

Dimensional drawings

Main spindle motors

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

Dimensional drawings

For motor Dimensions in mm (inches)

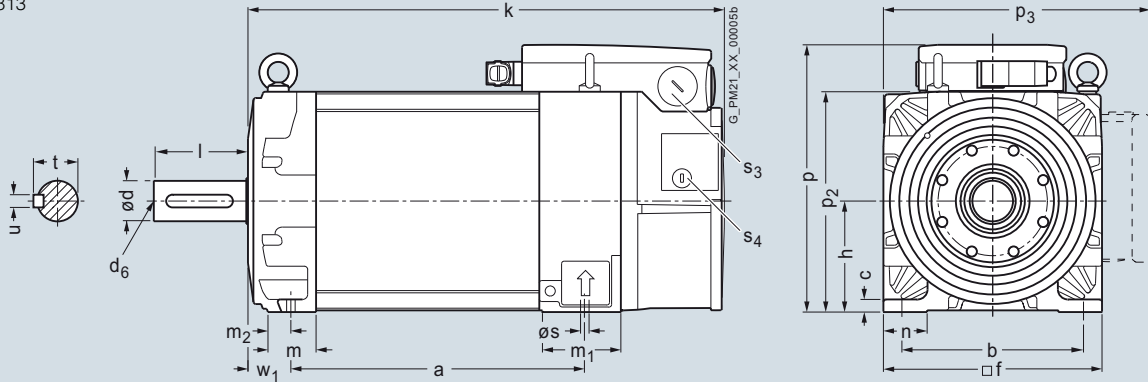
Shaft height	Type	DIN IEC	a B	b A	c HA	c ₁ LA	f AB	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
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1PH8 type of construction IM B3, forced ventilation

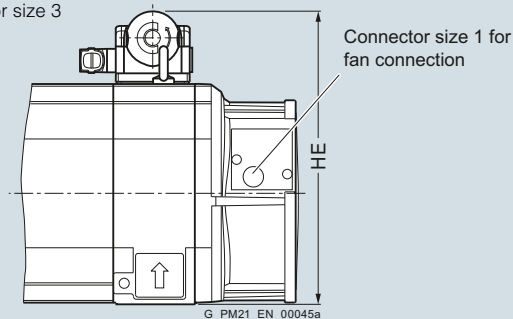
132	1PH8131		220.5 (8.68)	216 (8.50)	15 (0.59)	18 (0.71)	260 (10.24)	132 (5.20)	439 (17.28)	57 (2.24)	93 (3.66)	27 (1.06)	52 (2.05)
	1PH8133		265.5 (10.45)						484 (19.06)				
	1PH8135		310.5 (12.22)						529 (20.83)				
	1PH8137		350.5 (13.80)						569 (22.40)				

Shaft height	Type	DIN IEC	p HD	– HE	p ₂ –	p ₃ –	s K	s ₃ –	s ₄ –	w ₁ C	Shaft extension DE				
											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



