (0.71)	5 (0.20)	<b>48</b> (1.89)	M16	110 (4.33)	14 (0.55)	51.5 (2.03)
	1PH8133								
	1PH8135								
	1PH8137/ 1PH8138								

1PH813



Variant with power connector size 3



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 132 – Water cooling

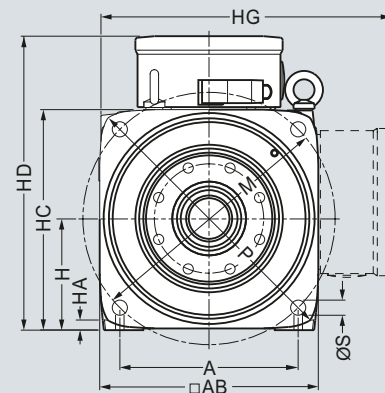
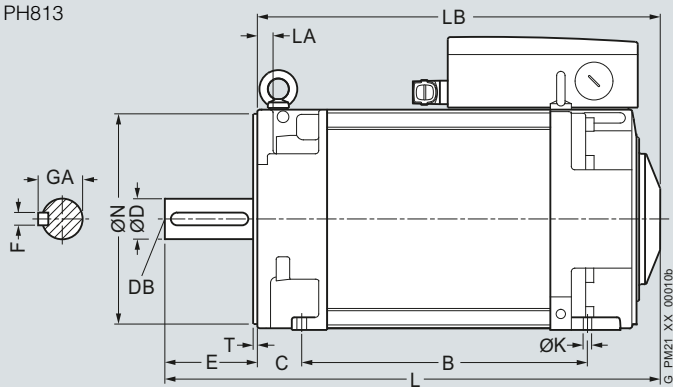
#### Dimensional drawings

For motor Dimensions in mm (inches)

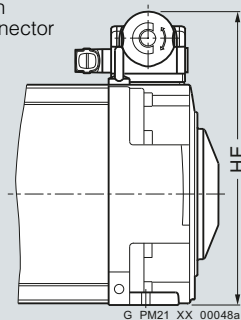
Shaft height	Type	IEC A	AB	B	C	H	HA	HC	HD	HE	HG	K	L
<b>1PH8, type of construction IM B35, water cooling</b>													
132	1PH8131	216 (8.50)	260 (10.24)	220.5 (8.68)	53 (2.09)	132 (5.20)	15 (0.59)	262 (10.31)	347.5 (13.68)	347 (13.66)	357.5 (14.07)	12 (0.47)	457.5 (18.01)
	1PH8133			265.5 (10.45)									502.5 (19.78)
	1PH8135			310.5 (12.22)									547.5 (21.56)
	1PH8137/ 1PH8138			350.5 (13.80)									587.5 (23.13)

Shaft height	Type	IEC LA	LB	M	N	P	S	T	Shaft extension DE				
									D	DB	E	F	GA
132	1PH8131	18 (0.71)	347.5 (13.68)	300 (11.81)	250 (9.84)	340 (13.39)	18 (0.71)	5 (0.20)	<b>48</b> <b>(1.89)</b>	M16	110 (4.33)	14 (0.55)	51.5 (2.03)
	1PH8133		392.5 (15.45)										
	1PH8135		437.5 (17.22)										
	1PH8137/ 1PH8138		477.5 (18.80)										

1PH813



Variant with  
power connector  
size 3



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 synchronous motors Shaft height 160 – Forced ventilation

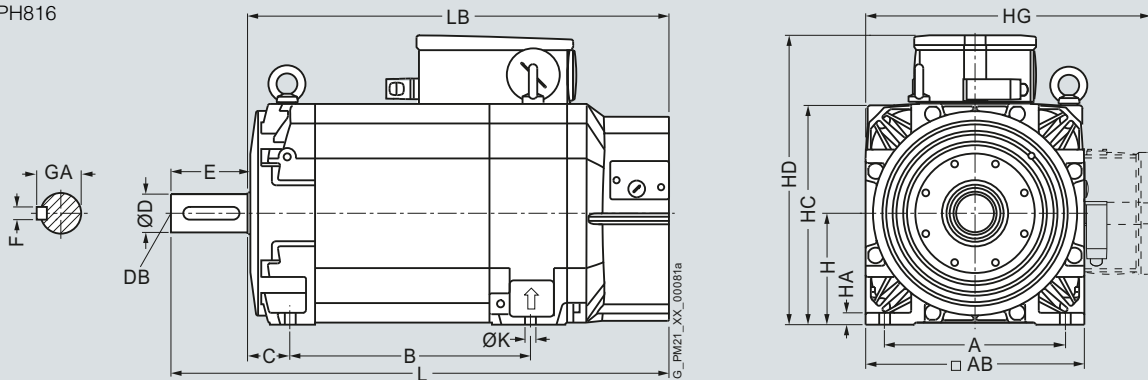
#### Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	IEC A	AB	B	C	H	HA	HC	HD	HG
<b>1PH8, type of construction IM B3, forced ventilation</b>										
160	1PH8165	254 (10.00)	314 (12.36)	406.5 (16.00)	61 (2.40)	160 (6.30)	17 (0.67)	317 (12.48)	415.5 (16.36)	412.5 (16.24)
	1PH8167			446.5 (17.58)						

Shaft height	Type	IEC K	L	LB	Shaft extension DE		E	F	GA
					D	DB			
160	1PH8165	14 (0.55)	780.5 (30.73)	670.5 (26.40)	<b>55</b> <b>(2.17)</b>	M20	110 (4.33)	16 (0.63)	59 (2.32)
	1PH8167		820.5 (32.30)	710.5 (27.97)					

1PH816



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 synchronous motors Shaft height 160 – Forced ventilation

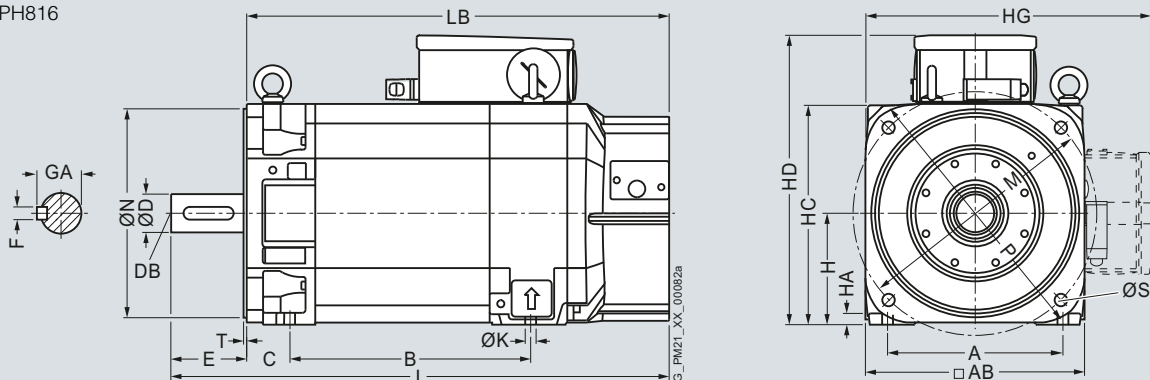
#### Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	IEC A	AB	B	C	H	HA	HC	HD	HG	K	L
<b>1PH8, type of construction IM B5/IM B35, forced ventilation</b>												
160	1PH8165	254 (10.00)	314 (12.36)	406.5 (16.00)	61 (2.40)	160 (6.30)	17 (0.67)	317 (12.48)	415.5 (16.36)	412.5 (16.24)	14 (0.55)	780.5 (30.73)
	1PH8167			446.5 (17.58)								820.5 (32.30)

Shaft height	Type	IEC LB	M	N	P	S	T	Shaft extension DE				
								D	DB	E	F	GA
160	1PH8165	670.5 (26.40)	350 (13.78)	300 (11.81)	393 (15.47)	18 (0.71)	5 (0.20)	<b>55</b> <b>(2.17)</b>	M20	110 (4.33)	16 (0.63)	59 (2.32)
	1PH8167	710.5 (27.97)										

