

Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 132 – Forced ventilation

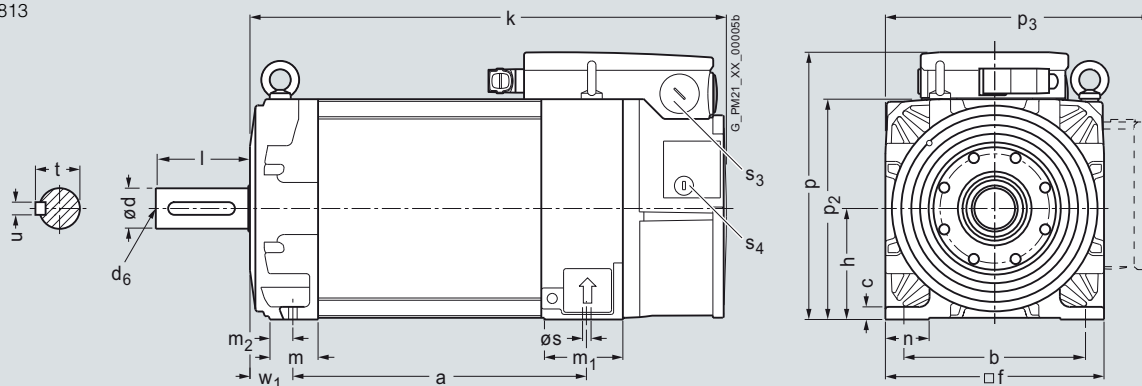
Dimensional drawings

For motor Dimensions in mm (inches)

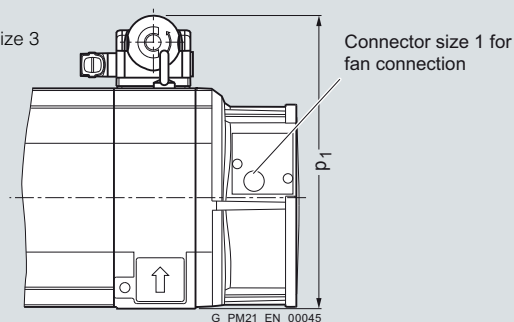
Shaft height	Type	DIN IEC	a B	b A	c HA	c ₁ LA	f AB	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
1PH8, type of construction IM B3, forced ventilation													
132	1PH8131		220.5 (8.68)	216 (8.50)	15 (0.59)	18 (0.71)	260 (10.24)	132 (5.20)	439 (17.28)	57 (2.24)	93 (3.66)	27 (1.06)	52 (2.05)
	1PH8133		265.5 (10.45)						484 (19.06)				
	1PH8135		310.5 (12.22)						529 (20.83)				
	1PH8137		350.5 (13.80)						569 (22.40)				

Shaft height	Type	DIN IEC											Shaft extension DE				
			p _{HD}	p ₁ —	p ₂ —	p ₃ —	s _K	s ₃ —	s ₄ —	w _{1C}	d D	d ₆ —	l _L	t _{GA}	u _F		
132	1PH8131		317.5 (12.50)	347 (13.66)	262 (10.31)	357.5 (14.07)	12 (0.47)	M40×1.5	M20×1.5	53 (2.09)	48 (1.89)	M16	110 (4.33)	51.5 (2.03)	14 (0.55)		
	1PH8133																
	1PH8135																
	1PH8137																

1PH813



Variant with
power connector size 3



Connector size 1 for
fan connection

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 132 – Forced ventilation

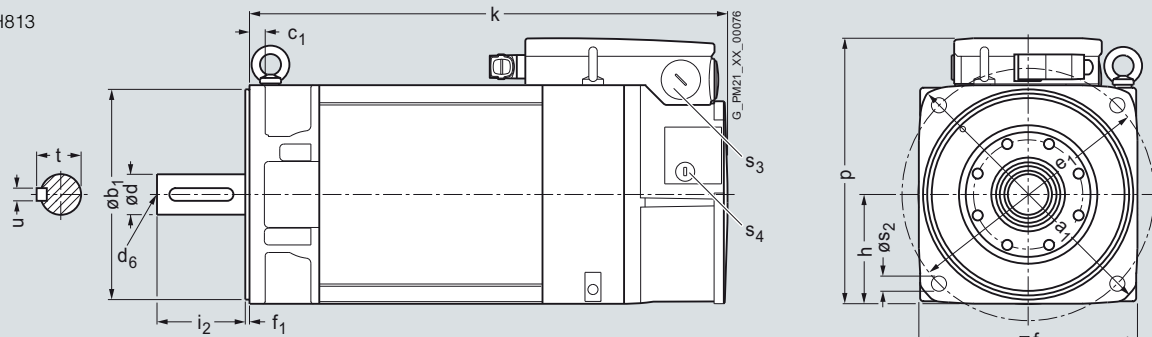
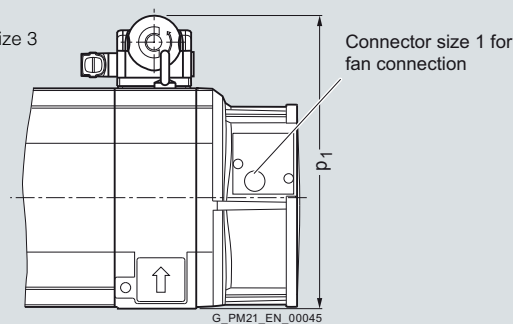
Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC	a ₁ P	b ₁ N	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB
1PH8, type of construction IM B5, forced ventilation										
132	1PH8131		340 (13.39)	250 (9.84)	18 (0.71)	300 (11.81)	260 (10.24)	5 (0.20)	130 (5.12)	439 (17.28)
	1PH8133									484 (19.06)
	1PH8135									529 (20.83)
	1PH8137									569 (22.40)

Shaft height	Type	DIN IEC	Shaft extension DE									
			p HD	p ₁ —	s ₂ —	s ₃ —	s ₄ —	d D	d ₆ —	i ₂ E ₂	t GA	u F
132	1PH8131		315.5 (12.42)	345 (13.58)	18 (0.71)	M40×1.5	M20×1.5	48 (1.89)	M16	110 (4.33)	51.5 (2.03)	14 (0.55)
	1PH8133											
	1PH8135											
	1PH8137											

1PH813

Variant with
power connector size 3Connector size 1 for
fan connection

Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 132 – Forced ventilation

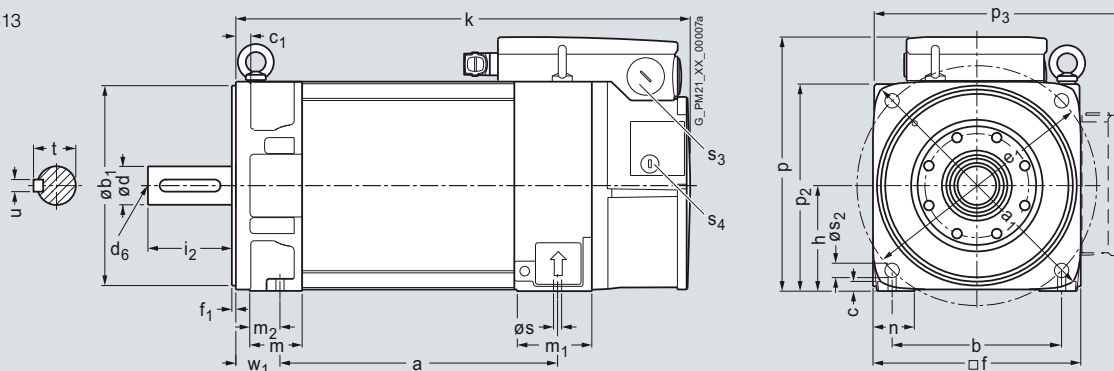
Dimensional drawings

For motor Dimensions in mm (inches)

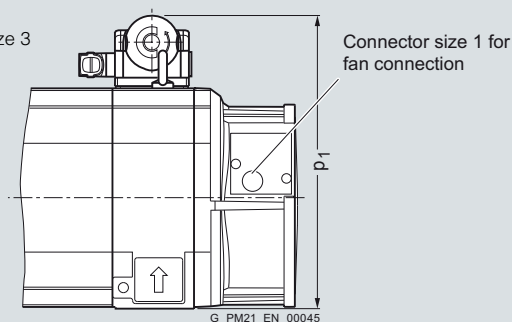
Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
1PH8, type of construction IM B35, forced ventilation																
132	1PH8131		220.5 (8.68)	340 (13.39)	216 (8.50)	250 (9.84)	15 (0.59)	300 (11.81)	260 (10.24)	5 (0.20)	132 (5.20)	439 (17.28)	65 (2.56)	93 (3.66)	35 (1.38)	52 (2.05)
	1PH8133		265.5 (10.45)									484 (19.06)				
	1PH8135		310.5 (12.22)									529 (20.83)				
	1PH8137		350.5 (13.80)									569 (22.40)				