Version with power connector size 3

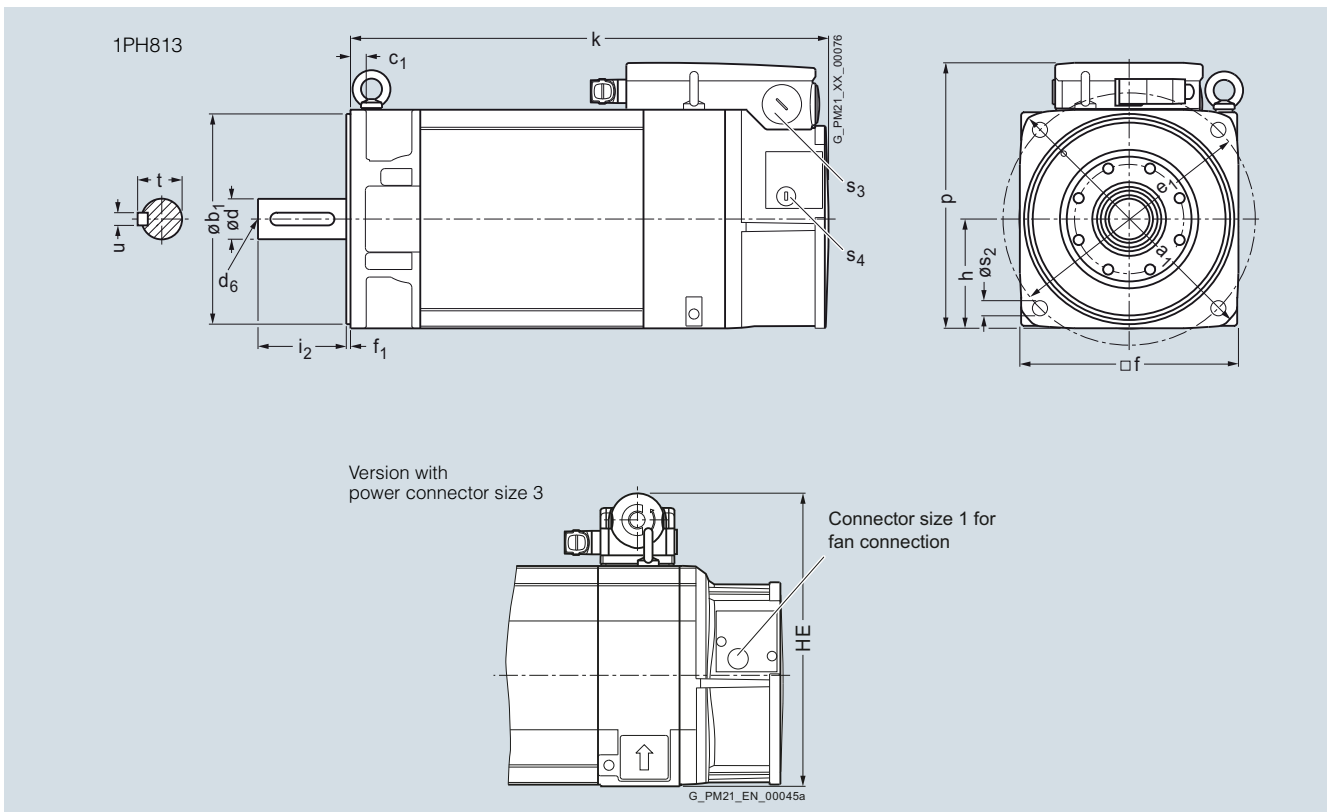


Dimensional drawings

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	p HD	– HE	s ₂ –	s ₃ –	s ₄ –	Shaft extension DE				
								d D	d ₆ –	i ₂ E	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											



Dimensional drawings

Main spindle motors

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

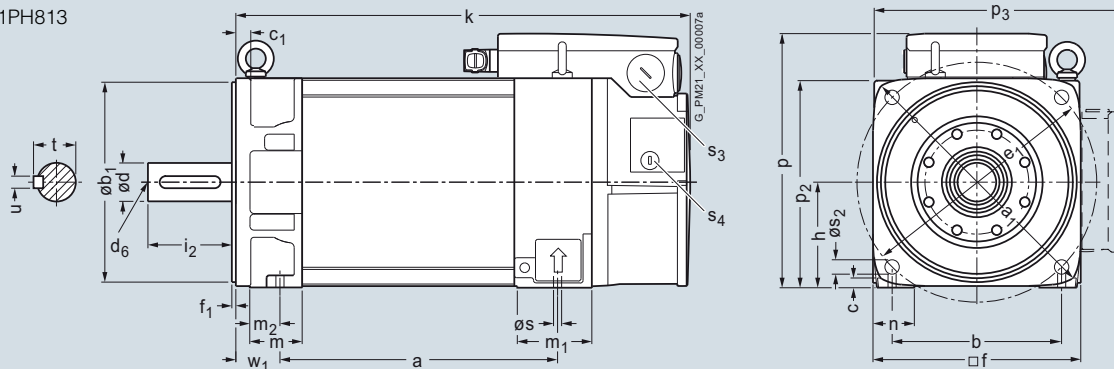
Dimensional drawings

For motor Dimensions in mm (inches)