1PH816





# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 160 – Water cooling

#### Dimensional drawings

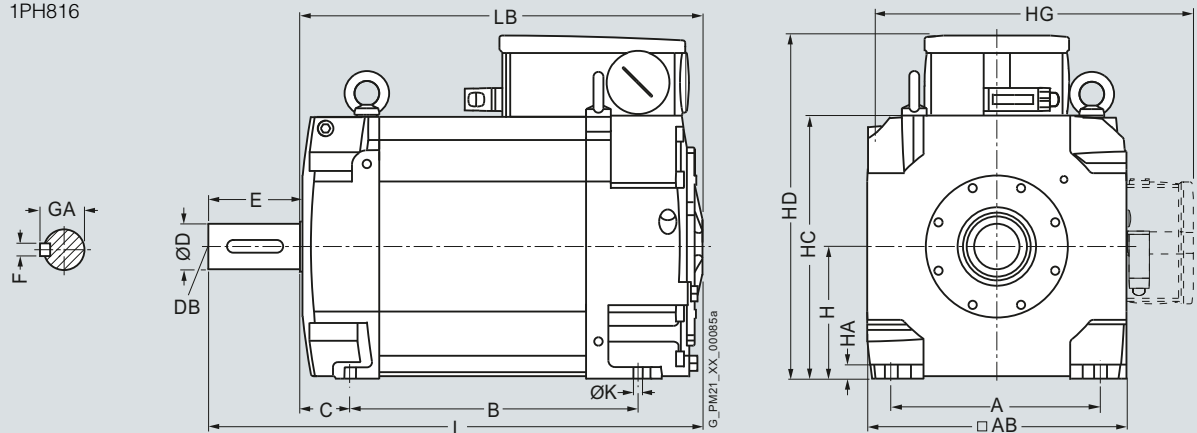
For motor Dimensions in mm (inches)

Shaft height	Type	IEC A	AB	B	C	H	HA	HC	HD	HG
<b>1PH8, type of construction IM B3, water cooling</b>										
160	1PH8163/ 1PH8164	254 (10.00)	314 (12.36)	346.5 (13.64)	61 (2.40)	160 (6.30)	17 (0.67)	317 (12.48)	415.5 (16.36)	412.5 (16.24)
	1PH8165/ 1PH8166			406.5 (16.00)						
	1PH8168			446.5 (17.58)						

5

Shaft height	Type	IEC K	L	LB	Shaft extension DE				
					D	DB	E	F	GA
160	1PH8163/ 1PH8164	14 (0.55)	598.5 (23.56)	488.5 (19.23)	<b>55</b> <b>(2.17)</b>	M20	110 (4.33)	16 (0.63)	59 (2.32)
	1PH8165/ 1PH8166		658.5 (25.93)	548.5 (21.59)					
	1PH8168		698.5 (27.50)	588.5 (23.17)					

1PH816



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 160 – Water cooling

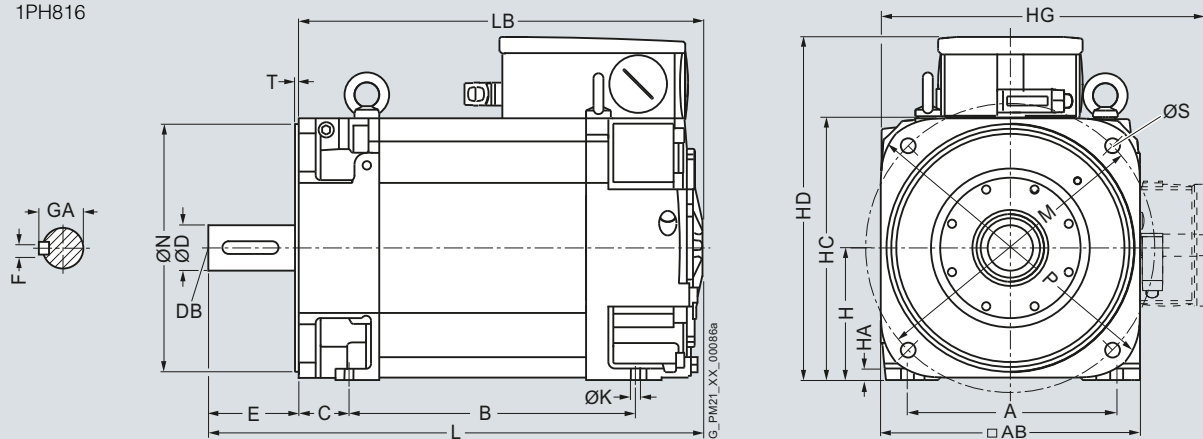
#### Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	IEC A	AB	B	C	H	HA	HC	HD	HG	K	L
<b>1PH8, type of construction IM B5/IM B35, water cooling</b>												
160	1PH8163/ 1PH8164	254 (10.00)	314 (12.36)	346.5 (13.64)	61 (2.40)	160 (6.30)	17 (0.67)	317 (12.48)	415.5 (16.36)	412.5 (16.24)	14 (0.55)	598.5 (23.56)
	1PH8165/ 1PH8166			406.5 (16.00)								658.5 (25.93)
	1PH8168			446.5 (17.58)								698.5 (27.50)

Shaft height	Type	IEC LB	M	N	P	S	T	Shaft extension DE				
								D	DB	E	F	GA
160	1PH8163/ 1PH8164	488.5 (19.23)	350 (13.78)	300 (11.81)	393 (15.47)	18 (0.71)	5 (0.20)	<b>55</b> <b>(2.17)</b>	M20	110 (4.33)	16 (0.63)	59 (2.32)
	1PH8165/ 1PH8166	548.5 (21.59)										
	1PH8168	588.5 (23.17)										

1PH816



# SIMOTICS main motors

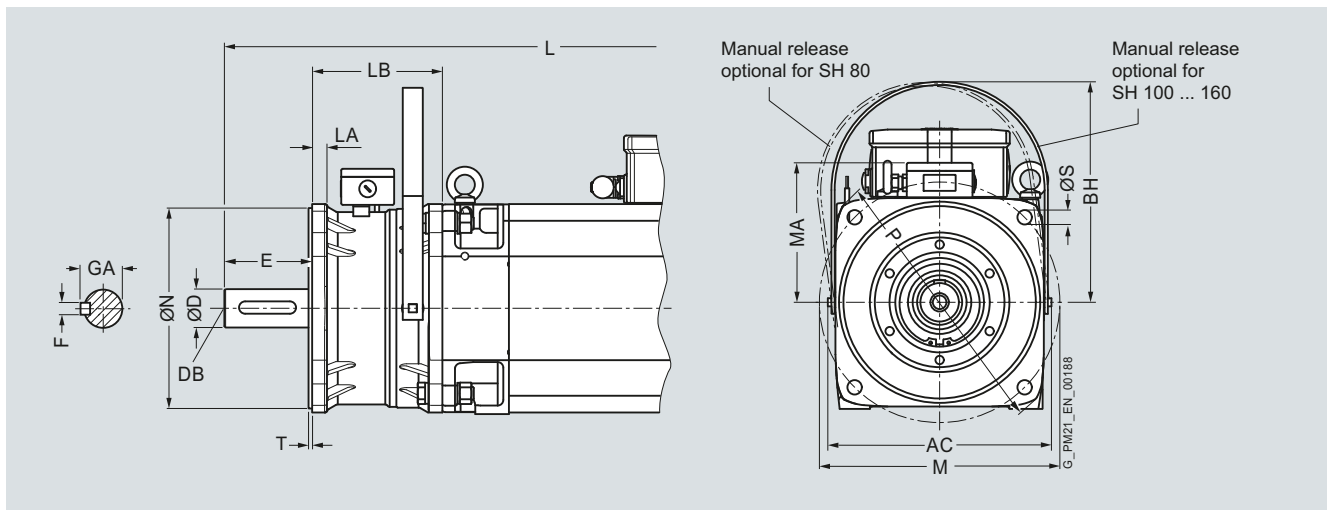
## Dimensional drawings

**SIMOTICS M-1PH8 asynchronous motors with holding brake, shaft heights 80 to 160**  
**SIMOTICS M-1PH8 synchronous motors with holding brake, shaft heights 132 and 160**