Shaft height	Type	DIN IEC											Shaft extension DE				
			p _{HD}	p ₁ —	p ₂ —	p ₃ —	s _K	s ₂ —	s ₃ —	s ₄ —	w _{1C}	d _D	d ₆ —	i _{2E}	t _{GA}	u _F	
132	1PH8131		317.5 (12.42)	347 (13.66)	262 (10.31)	357.5 (14.07)	12 (0.47)	18 (0.71)	M40×1.5	M20×1.5	53 (2.09)	48 (1.89)	M16	110 (4.33)	51.5 (2.03)	14 (0.55)	
	1PH8133																
	1PH8135																
	1PH8137																

1PH813



Variant with
power connector size 3



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 160 – Forced ventilation

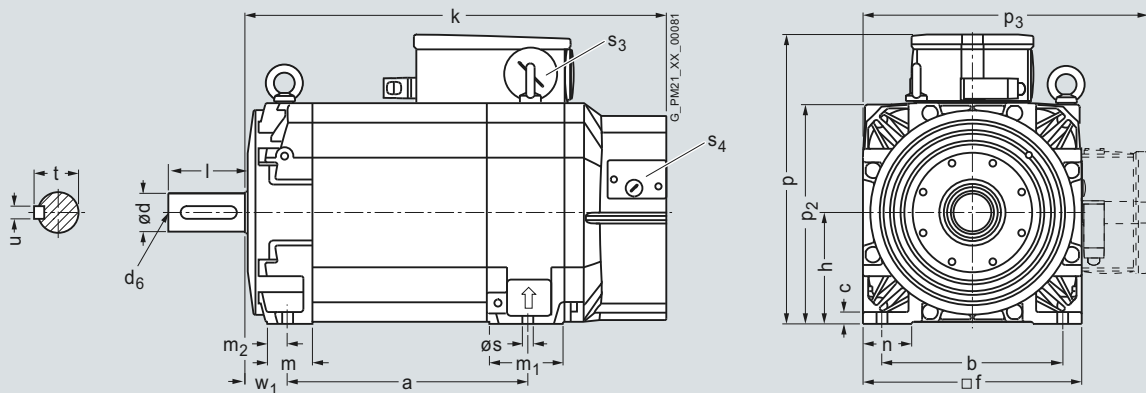
Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
1PH8, type of construction IM B3, forced ventilation																	
160	1PH8165		406.5 (16.00)	–	254 (10.00)	–	17 (0.67)	23 (0.91)	–	314 (12.36)	–	160 (6.30)	670.5 (26.40)	64 (2.52)	99.5 (3.92)	28 (1.10)	70 (2.76)
	1PH8167		446.5 (17.58)										710.5 (27.97)				

Shaft height	Type	DIN IEC	p _{HD}	p ₁ —	p ₂ —	p ₃ —	s _K	s ₂ —	s ₃ —	s ₄ —	w _{1C}	Shaft extension DE					
												d _D	d ₆ —	l _L	t _{GA}	u _F	
160	1PH8165		415.5 (16.36)	—	317 (12.48)	412.5 (16.24)	14 (0.55)	—		M63 × 1.5	M20×1.5	61 (2.40)	55 (2.17)	M20	110 (4.33)	59 (2.32)	16 (0.63)
	1PH8167																

1PH816



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 160 – Forced ventilation

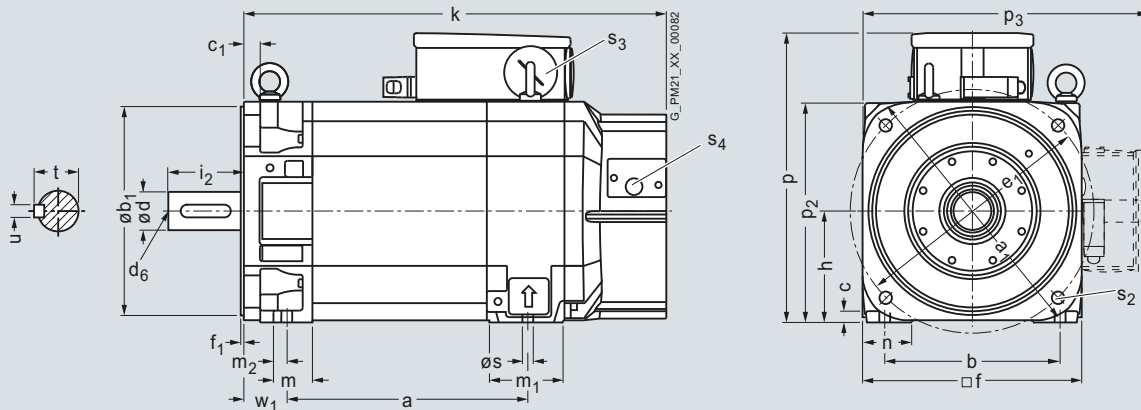
Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
1PH8, type of construction IM B5/IM B35, forced ventilation																	
160	1PH8165		406.5 (16.00)	393 (15.47)	254 (10.00)	300 (11.81)	17 (0.67)	–	350 (13.78)	314 (12.36)	5 (0.20)	160 (6.30)	670.5 (26.40)	55 (2.17)	99.5 (3.92)	19 (0.75)	70 (2.76)
	1PH8167		446.5 (17.58)										710.5 (27.97)				

Shaft height	Type	DIN IEC	Shaft extension DE													
			p HD	p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	s ₄ –	w ₁ C	d D	d ₆ –	i ₂ E	t GA	u F
160	1PH8165		415.5 (16.36)	–	317 (12.48)	412.5 (16.24)	14 (0.55)	18 (0.71)	M63 × 1.5	M20×1.5	61 (2.40)	55 (2.17)	M20	110 (4.33)	59 (2.32)	16 (0.63)
	1PH8167															

1PH816



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 180 – Forced ventilation

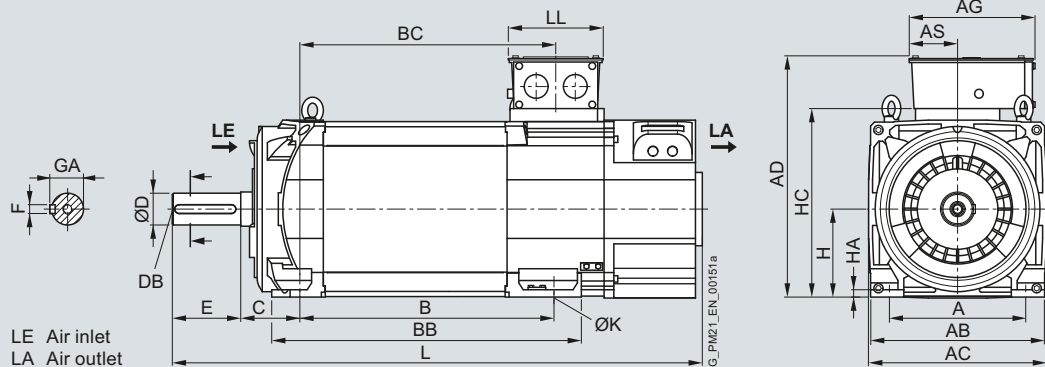
Dimensional drawings

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

Terminal box	Shaft Type	Dimensions in mm (inches)				
IEC AD	AG	AS	BC	LL		
Terminal box type 1XB7 322						
180	1PH8184	484 (19.06)	258 (10.16)	100 (3.94)	429 (16.89)	197 (7.76)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422						
180	1PH8184	499 (19.65)	303 (11.93)	120 (4.72)	429 (16.89)	230 (9.06)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700						
180	1PH8184	525 (20.67)	310 (12.20)	185 (7.28)	429 (16.89)	295 (11.61)
	1PH8186				519 (20.43)	