### Dimensional drawings

For motor		Dimensions in mm (inches)														Shaft extension DE				
Shaft height	Type	IEC	AC	BH	L	LA	LB	M	MA	N	P	S	T	D	DB	E	F	GA		
																			Forced ventilation	Water cooling
<b>1PH8 shaft heights 80 to 132, types of construction IM B5 and IM B35, forced ventilation and water cooling – Brake mounting</b>																				
80	1PH8083	164 (6.46)	162 (6.38)	586 (23.07)	506.5 (19.94)	12 (0.47)	125 (4.92)	165 (6.50)	162 (6.38)	130 (5.12)	200 (7.87)	12 (0.47)	3.5 (0.14)	<b>32</b> <b>(1.26)</b>	M12	80 (3.15)	10 (0.39)	35 (1.38)		
		1PH8087			636 (25.04)	556.5 (21.91)														
100	1PH8101	220.5 (8.68)	224 (8.82)	579.5 (22.81)	499.5 (19.67)	16 (0.63)	130 (5.12)	215 (8.46)	224 (8.82)	180 (7.09)	250 (9.84)	14 (0.55)	4 (0.16)	<b>38</b> <b>(1.50)</b>	M12	80 (3.15)	10 (0.39)	41 (1.61)		
		1PH8103			615 (24.21)	535 (21.06)														
		1PH8105			674.5 (26.56)	594.5 (23.41)														
		1PH8107			710 (27.95)	630 (24.80)														
132	1PH8131	278.5 (10.96)	269 (10.59)	711 (27.99)	619.5 (24.39)	18 (0.71)	162 (6.38)	300 (11.81)	269 (10.59)	250 (9.84)	340 (13.39)	18 (0.71)	5 (0.20)	<b>48</b> <b>(1.89)</b>	M16	110 (4.33)	14 (0.55)	51.5 (2.03)		
		1PH8133			756 (29.76)	664.5 (26.16)														
		1PH8135			801 (31.54)	709.5 (27.93)														
		1PH8137/ 1PH8138			841 (33.11)	749.5 (29.51)														
<b>1PH8 shaft height 160, type of construction IM B35, forced ventilation and water cooling – Brake mounting</b>																				
160	1PH8163/ 1PH8164	319 (12.56)	328 (12.91)	888.5 (34.98)	766.5 (30.18)	23 (0.91)	168 (6.61)	350 (13.78)	328 (12.91)	300 (11.81)	393 (15.47)	18 (0.71)	5 (0.20)	<b>55</b> <b>(2.17)</b>	M20	110 (4.33)	16 (0.63)	59 (2.32)		
		1PH8165/ 1PH8166			948.5 (37.34)	826.5 (32.54)														
		1PH8167/ 1PH8168			988.5 (38.92)	866.5 (34.11)														

5



### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft heights 80 to 160 – Forced ventilation with pipe connection

#### Dimensional drawings

For motor Dimensions in mm (inches)

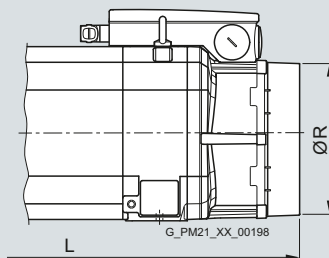
Shaft height	Type	IEC L	R
--------------	------	-------	---

#### 1PH8 asynchronous motors shaft heights 80 and 100, forced ventilation – Pipe connection (option K80)

80	1PH8083	503 (19.80)	143 (5.63)
	1PH8087	553 (21.77)	
100	1PH8101	496.5 (19.55)	158 (6.22)
	1PH8103	532 (20.94)	
	1PH8105	591.5 (23.29)	
	1PH8107	627 (24.68)	

#### 1PH8 asynchronous and synchronous motors shaft heights 132 and 160, forced ventilation – Pipe connection (option K80)

132	1PH8131	595.5 (23.44)	222 (8.74)
	1PH8133	640.5 (25.22)	
	1PH8135	685.5 (26.99)	
	1PH8137	725.5 (28.56)	
160	1PH8163	792 (31.18)	276 (10.87)
	1PH8165	852 (33.54)	
	1PH8167	892 (35.12)	



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 180 – Forced ventilation

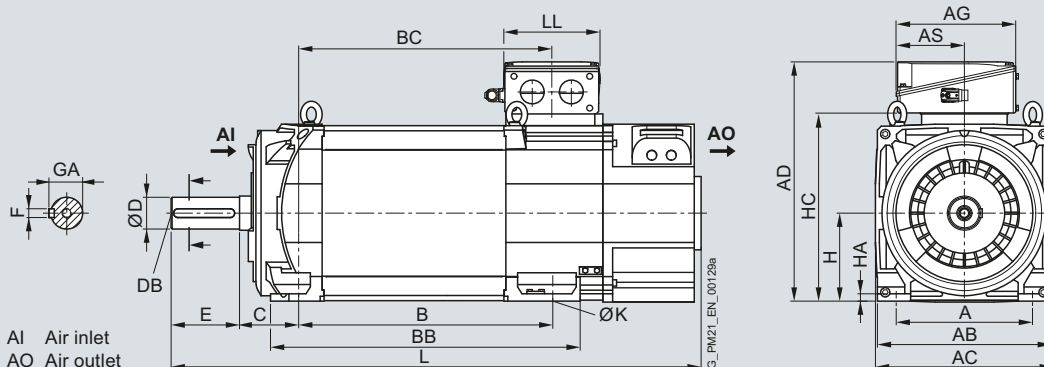
#### Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	Dimensions in mm (inches)												Shaft extension DE				
		IEC A	AB	AC	B	BB	C	H	HA	HC	K	L	D	DB	E	F	GA	
<b>1PH8, type of construction IM B3, forced ventilation – direction of air flow DE → NDE</b>																		
180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	180 (7.09)	15 (0.59)	383 (15.08)	14.5 (0.57)	995 (39.17)	<b>65</b> <b>(2.56)</b>	M20	140 (5.51)	18 (0.71)	69 (2.72)	
	1PH8186				520 (20.47)	635 (25.00)							1085 (42.72)					

Terminal box Dimensions in mm (inches)

Shaft height	Type	Dimensions in mm (inches)				
		IEC AD	AG	AS	BC	LL
<b>Terminal box type 1XB7322</b>						
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	
<b>Terminal box type 1XB7422</b>						
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	
<b>Terminal box type 1XB7700</b>						
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	



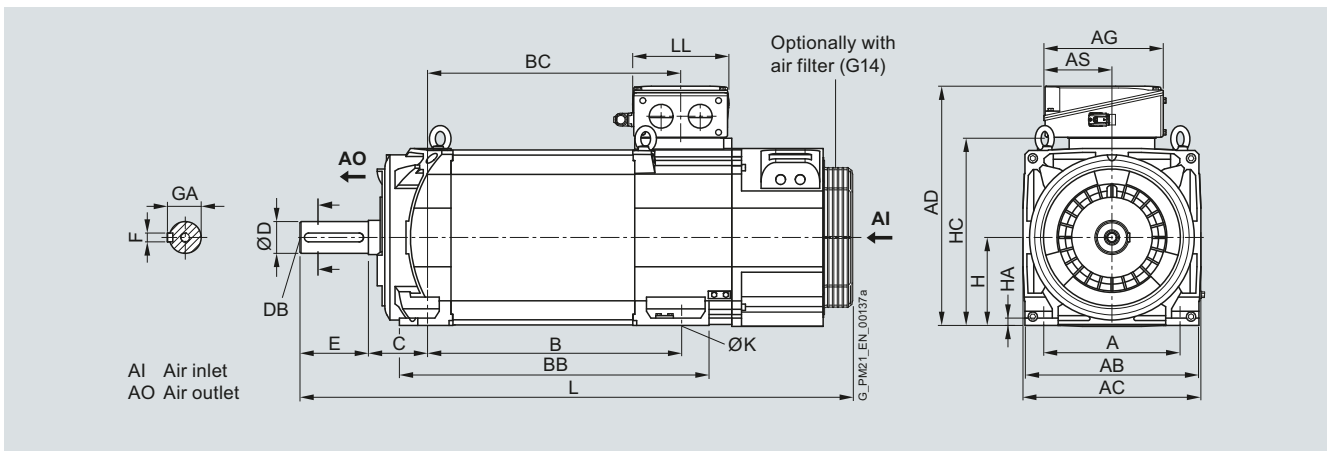
# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 180 – Forced ventilation

#### Dimensional drawings

For motor		Dimensions in mm (inches)												Shaft extension DE				
Shaft height	Type	IEC A	AB	AC	B	BB	C	H	HA	HC	K	L	D	DB	E	F	GA	
<b>1PH8, type of construction IM B3, forced ventilation – direction of air flow NDE → DE</b>																		
180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	180 (7.09)	15 (0.59)	383 (15.08)	14.5 (0.57)	1047 (41.22)	<b>65</b> <b>(2.56)</b>	M20	140 (5.51)	18 (0.71)	69 (2.72)	
	1PH8186				520 (20.47)	635 (25.00)							1137 (44.76)					
Terminal box		Dimensions in mm (inches)																
Shaft height	Type	IEC AD	AG	AS	BC	LL												
<b>Terminal box type 1XB7322</b>																		
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)												
	1PH8186				519 (20.43)													
<b>Terminal box type 1XB7422</b>																		
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)												
	1PH8186				519 (20.43)													
<b>Terminal box type 1XB7700</b>																		
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)												
	1PH8186				519 (20.43)													



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 180 – Forced ventilation

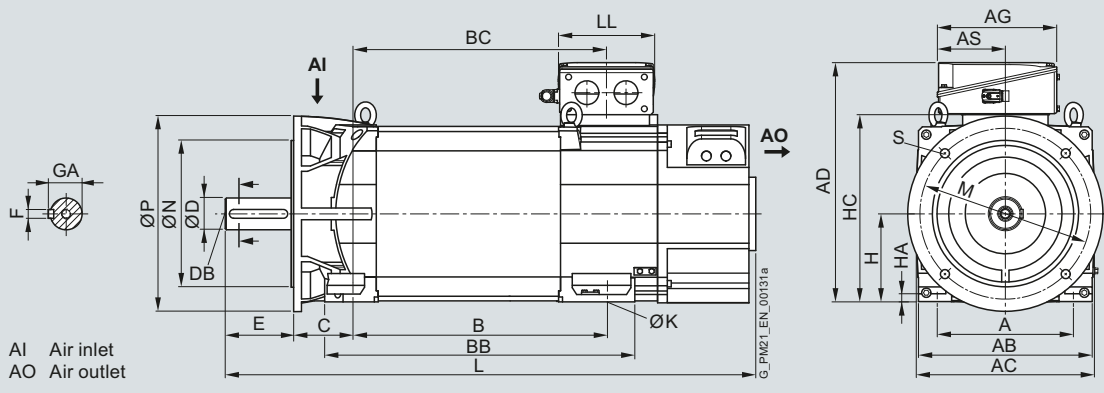
#### Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type																Shaft extension DE				
		IEC A	AB	AC	B	BB	C	H	HA	HC	K	L	M	N	P	S	D	DB	E	F	GA
<b>1PH8, type of construction IM B35, forced ventilation – direction of air flow DE → NDE, flange A400 (option K90)</b>																					
180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	180 (7.09)	15 (0.59)	383 (15.08)	14.5 (0.57)	995 (39.17)	350 (13.78)	300 (11.81)	400 (15.75)	18.5 (0.73)	<b>65</b> <b>(2.56)</b>	M20	140 (5.51)	18 (0.71)	69 (2.72)
	1PH8186				520 (20.47)	635 (25.00)						1085 (42.72)									

Terminal box Dimensions in mm (inches)

Shaft height	Type					
		IEC AD	AG	AS	BC	LL
<b>Terminal box type 1XB7322</b>						
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	
<b>Terminal box type 1XB7422</b>						
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	
<b>Terminal box type 1XB7700</b>						
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	



5

# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 180 – Forced ventilation

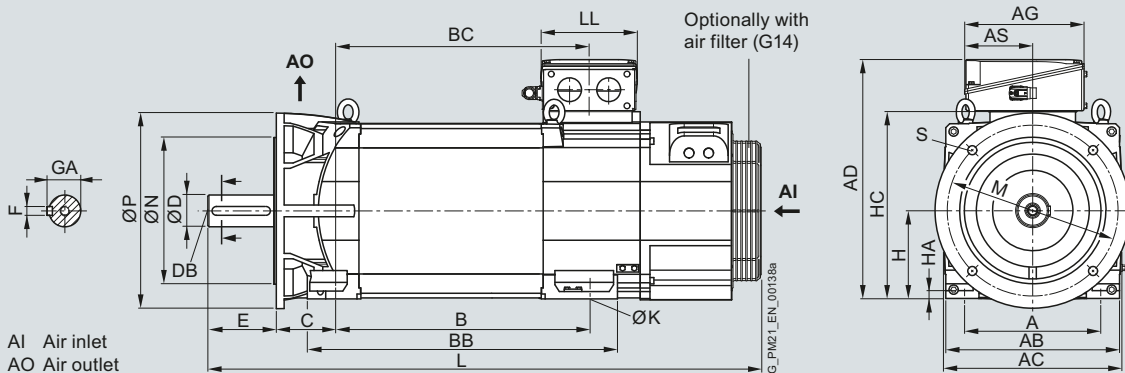
#### Dimensional drawings

For motor		Dimensions in mm (inches)															Shaft extension DE				
Shaft height	Type	IEC A	AB	AC	B	BB	C	H	HA	HC	K	L	M	N	P	S	D	DB	E	F	GA
<b>1PH8, type of construction IM B35, forced ventilation – direction of air flow NDE → DE, flange A400 (option K90)</b>																					
180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	180 (7.09)	15 (0.59)	383 (15.08)	14.5 (0.57)	1047 (41.22)	350 (13.78)	300 (11.81)	400 (15.75)	18.5 (0.73)	<b>65</b> <b>(2.56)</b>	M20	140 (5.51)	18 (0.71)	69 (2.72)
	1PH8186				520 (20.47)	635 (25.00)						1137 (44.76)									

Terminal box		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
<b>Terminal box type 1XB7322</b>						
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	

<b>Terminal box type 1XB7422</b>						
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	

<b>Terminal box type 1XB7700</b>						
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	





# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 180 – Forced ventilation

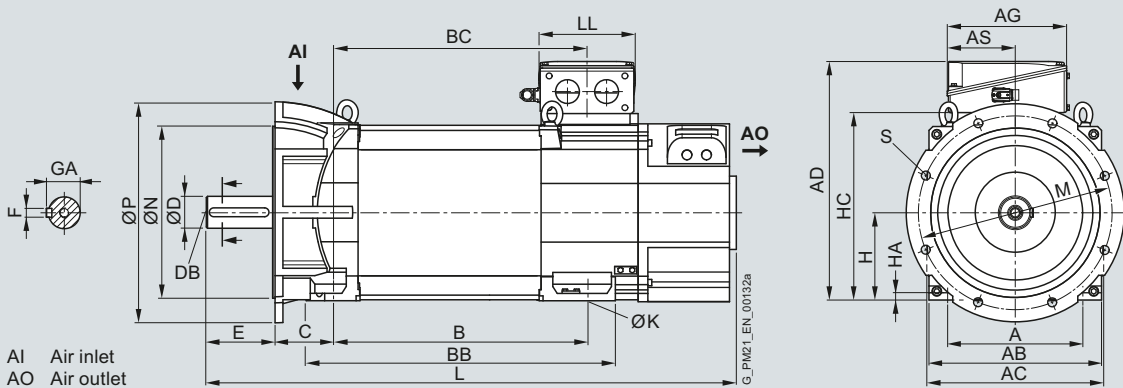
#### Dimensional drawings

For motor		Dimensions in mm (inches)																Shaft extension DE				
Shaft height	Type	IEC A	AB	AC	B	BB	C	H	HA	HC	K	L	M	N	P	S	D	DB	E	F	GA	
<b>1PH8, type of construction IM B35, forced ventilation – direction of air flow DE → NDE, flange A450</b>																						
180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	180 (7.09)	15 (0.59)	383 (15.08)	14.5 (0.57)	995 (39.17)	400 (15.75)	350 (13.78)	450 (17.72)	18.5 (0.73)	<b>65</b> <b>(2.56)</b>	M20	140 (5.51)	18 (0.71)	69 (2.72)	
	1PH8186				520 (20.47)	635 (25.00)						1085 (42.72)										