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 180 – Forced ventilation

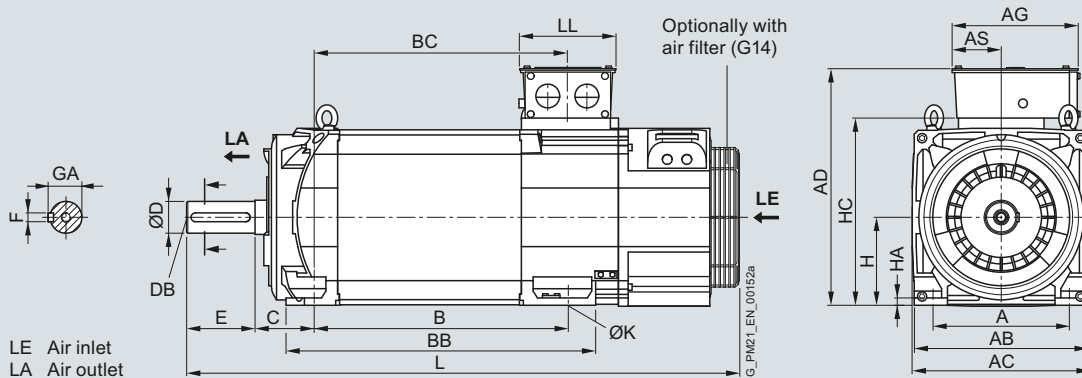
Dimensional drawings

For motor	Dimensions in mm (inches)																
Shaft Type	IEC A	AB	AC	B	BB	C	D	DB	E	F	GA	H	HA	HC	K	L	
height																	
1PH8, type of construction IM B3, forced ventilation – direction of air flow NDE → DE																	
180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	65 (2.56)	M20	140 (5.51)	18 (0.71)	69 (2.72)	180 (7.09)	15 (0.59)	383 (15.08)	14.5 (0.57)	1047 (41.22)
	1PH8186				520 (20.47)	635 (25.00)											1137 (44.76)

Terminal box	Dimensions in mm (inches)						
Shaft Type	IEC AD	AG	AS	BC	LL		
height							
Terminal box type 1XB7 322							
180	1PH8184	484 (19.06)	258 (10.16)	100 (3.94)	429 (16.89)	197 (7.76)	
	1PH8186				519 (20.43)		

Terminal box type 1XB7 422							
180	1PH8184	499 (19.65)	303 (11.93)	120 (4.72)	429 (16.89)	230 (9.06)	
	1PH8186				519 (20.43)		

Terminal box type 1XB7 700							
180	1PH8184	525 (20.67)	310 (12.20)	185 (7.28)	429 (16.89)	295 (11.61)	
	1PH8186				519 (20.43)		



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 180 – Forced ventilation

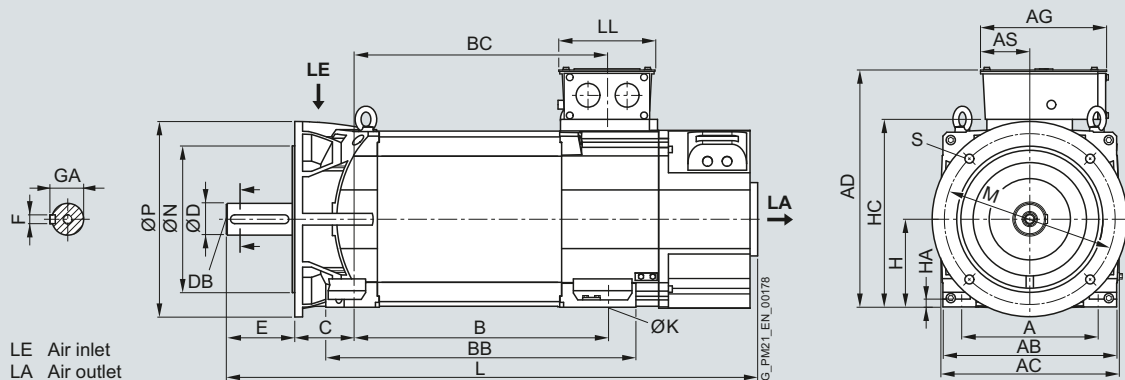
Dimensional drawings

For motor		Dimensions in mm (inches)																					
Shaft	Type	IEC	A	AB	AC	B	BB	C	D	DB	E	F	GA	H	HA	HC	K	L	M	N	P	S	
1PH8, type of construction IM B35, forced ventilation – direction of air flow DE → NDE, flange A400 (option K90)																							
180	1PH8184		279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	65 (2.56)	M20	140 (5.51)	18 (0.71)	69 (2.72)	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)	
	1PH8186					520 (20.47)	635 (25.00)											1085 (42.72)					

Terminal box	Dimensions in mm (inches)					
Shaft Type	IEC AD	AG	AS	BC	LL	
Terminal box type 1XB7 322						
180	1PH8184	484 (19.06)	258 (10.16)	100 (3.94)	429 (16.89)	197 (7.76)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422						
180	1PH8184	499 (19.65)	303 (11.93)	120 (4.72)	429 (16.89)	230 (9.06)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700						
180	1PH8184	525 (20.67)	310 (12.20)	185 (7.28)	429 (16.89)	295 (11.61)
	1PH8186				519 (20.43)	



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 180 – Forced ventilation

Dimensional drawings

For motor Dimensions in mm (inches)

Shaft Type IEC A AB AC B BB C D DB E F GA H HA HC K L M N P S

1PH8, type of construction IM B35, forced ventilation – direction of air flow NDE → DE, flange A400 (option K90)

180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	65 (2.56)	M20	140 (5.51)	18 (0.71)	69 (2.72)	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)
	1PH8186				520 (20.47)	635 (25.00)											1137 (44.76)				

Terminal box Dimensions in mm (inches)

Shaft Type IEC AD AG AS BC LL

Terminal box type 1XB7 322

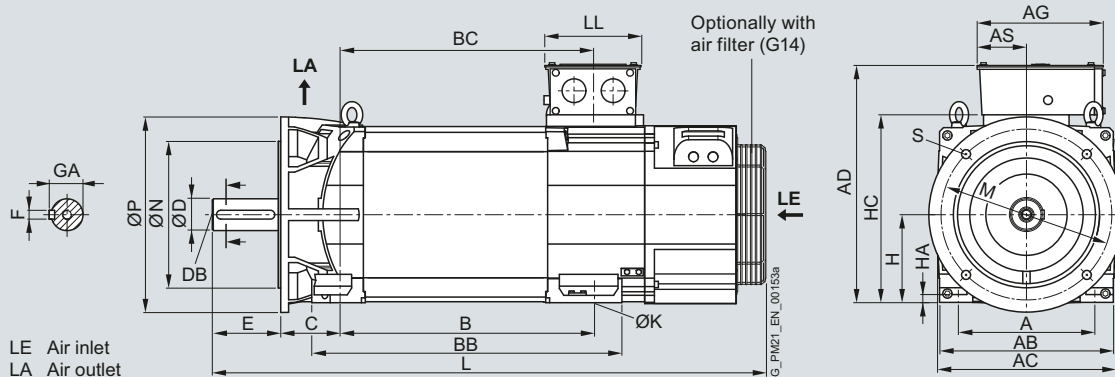
180	1PH8184	484 (19.06)	258 (10.16)	100 (3.94)	429 (16.89)	197 (7.76)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422

180	1PH8184	499 (19.65)	303 (11.93)	120 (4.72)	429 (16.89)	230 (9.06)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700

180	1PH8184	525 (20.67)	310 (12.20)	185 (7.28)	429 (16.89)	295 (11.61)
	1PH8186				519 (20.43)	



LE Air inlet
LA Air outlet

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 180 – Forced ventilation

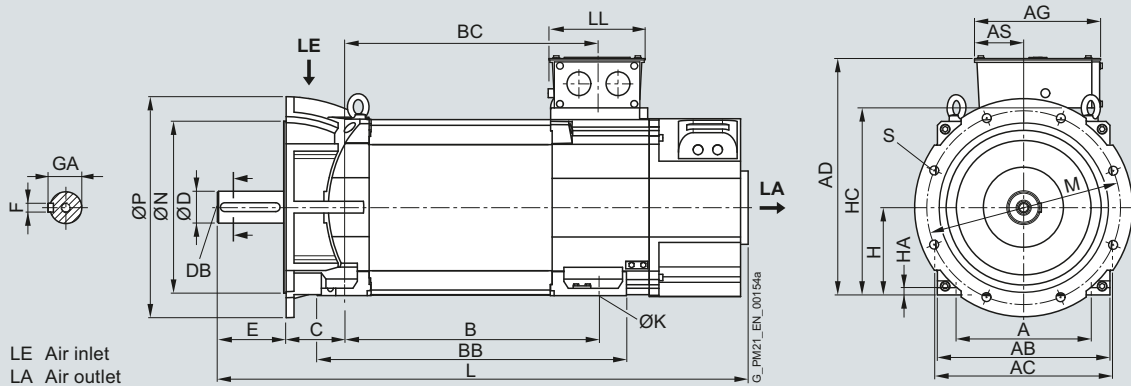
Dimensional drawings

For motor		Dimensions in mm (inches)																			
Shaft Type	height	IEC A	AB	AC	B	BB	C	D	DB	E	F	GA	H	HA	HC	K	L	M	N	P	S
1PH8, type of construction IM B3, forced ventilation – direction of air flow DE → NDE, flange A450																					
180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	65 (2.56)	M20	140 (5.51)	18 (0.71)	69 (2.72)	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)
	1PH8186				520 (20.47)	635 (25.00)											1085 (42.72)				