Terminal box		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
<b>Terminal box type 1XB7322</b>						
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	

Terminal box type 1XB7422		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	

Terminal box type 1XB7700		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 180 – Forced ventilation

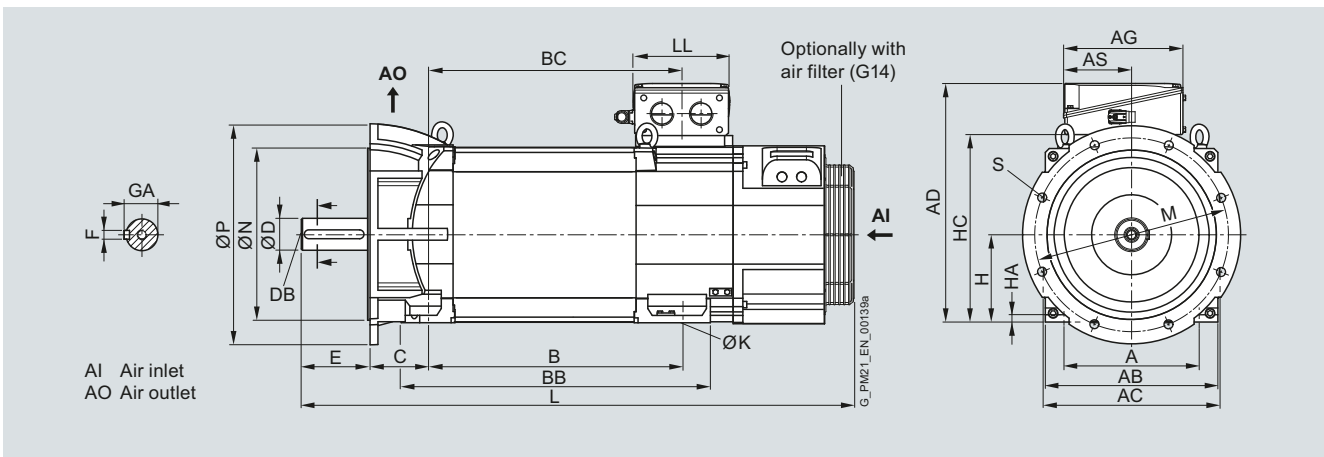
#### Dimensional drawings

For motor		Dimensions in mm (inches)																Shaft extension DE				
Shaft height	Type	IEC A	AB	AC	B	BB	C	H	HA	HC	K	L	M	N	P	S	D	DB	E	F	GA	
<b>1PH8, type of construction IM B35, forced ventilation – direction of air flow NDE→ DE, flange A450</b>																						
180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	180 (7.09)	15 (0.59)	383 (15.08)	14.5 (0.57)	1047 (41.22)	400 (15.75)	350 (13.78)	450 (17.72)	18.5 (0.73)	<b>65</b> <b>(2.56)</b>	M20	140 (5.51)	18 (0.71)	69 (2.72)	
	1PH8186				520 (20.47)	635 (25.00)						1137 (44.76)										

Terminal box		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
<b>Terminal box type 1XB7322</b>						
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	

Terminal box type 1XB7422		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	

Terminal box type 1XB7700		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 180 – Water cooling

#### Dimensional drawings

For motor      Dimensions in mm  
(inches)

Shaft Type      IEC A    AB    AC    B    C    H    HA    HC    K    L    LB  
height

#### 1PH8, types of construction IM B3/IM V5, water cooling

180	1PH8184	279 (10.98)	356 (14.02)	384 (15.12)	430 (16.93)	121 (4.76)	180 (7.09)	15 (0.59)	372 (14.65)	14.5 (0.57)	810 (31.89)	670 (26.38)
	1PH8186				520 (20.47)						900 (35.43)	760 (29.92)

Shaft extension DE

Terminal box type

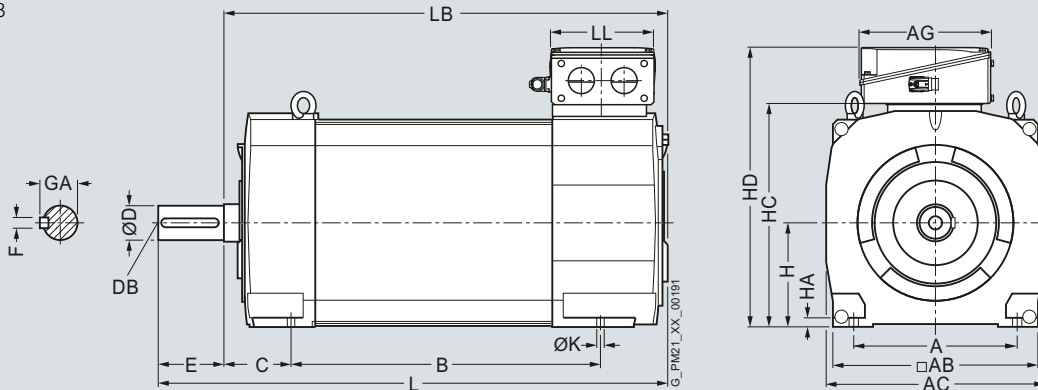
1XB7322

1XB7422

1XB7700

Shaft height	Type	IEC <b>D</b>	Shaft extension DE				Terminal box type			1XB7422			1XB7700		
			DB	E	F	GA	AG	HD	LL	AG	HD	LL	AG	HD	LL
180	1PH8184	<b>65</b> (2.56)	M20	140 (5.51)	18 (0.71)	69 (2.72)	245 (9.65)	490 (19.29)	196 (7.72)	281 (11.06)	533 (20.98)	233 (9.17)	297 (11.69)	586 (23.07)	310 (12.20)
	1PH8186														