Terminal box		Dimensions in mm (inches)				
Shaft Type		IEC AD	AG	AS	BC	LL
height						
Terminal box type 1XB7 322						
180	1PH8184	484 (19.06)	258 (10.16)	100 (3.94)	429 (16.89)	197 (7.76)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422						
180	1PH8184	499 (19.65)	303 (11.93)	120 (4.72)	429 (16.89)	230 (9.06)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700						
180	1PH8184	525 (20.67)	310 (12.20)	185 (7.28)	429 (16.89)	295 (11.61)
	1PH8186				519 (20.43)	



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 180 – Forced ventilation

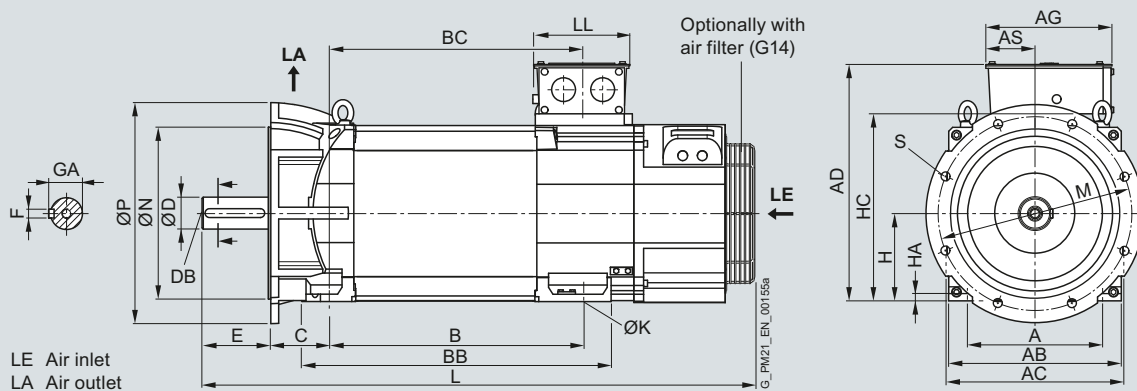
Dimensional drawings

For motor		Dimensions in mm (inches)																			
Shaft	Type	IEC A	AB	AC	B	BB	C	D	DB	E	F	GA	H	HA	HC	K	L	M	N	P	S
height																					
1PH8, type of construction IM B3, forced ventilation – direction of air flow NDE → DE, flange A450																					
180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	65 (2.56)	M20	140 (5.51)	18 (0.71)	69 (2.72)	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)
	1PH8186				520 (20.47)	635 (25.00)														1137 (44.76)	

Terminal box		Dimensions in mm (inches)				
Shaft Type		IEC AD	AG	AS	BC	LL
height						
Terminal box type 1XB7 322						
180	1PH8184	484 (19.06)	258 (10.16)	100 (3.94)	429 (16.89)	197 (7.76)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422						
180	1PH8184	499 (19.65)	303 (11.93)	120 (4.72)	429 (16.89)	230 (9.06)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700						
180	1PH8184	525 (20.67)	310 (12.20)	185 (7.28)	429 (16.89)	295 (11.61)
	1PH8186				519 (20.43)	



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 225 – Forced ventilation

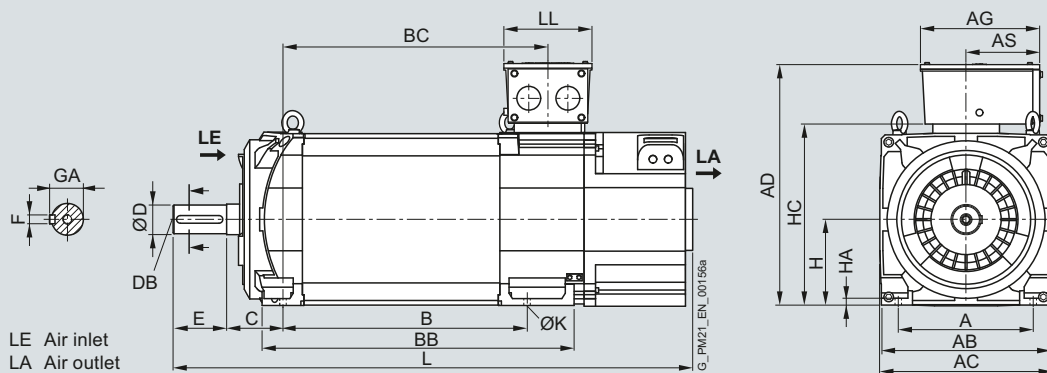
Dimensional drawings

For motor		Dimensions in mm (inches)															
Shaft height	Type	IEC A	AB	AC	B	BB	C	D	DB	E	F	GA	H	HA	HC	K	L
1PH8, type of construction IM B3, forced ventilation – direction of air flow DE → NDE																	
225	1PH8224	356 (14.02)	446 (17.56)	454 (17.87)	445 (17.52)	625 (24.61)	149 (5.87)	75 (2.95)	M20	140 (5.51)	20 (0.79)	79.5 (3.13)	225 (8.86)	18 (0.71)	475 (18.70)	18.5 (0.73)	1171 (46.10)
	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 1XB7 322						
225	1PH8224	613 (24.13)	258 (10.16)	100 (3.94)	481 (18.94)	197 (7.76)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	

Terminal box type 1XB7 422							
225	1PH8224	628 (24.72)	303 (11.93)	120 (4.72)	481 (18.94)	230 (9.06)	
	1PH8226				581 (22.87)		
	1PH8228				671 (26.42)		

Terminal box type 1XB7 700							
225	1PH8224	654 (25.75)	295 (11.61)	185 (7.28)	481 (18.94)	310 (12.20)	
	1PH8226				581 (22.87)		
	1PH8228				671 (26.42)		



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 225 – Forced ventilation

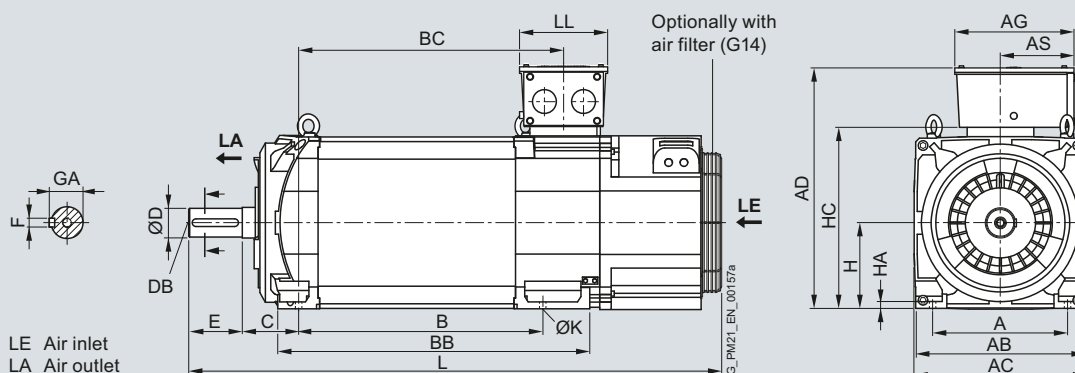
Dimensional drawings

For motor	Dimensions in mm (inches)															
Shaft Type height	IEC A	AB	AC	B	BB	C	D	DB	E	F	GA	H	HA	HC	K	L
1PH8, type of construction IM B3, forced ventilation – direction of air flow NDE → DE																
225 1PH8224	356 (14.02)	446 (17.56)	454 (17.87)	445 (17.52)	625 (24.61)	149 (5.87)	75 (2.95)	M20	140 (5.51)	20 (0.79)	79.5 (3.13)	225 (8.86)	18 (0.71)	475 (18.70)	18.5 (0.73)	1206 (47.48)
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 Type height	IEC AD	AG	AS	BC	LL	
Terminal box type 1XB7 322						
225 1PH8224	613 (24.13)	258 (10.16)	100 (3.94)	481 (18.94)	197 (7.76)	
1PH8226				581 (22.87)		
1PH8228				671 (26.42)		