1PH818



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors

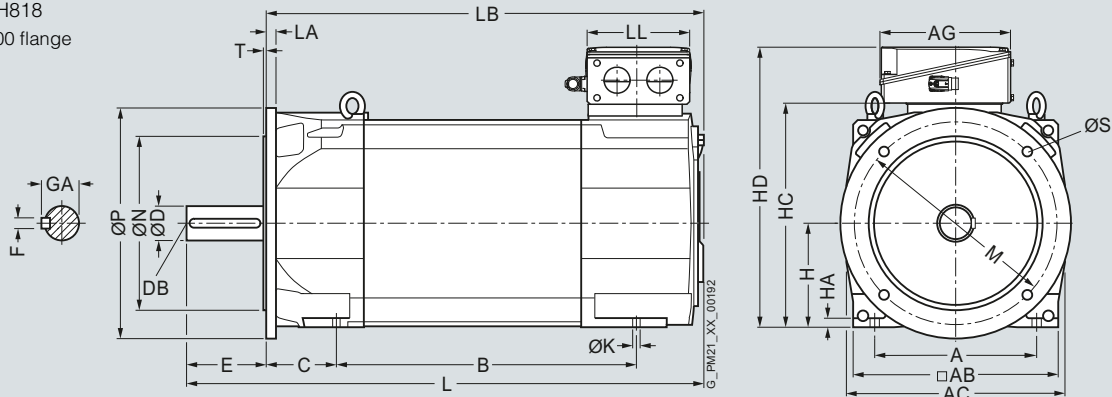
#### Shaft height 180 – Water cooling

#### Dimensional drawings

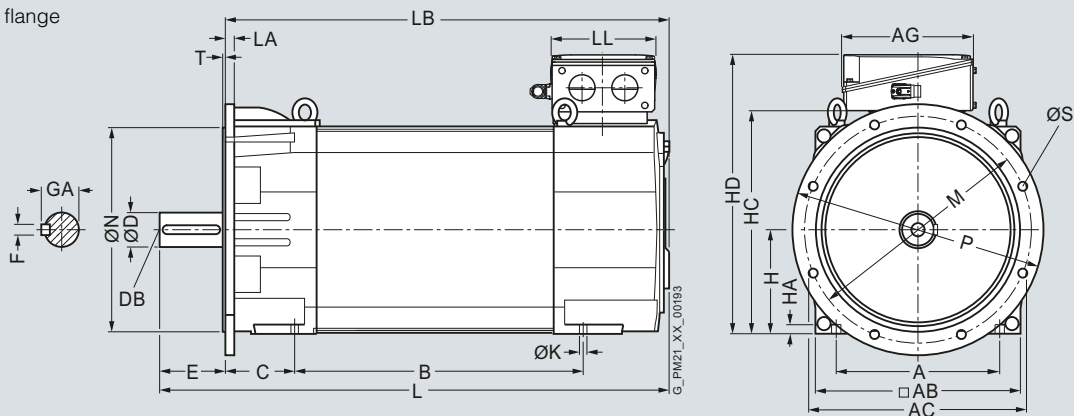
For motor		Dimensions in mm (inches)													A400	A450	A400	A450	
Shaft height	Type	IEC A	AB	AC	B	C	H	HA	HC	K	L	LA	LB	M	N				
180	1PH8184	279 (10.98)	356 (14.02)	384 (15.12)	430 (16.93)	121 (4.76)	180 (7.09)	15 (0.59)	372 (14.65)	14.5 (0.57)	810 (31.89)	16 (0.63)	670 (26.38)	350 (13.78)	400 (15.75)	300 (11.81)	350 (13.78)		
	1PH8186				520 (20.47)						900 (35.43)		760 (29.92)						

		Shaft extension DE									Terminal box type 1XB7322, 1XB7422, 1XB7700	
		A400	A450								Dimensions as for types of construction IM B3/IM V5	
Shaft height	Type	IEC P	S	T	D	DB	E	F	GA			
180	1PH8184	400 (15.75)	450 (17.72)	18.5 (0.73)	5 (0.20)	<b>65</b> (2.56)	M20	140 (5.51)	18 (0.71)	69 (2.72)		
	1PH8186											

1PH818  
A400 flange



A450 flange



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 225 – Forced ventilation

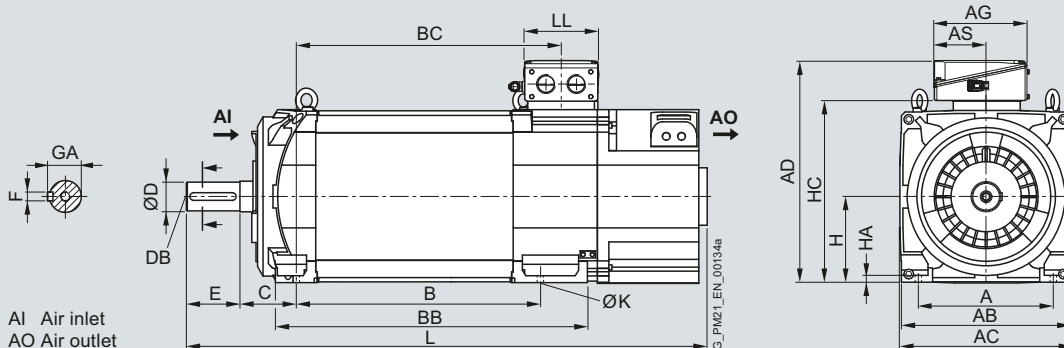
#### Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	Dimensions in mm (inches)											Shaft extension DE				
		IEC A	AB	AC	B	BB	C	H	HA	HC	K	L	D	DB	E	F	GA
<b>1PH8, type of construction IM B3, forced ventilation – direction of air flow DE → NDE</b>																	
225	1PH8224	356 (14.02)	446 (17.56)	454 (17.87)	445 (17.52)	625 (24.61)	149 (5.87)	225 (8.86)	18 (0.71)	475 (18.70)	18.5 (0.73)	1171 (46.10)	<b>75</b> <b>(2.95)</b>	M20	140 (5.51)	20 (0.79)	79.5 (3.13)
	1PH8226				545 (21.46)	725 (28.54)						1271 (40.04)					
	1PH8228				635 (25.00)	815 (32.09)						1361 (53.58)					

Terminal box Dimensions in mm (inches)

Shaft height	Type	Dimensions in mm (inches)				
		IEC AD	AG	AS	BC	LL
<b>Terminal box type 1XB7322</b>						
225	1PH8224	582 (22.91)	245 (9.65)	140 (5.51)	481 (18.94)	196 (7.72)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	
<b>Terminal box type 1XB7422</b>						
225	1PH8224	625 (24.61)	281 (11.06)	176 (6.93)	481 (18.94)	233 (9.17)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	
<b>Terminal box type 1XB7700</b>						
225	1PH8224	678 (26.69)	297 (11.69)	156 (6.14)	481 (18.94)	310 (12.20)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 225 – Forced ventilation

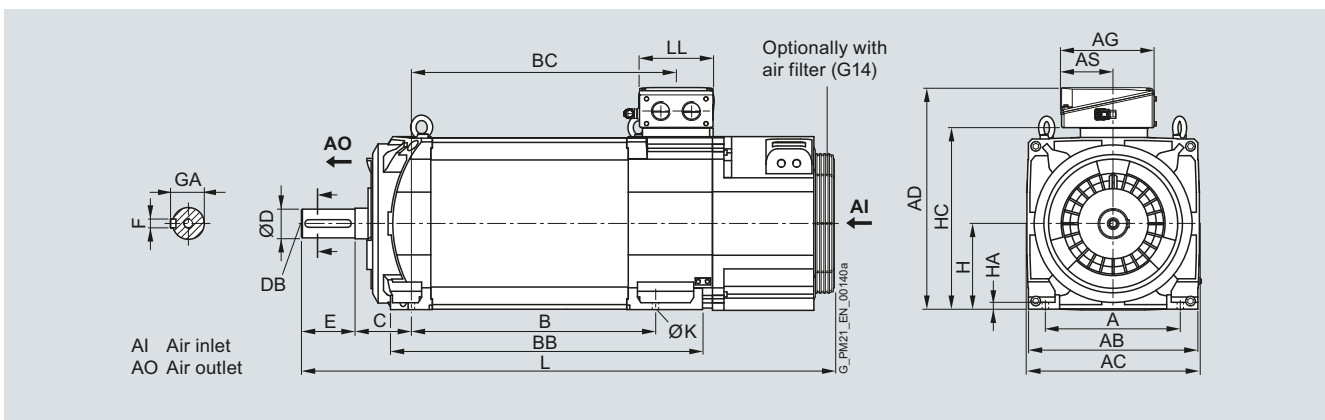
#### Dimensional drawings

For motor		Dimensions in mm (inches)												Shaft extension DE				
Shaft height	Type	IEC A	AB	AC	B	BB	C	H	HA	HC	K	L	D	DB	E	F	GA	
<b>1PH8, type of construction IM B3, forced ventilation – direction of air flow NDE → DE</b>																		
225	1PH8224	356 (14.02)	446 (17.56)	454 (17.87)	445 (17.52)	625 (24.61)	149 (5.87)	225 (8.86)	18 (0.71)	475 (18.70)	18.5 (0.73)	1206 (47.48)	<b>75</b> <b>(2.95)</b>	M20	140 (5.51)	20 (0.79)	79.5 (3.13)	
	1PH8226				545 (21.46)	725 (28.54)						1306 (51.42)						
	1PH8228				635 (25.00)	815 (32.09)						1396 (54.96)						