Terminal box type 1XB7 422						
225 1PH8224	628 (24.72)	303 (11.93)	120 (4.72)	481 (18.94)	230 (9.06)	
1PH8226				581 (22.87)		
1PH8228				671 (26.42)		

Terminal box type 1XB7 700						
225 1PH8224	654 (25.75)	295 (11.61)	185 (7.28)	481 (18.94)	310 (12.20)	
1PH8226				581 (22.87)		
1PH8228				671 (26.42)		



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 225 – Forced ventilation

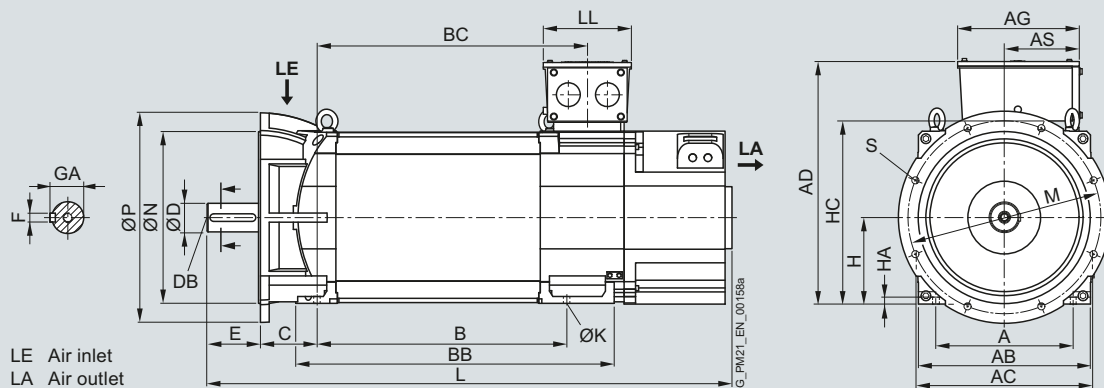
Dimensional drawings

For motor		Dimensions in mm (inches)																			
Shaft	Type	IEC A	AB	AC	B	BB	C	D	DB	E	F	GA	H	HA	HC	K	L	M	N	P	S
1PH8, type of construction IM B35, forced ventilation – direction of air flow DE → NDE, flange A550																					
225	1PH8224	356 (14.02)	446 (17.56)	454 (17.87)	445 (17.52)	625 (24.61)	149 (5.87)	75 (2.95)	M20	140 (5.51)	20 (0.79)	79.5 (3.13)	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)
	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 Type	IEC AD	AG	AS	BC	LL	
Terminal box type 1XB7 322						
225 1PH8224	613 (24.13)	258 (10.16)	100 (3.94)	481 (18.94)	197 (7.76)	
1PH8226				581 (22.87)		
1PH8228				671 (26.42)		

Terminal box type 1XB7 422						
225 1PH8224	628 (24.72)	303 (11.93)	120 (4.72)	481 (18.94)	230 (9.06)	
1PH8226				581 (22.87)		
1PH8228				671 (26.42)		

Terminal box type 1XB7 700						
225 1PH8224	654 (25.75)	295 (11.61)	185 (7.28)	481 (18.94)	310 (12.20)	
1PH8226				581 (22.87)		
1PH8228				671 (26.42)		



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 225 – Forced ventilation

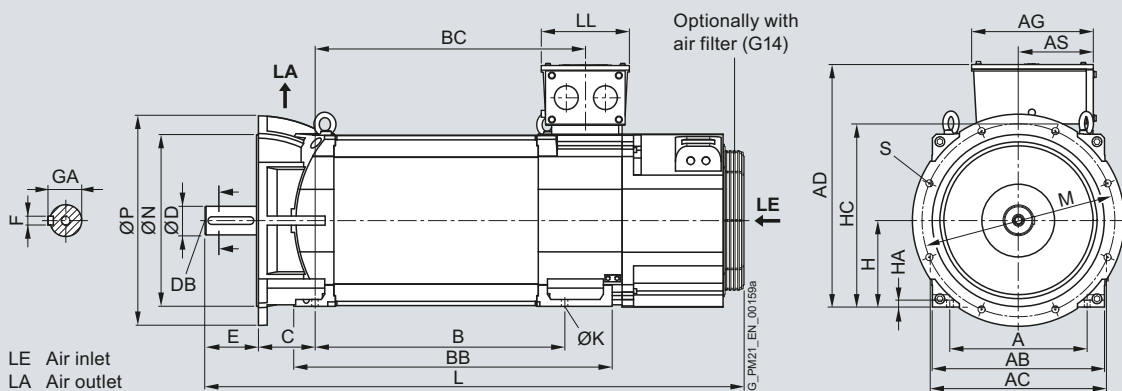
Dimensional drawings

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

Terminal box	Dimensions in mm (inches)					
Shaft Type	IEC AD	AG	AS	BC	LL	
height						
Terminal box type 1XB7 322						
225	1PH8224	613 (24.13)	258 (10.16)	100 (3.94)	481 (18.94)	197 (7.76)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	

Terminal box type 1XB7 422						
225	1PH8224	628 (24.72)	303 (11.93)	120 (4.72)	481 (18.94)	230 (9.06)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	

Terminal box type 1XB7 700						
225	1PH8224	654 (25.75)	295 (11.61)	185 (7.28)	481 (18.94)	310 (12.20)
	1PH8226				581 (22.87)	
	1PH8228				671 (26.42)	



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 132 – Water cooling

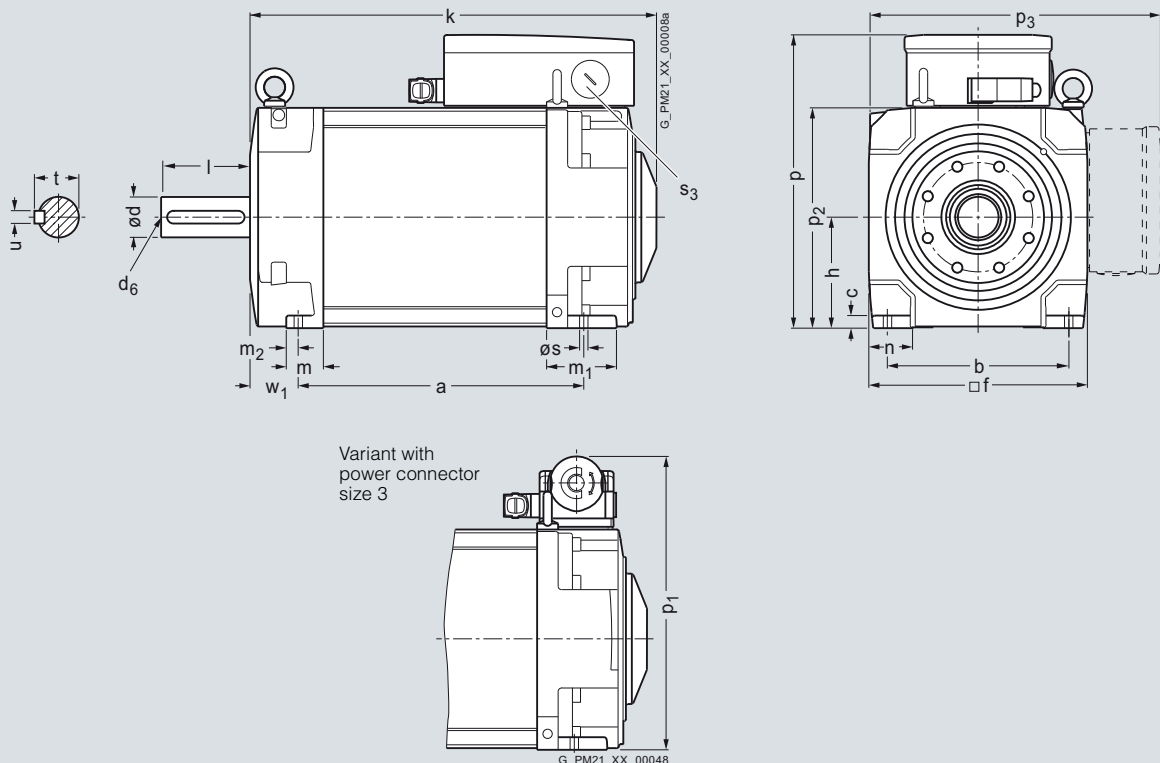
Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
1PH8, type of construction IM B3, water cooling																	
132	1PH8131		220.5 (8.68)	–	216 (8.50)	–	15 (0.59)	–	–	260 (10.24)	–	132 (5.20)	347.5 (13.68)	42 (1.65)	81 (3.19)	12 (0.47)	43 (1.69)
	1PH8133		265.5 (10.45)										392.5 (15.45)				
	1PH8135		310.5 (12.22)										437.5 (17.22)				
	1PH8137		350.5 (13.80)										477.5 (18.80)				