Terminal box		Dimensions in mm (inches)					
Shaft height	Type	IEC AD	AG	AS	BC	LL	
<b>Terminal box type 1XB7322</b>							
225	1PH8224	582 (22.91)	245 (9.65)	140 (5.51)	481 (18.94)	196 (7.72)	
	1PH8226				581 (22.87)		
	1PH8228				671 (26.42)		

<b>Terminal box type 1XB7422</b>							
225	1PH8224	625 (24.61)	281 (11.06)	176 (6.93)	481 (18.94)	233 (9.17)	
	1PH8226				581 (22.87)		
	1PH8228				671 (26.42)		

<b>Terminal box type 1XB7700</b>							
225	1PH8224	678 (26.69)	297 (11.69)	156 (6.14)	481 (18.94)	310 (12.20)	
	1PH8226				581 (22.87)		
	1PH8228				671 (26.42)		



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 225 – Forced ventilation

#### Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type															Shaft extension DE					
		IEC A	AB	AC	B	BB	C	H	HA	HC	K	L	M	N	P	S	D	DB	E	F	GA
<b>1PH8, type of construction IM B35, forced ventilation – direction of air flow DE → NDE, flange A550</b>																					
225	1PH8224	356 (14.02)	446 (17.56)	454 (17.87)	445 (17.52)	625 (24.61)	149 (5.87)	225 (8.86)	18 (0.71)	475 (18.70)	18.5 (0.73)	1171 (46.10)	500 (19.69)	450 (17.72)	550 (21.65)	18.5 (0.73)	<b>75</b> <b>(2.95)</b>	M20	140	20	79.5 (3.13)
	1PH8226				545 (21.46)	725 (28.54)							1271 (50.04)								
	1PH8228				635 (25.00)	815 (32.09)							1361 (53.58)								

Terminal box Dimensions in mm (inches)

Shaft height	Type	IEC AD	AG	AS	BC	LL
--------------	------	--------	----	----	----	----

#### Terminal box type 1XB7322

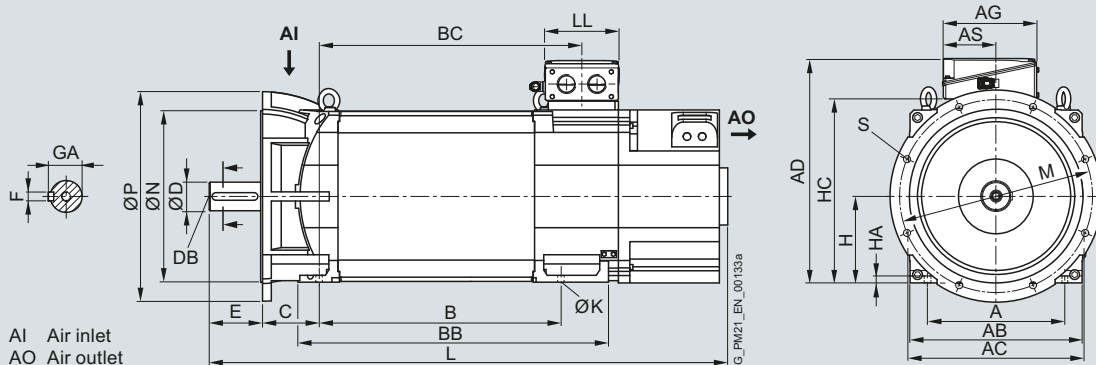
225	1PH8224	582 (22.91)	245 (9.65)	140 (5.51)	481 (18.94)	196 (7.72)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	

#### Terminal box type 1XB7422

225	1PH8224	625 (24.61)	281 (11.06)	176 (6.93)	481 (18.94)	233 (9.17)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	

#### Terminal box type 1XB7700

225	1PH8224	678 (26.69)	297 (11.69)	156 (6.14)	481 (18.94)	310 (12.20)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	



### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 225 – Forced ventilation

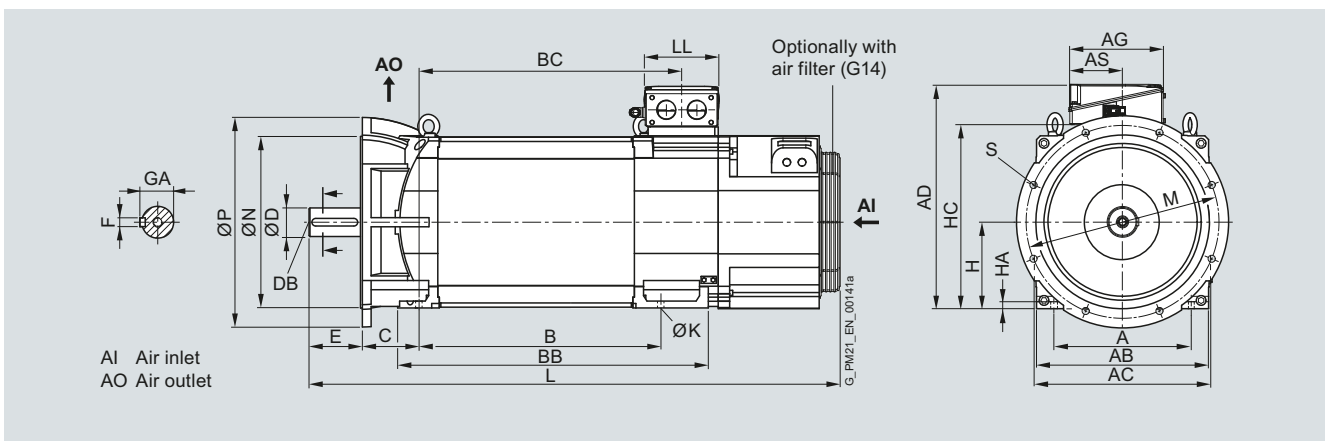
#### Dimensional drawings

For motor		Dimensions in mm (inches)															Shaft extension DE				
Shaft height	Type	IEC A	AB	AC	B	BB	C	H	HA	HC	K	L	M	N	P	S	D	DB	E	F	GA
<b>1PH8, type of construction IM B35, forced ventilation – direction of air flow NDE → DE, flange A550</b>																					
225	1PH8224	356 (14.02)	446 (17.56)	454 (17.87)	445 (17.52)	625 (24.61)	149 (5.87)	225 (8.86)	18 (0.71)	475 (18.70)	18.5 (0.73)	1206 (47.48)	500 (19.69)	450 (17.72)	550 (21.65)	18.5 (0.73)	<b>75</b> <b>(2.95)</b>	M20	140 (5.51)	20 (0.79)	79.5 (3.13)
	1PH8226				545 (21.46)	725 (28.54)							1306 (51.42)								
	1PH8228				635 (25.00)	815 (32.09)							1396 (54.96)								

Terminal box		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
<b>Terminal box type 1XB7322</b>						
225	1PH8224	582 (22.91)	245 (9.65)	140 (5.51)	481 (18.94)	196 (7.72)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	

Terminal box type 1XB7422		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
225	1PH8224	625 (24.61)	281 (11.06)	176 (6.93)	481 (18.94)	233 (9.17)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	

Terminal box type 1XB7700		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
225	1PH8224	678 (26.69)	297 (11.69)	156 (6.14)	481 (18.94)	310 (12.20)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	



5



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 225 – Water cooling

#### Dimensional drawings

For motor                      Dimensions in mm (inches)

Shaft height	Type	IEC A	AB	AC	B	C	H	HA	HC	K	L	LB
--------------	------	-------	----	----	---	---	---	----	----	---	---	----

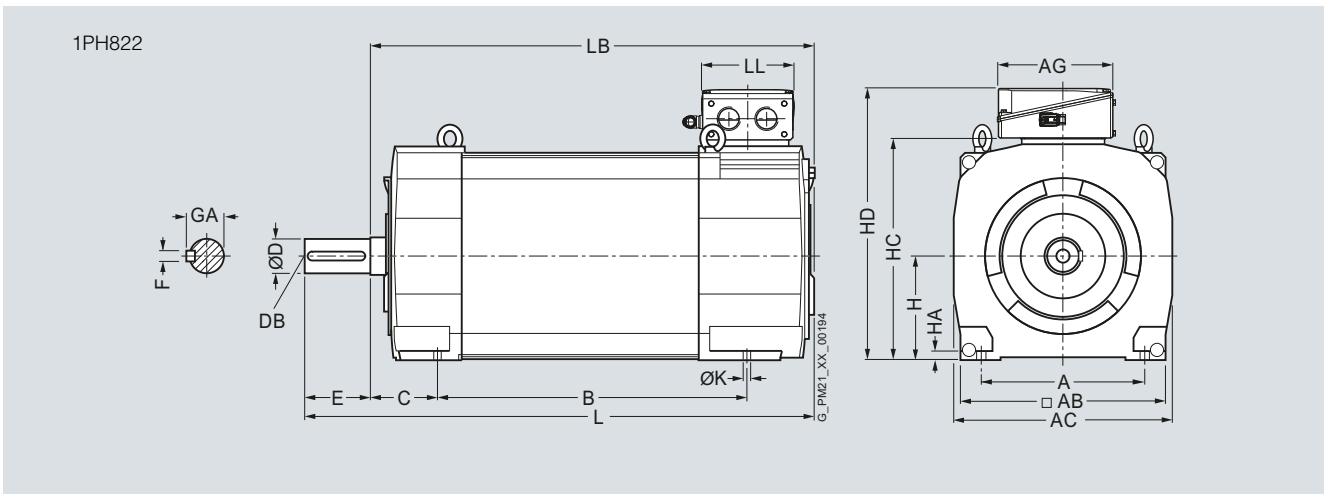
**1PH8, types of construction IM B3/IM V5, water cooling**

225	1PH8224	356 (14.02)	446 (17.56)	474 (18.66)	445 (17.52)	149 (5.87)	225 (8.86)	18 (0.71)	462 (18.19)	18.5 (0.73)	915 (36.02)	775 (30.51)
	1PH8226				545 (21.46)						1015 (39.96)	875 (34.45)
	1PH8228				635 (25.0)						1105 (43.50)	965 (37.99)

5

Shaft height	Type	Shaft extension DE					Terminal box type								
		IEC D	DB	E	F	GA	1XB7322			1XB7422			1XB7700		

Shaft height	Type	IEC D	DB	E	F	GA	AG	HD	LL	AG	HD	LL	AG	HD	LL
225	1PH8224	<b>75</b> (2.95)	M20	140 (5.51)	20 (0.79)	79.5 (3.13)	245 (9.65)	585 (23.03)	196 (7.72)	281 (11.06)	628 (24.72)	233 (9.17)	297 (11.69)	677 (26.65)	310 (12.20)
	1PH8226														
	1PH8228														



# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft height 225 – Water cooling

#### Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	IEC A	AB	AC	B	C	H	HA	HC	K	L	LA	LB	M	N	P	S	T
<b>1PH8, types of construction IM B5/IM B35/IM V15, water cooling, A550 flange</b>																		
225	1PH8224	356 (14.02)	446 (17.56)	474 (18.66)	445 (17.52)	149 (5.87)	225 (8.86)	18 (0.71)	462 (18.19)	18.5 (0.73)	910 (35.83)	20 (0.79)	770 (30.31)	500 (19.69)	450 (17.72)	550 (21.65)	18.5 (0.73)	5 (0.20)
	1PH8226				545 (21.46)						1012 (39.84)		872 (34.33)					
	1PH8228				635 (25.00)						1102 (43.39)		962 (37.87)					

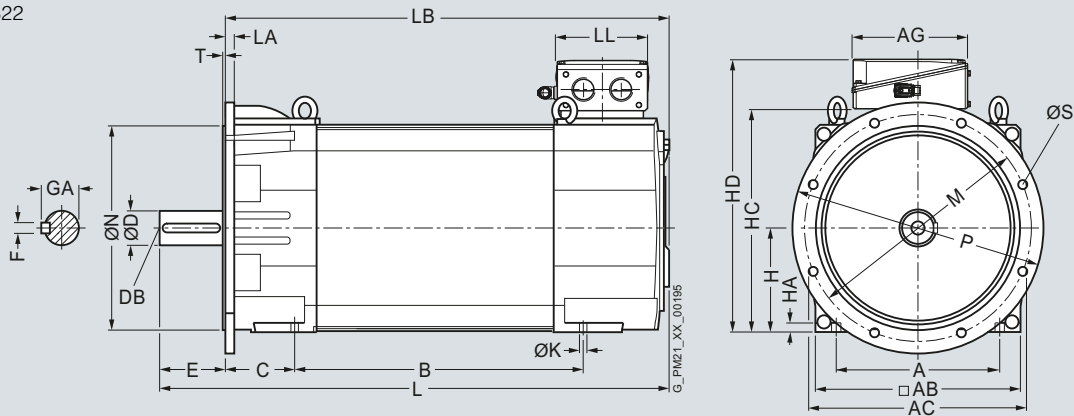
Shaft extension DE

Terminal box type 1XB7322, 1XB7422, 1XB7700

Dimensions as for types of construction IM B3/IM V5

Shaft height	Type	IEC D	DB	E	F	GA
225	1PH8224	<b>75</b> (2.95)	M20	140 (5.51)	20 (0.79)	79.5 (3.13)
	1PH8226					
	1PH8228					

1PH822



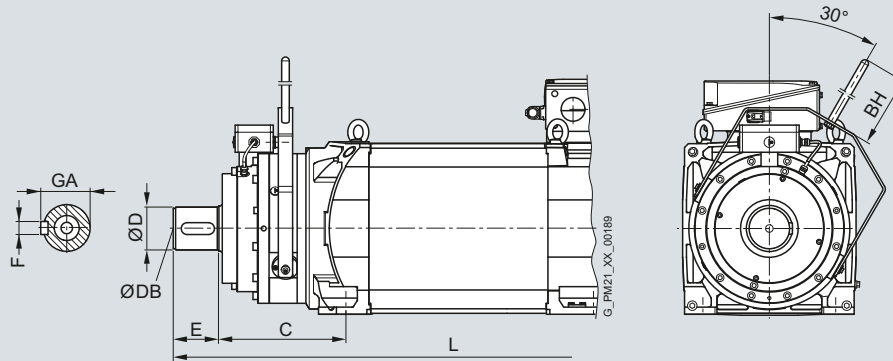
# SIMOTICS main motors

## Dimensional drawings

### SIMOTICS M-1PH8 asynchronous and synchronous motors with holding brake Shaft heights 180 and 225

#### Dimensional drawings

For motor		Dimensions in mm (inches)									
Shaft height	Type	IEC BH	C	Forced ventilation		Water cooling	Shaft extension DE				
				L	L	L	D	DB	E	F	GA
				DE → NDE	NDE → DE						
<b>1PH8, type of construction IM B3, forced ventilation – directions of air flow DE → NDE and NDE → DE, water cooling; brake mounting (option U63)</b>											
180	1PH8184	252 (9.92)	268 (10.55)	1096 (43.15)	1148 (45.20)	911 (35.87)	<b>90</b> <b>(3.54)</b>	M20	95 (3.74)	25 (0.98)	95 (3.74)
	1PH8186			1186 (46.69)	1238 (48.74)	1001 (39.41)					
225	1PH8224	493 (19.41)		1295 (50.98)	1330 (52.36)	1040 (40.94)	95 (3.74)	M20	105 (4.13)	25 (0.98)	100 (3.94)
	1PH8226			1395 (54.92)	1430 (56.30)	1140 (44.88)					
	1PH8228			1495 (58.86)	1520 (59.84)	1230 (48.43)					



### SIMOTICS M-1PH8 asynchronous and synchronous motors Shaft heights 180 and 225 – Forced ventilation with pipe connection

#### Dimensional drawings

For motor            Dimensions in mm (inches)

Shaft height	Type	IEC L	R
--------------	------	-------	---

#### 1PH8 forced ventilation – pipe connection (option K80)

180	1PH8184	993 (39.09)	300 (11.81)
	1PH8186	1083 (42.64)	
225	1PH8224	1084 (42.68)	350 (13.78)
	1PH8226	1184 (46.61)	
	1PH8228	1274 (50.16)	