Shaft height	Type	DIN IEC	p HD	p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	w ₁ C	Shaft extension DE				
											d D	d ₆ –	l E	t GA	u F
132	1PH8131		347.5 (13.68)	347 (13.66)	262 (10.31)	357.5 (14.07)	12 (0.47)	–	M50×1.5	53 (2.09)	48 (1.89)	M16	110 (4.33)	51.5 (2.03)	14 (0.55)
	1PH8133														
	1PH8135														
	1PH8137														

1PH813



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 132 – Water cooling

Dimensional drawings

For motor Dimensions in mm (inches)

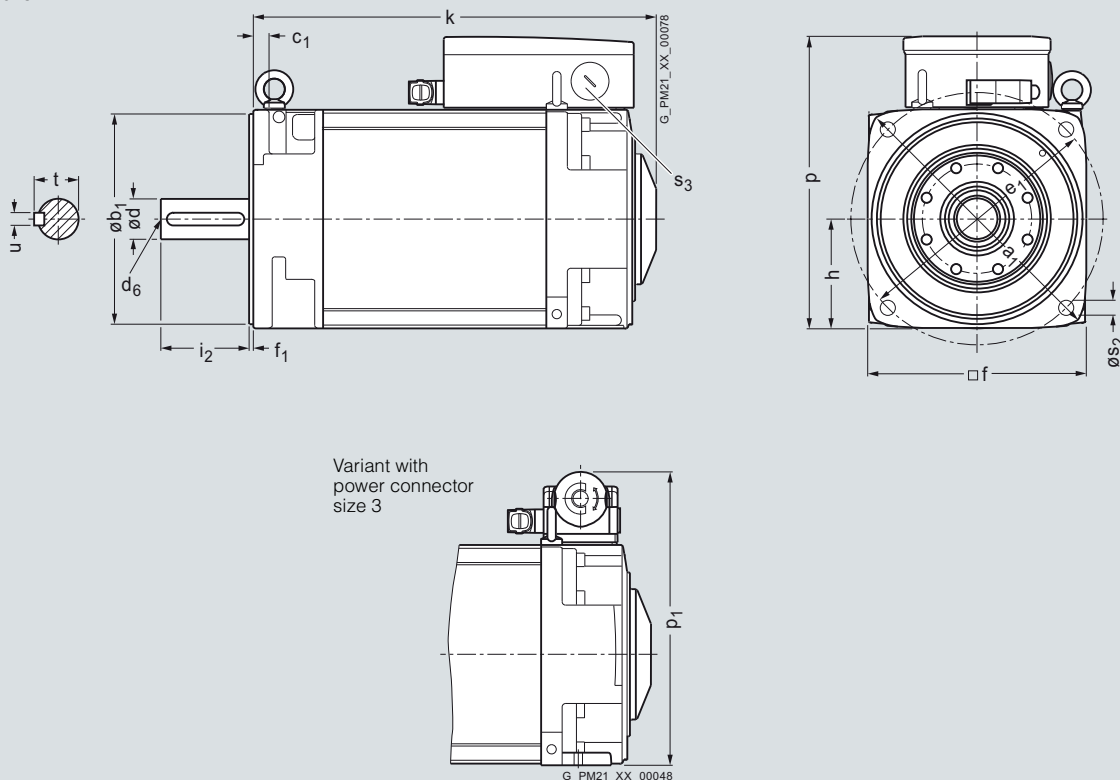
Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
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1PH8, type of construction IM B5, water cooling

132	1PH8131	–	340 (13.39)	–	250 (9.84)	–	18 (0.71)	300 (11.81)	260 (10.24)	5 (0.20)	132 (5.20)	347.5 (13.68)	–	–	–	–	–
	1PH8133											392.5 (15.45)					
	1PH8135											437.5 (17.22)					
	1PH8137											477.5 (18.80)					

Shaft height	Type	DIN IEC	p HD	p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	w ₁ C	Shaft extension DE				
											d D	d ₆ –	i ₂ E	t GA	u F
132	1PH8131		345.5 (13.60)	345 (13.58)	–	–	–	18 (0.71)	M50×1.5	–	48 (1.89)	M16	110 (4.33)	51.5 (2.03)	14 (0.55)
	1PH8133														
	1PH8135														
	1PH8137														

1PH813



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 132 – Water cooling

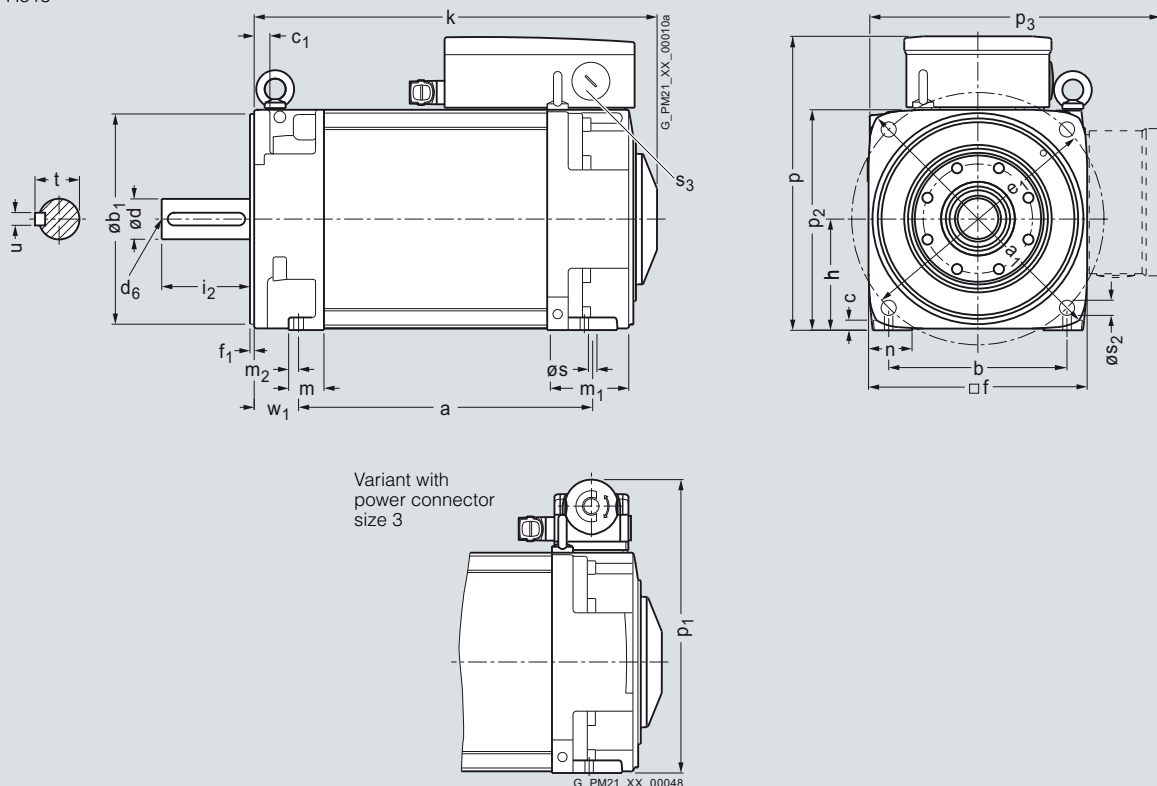
Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
1PH8, type of construction IM B35, water cooling																	
132	1PH8131		220.5 (8.68)	340 (13.39)	216 (8.50)	250 (9.84)	15 (0.59)	18 (0.71)	300 (11.81)	260 (10.24)	5 (0.20)	132 (5.20)	347.5 (13.68)	42 (1.65)	81 (3.19)	12 (0.47)	43 (1.69)
	1PH8133		265.5 (10.45)										392.5 (15.45)				
	1PH8135		310.5 (12.22)										437.5 (17.22)				
	1PH8137		350.5 (13.80)										477.5 (18.80)				

Shaft height	Type	DIN IEC	p HD	p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	w ₁ C	Shaft extension DE				
											d D	d ₆ –	i ₂ E	t GA	u F
132	1PH8131		347.5 (13.68)	347 (13.66)	262 (10.31)	357.5 (14.07)	12 (0.47)	18 (0.71)	M50×1.5	53 (2.09)	48 (1.89)	M16	110 (4.33)	51.5 (2.03)	14 (0.55)
	1PH8133														
	1PH8135														
	1PH8137														

1PH813



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 160 – Water cooling

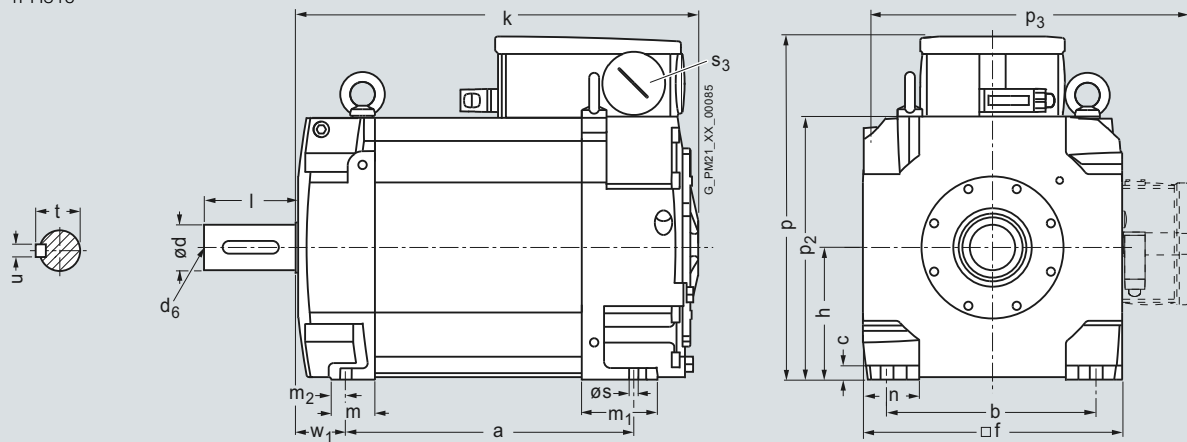
Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC	a B	a _P	b A	b _N	c HA	c _{LA}	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁	m ₂	n AA
1PH8, type of construction IM B3, water cooling																	
160	1PH8164		346.5 (13.64)	–	254 (10.00)	–	17 (0.67)	23 (0.91)	–	314 (12.36)	–	160 (6.30)	488.5 (19.23)	53 (2.09)	91 (3.58)	17 (0.67)	70 (2.76)
	1PH8166		406.5 (16.00)										548.5 (21.59)				
	1PH8168		446.5 (17.58)										588.5 (23.17)				

Shaft height	Type	DIN IEC	Shaft extension DE													
			p HD	p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	s ₄ –	w ₁ C	d D	d ₆ –	l L	t GA	u F
160	1PH8164		415.5 (16.36)	–	317 (12.48)	412.5 (16.24)	14 (0.55)	–	M63 × 1.5	–	61 (2.40)	55 (2.17)	M20	110 (4.33)	59 (2.32)	16 (0.63)
	1PH8166															
	1PH8168															

1PH816



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 160 – Water cooling

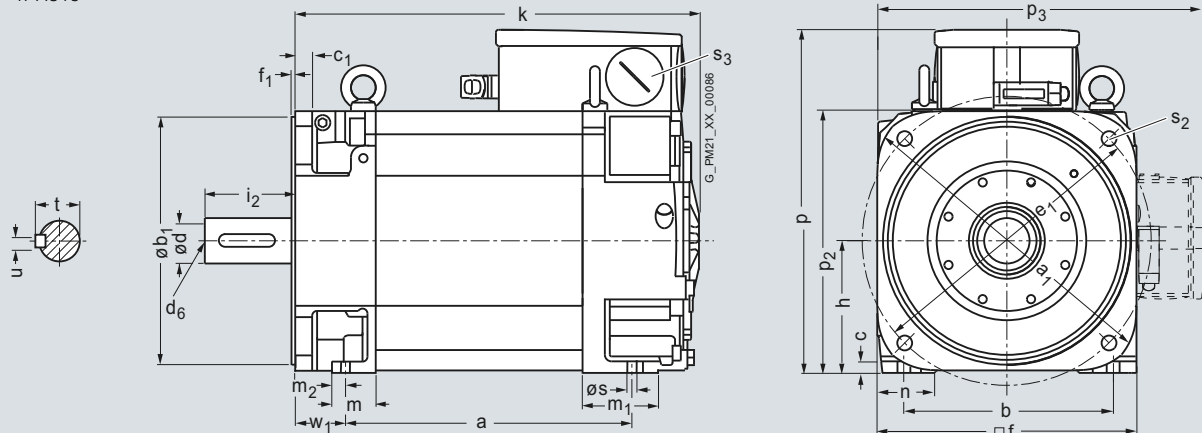
Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
1PH8, type of construction IM B5/IM B35, water cooling																	
160	1PH8164		346.5 (13.64)	393 (15.47)	254 (10.00)	300 (11.81)	17 (0.67)	–	350 (13.78)	314 (12.36)	5 (0.20)	160 (6.30)	488.5 (19.23)	53 (2.09)	91 (3.58)	17 (0.67)	70 (2.76)
	1PH8166		406.5 (16.00)										548.5 (21.59)				
	1PH8168		446.5 (17.58)										588.5 (23.17)				

Shaft height	Type	DIN IEC	Shaft extension DE													
			p HD	p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	s ₄ –	w ₁ C	d D	d ₆ –	i ₂ E	t GA	u F
160	1PH8164		415.5 (16.36)	–	317 (12.48)	412.5 (16.24)	14 (0.55)	18 (0.71)	M63 × 1.5	–	61 (2.40)	55 (2.17)	M20	110 (4.33)	59 (2.32)	16 (0.63)
	1PH8166															
	1PH8168															

1PH816



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 180 – Water cooling

Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC	a B	b A	c HA	f AB	g AC	h H	k LB	m BA	n AA	p ₂ –	s K	w ₁ C
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1PH8, types of construction IM B3/IM V5, water cooling

180	1PH8184		430 (16.93)	279 (10.98)	15 (0.59)	356 (14.02)	384 (15.12)	180 (7.09)	670 (26.38)	138 (5.43)	73 (2.87)	372 (14.65)	14.5 (0.57)	121 (4.76)
	1PH8186		520 (20.47)						760 (29.92)					

Shaft extension DE

Terminal box type

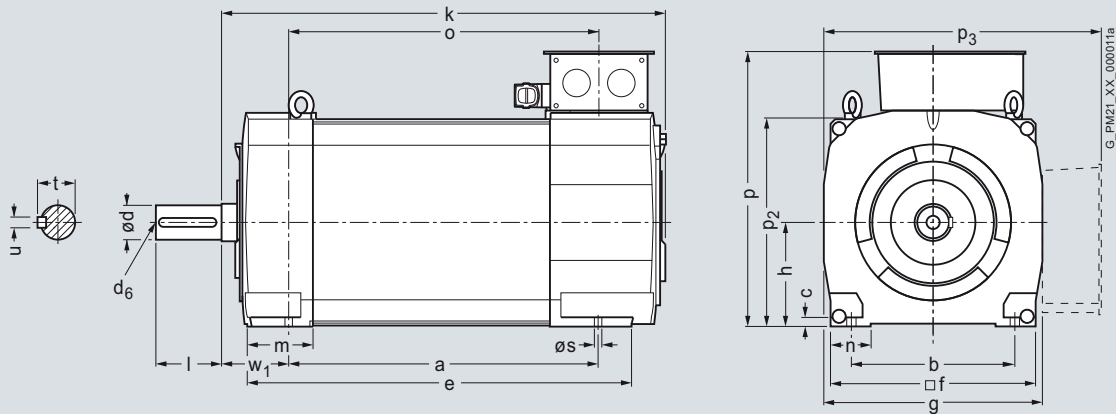
1XB7322

1XB7422

1XB7700

Shaft height	Type	DIN IEC	d D	d ₆ –	l E	t GA	u F	p HD	p ₃ –	r LL	x ₁ AG	p HD	p ₃ –	r LL	x ₁ AG	p HD	p ₃ –	r LL	x ₁ AG
180	1PH8184		65m6	M20	140 (5.51)	69 (2.72)	18 (0.71)	484 (19.06)	485 (19.09)	197 (7.76)	258 (10.16)	539 (21.22)	540 (21.26)	230 (9.06)	303 (11.93)	588 (23.15)	574 (22.60)	310 (12.20)	295 (11.61)
	1PH8186																		

1PH818



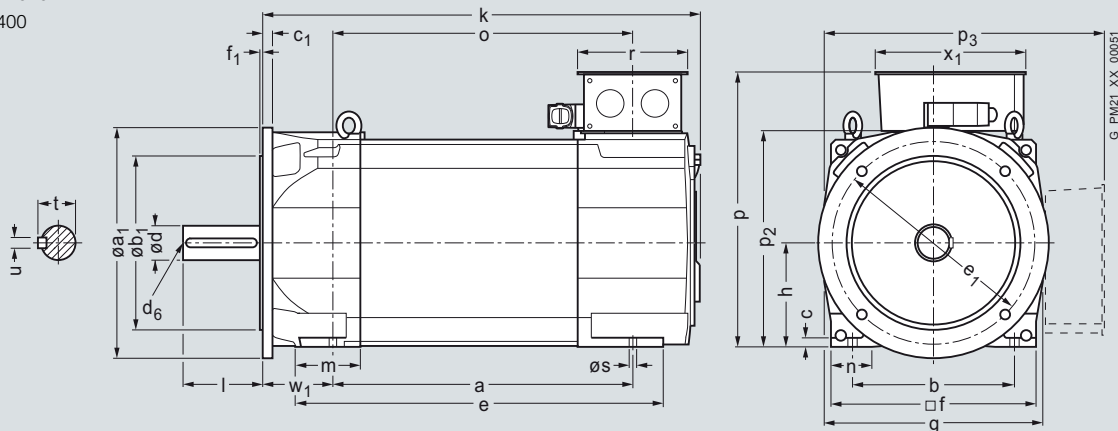
SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 180 – Water cooling

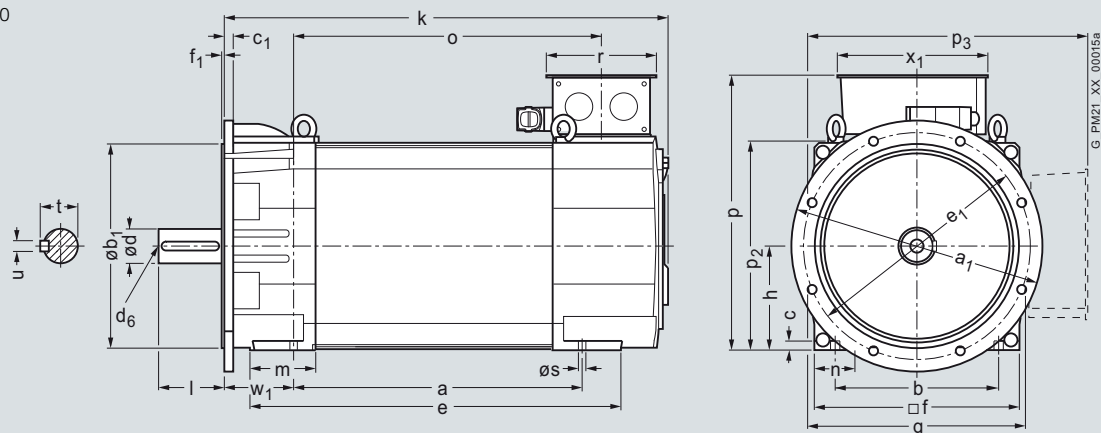
Dimensional drawings

For motor		Dimensions in mm (inches)															
Shaft height	Type	DIN IEC	a B	D400 D450		D400 D450		D400 D450		D400 D450		f AB	f ₁ T	g AC	h H	k LB	m BA
				a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M								
1PH8, types of construction IM B5/IM B35/IM V15, water cooling																	
180	1PH8184		430	400	450	279	300	350	15	16	350	400	356	5	384	180	670 123
			(16.93)	(15.75)	(17.72)	(10.98)	(11.81)	(13.78)	(0.59)	(0.63)	(13.78)	(15.75)	(14.02)	(0.20)	(15.12)	(7.09)	(26.38) (4.84)
	1PH8186		520														760
			(20.47)														(29.92)

Shaft extension DE											Terminal box type	
Shaft height	Type	DIN IEC	n AA	p ₂ –	s K	w ₁ C	d D	d ₆ –	l E	t GA	u F	Dimensions as for types of construction IM B3/IM V5
180	1PH8184		73	372	14.5	121	65m6	M20	140	69	18	
			(2.87)	(14.65)	(0.57)	(4.76)			(5.51)	(2.72)	(0.71)	
	1PH8186											

1PH818
D400

D450



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors SH 225 – Water cooling

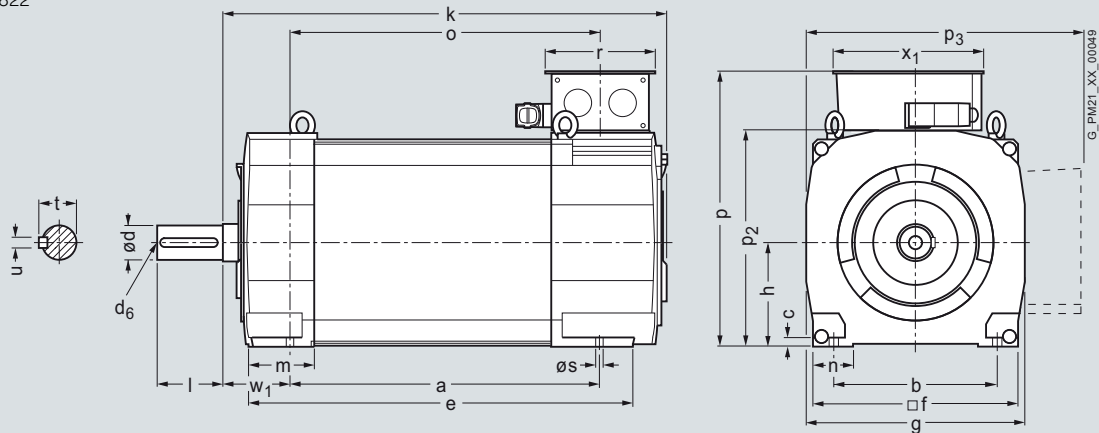
Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC	a B	b A	c HA	f AB	g AC	h H	k LB	m BA	n AA	p ₂ -	s K	w ₁ C
1PH8, types of construction IM B3/IM V5, water cooling														
225	1PH8224		445 (17.52)	356 (14.02)	18 (0.71)	446 (17.56)	474 (18.66)	225 (8.86)	775 (30.51)	154 (6.06)	88 (3.46)	462 (18.19)	18.5 (0.73)	149 (5.87)
	1PH8226		545 (21.46)						875 (34.45)					
	1PH8228		635 (25.0)						965 (37.99)					

		Shaft extension DE						Terminal box type											
								1XB7322		1XB7422				1XB7700					
Shaft height	Type	DIN IEC	d D	d ₆ –	l E	t GA	u F	p HD	p ₃ –	r LL	x ₁ AG	p HD	p ₃ –	r LL	x ₁ AG	p HD	p ₃ –	r LL	x ₁ AG
225	1PH8224		75m6	M20	140	79.5	20	579	577	197	258	634	632	230	303	683	666	310	295
	1PH8226																		
	1PH8228																		

1PH822



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SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 synchronous motors
SH 225 – Water cooling

Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	g AC	h H	k LB	m BA	n AA	p ₂ –	w ₁ C
1PH8, types of construction IM B5/IM B35/IM V15 D550, water cooling																		
225	1PH8224		445 (17.52)	550 (21.65)	356 (14.02)	450 (17.72)	18 (0.71)	20 (0.79)	500 (19.69)	446 (17.56)	5 (0.20)	474 (18.66)	225 (8.86)	770 (30.31)	144 (5.67)	88 (3.46)	462 (18.19)	149 (5.87)
	1PH8226		545 (21.46)												872 (34.33)			
	1PH8228		635 (25.00)												962 (37.87)			

Shaft extension DE

Terminal box type

Dimensions as for types of construction IM B3/IM V5

Shaft height	Type	DIN IEC	d D	d ₆ –	l E	t GA	u F
225	1PH8224		75m6	M20	140 (5.51)	79.5 (3.13)	20 (0.79)
	1PH8226						
	1PH8228						

1PH822