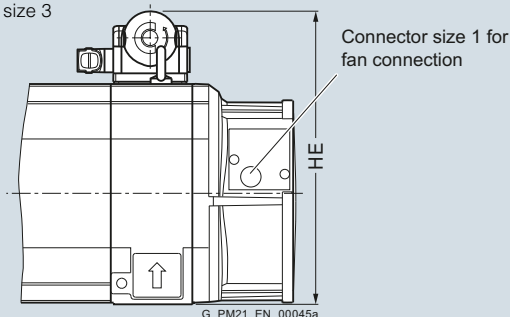
Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
1PH8 type of construction IM B35, forced ventilation																
132	1PH8131		220.5 (8.68)	340 (13.39)	216 (8.50)	250 (9.84)	15 (0.59)	300 (11.81)	260 (10.24)	5 (0.20)	132 (5.20)	439 (17.28)	65 (2.56)	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	– HE	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	
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



Version with
power connector size 3



G_PM21_EN_00045a

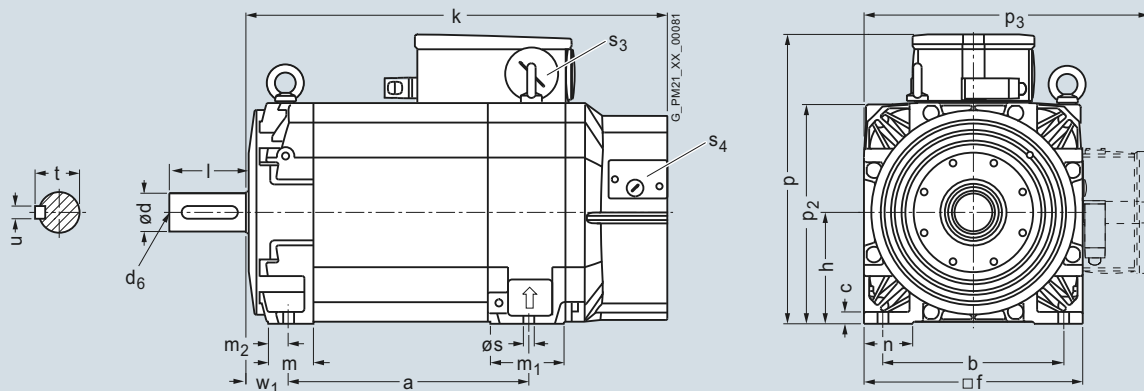
Dimensional drawings

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	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	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

Main spindle motors

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

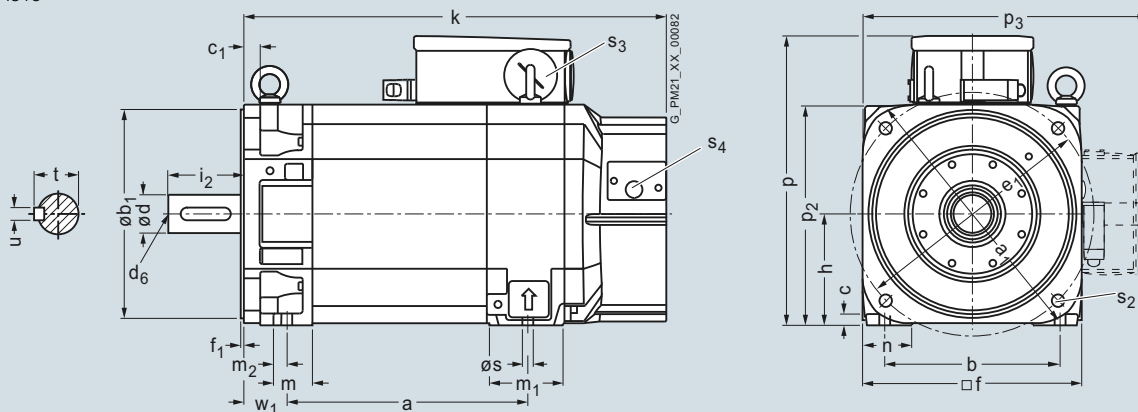
Dimensional drawings

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	p HD	p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	s ₄ –	w ₁ C	Shaft extension DE				
												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



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
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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 Dimensions in mm (inches)

Shaft height	Type	IEC AD	AG	AS	BC	LL
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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)	

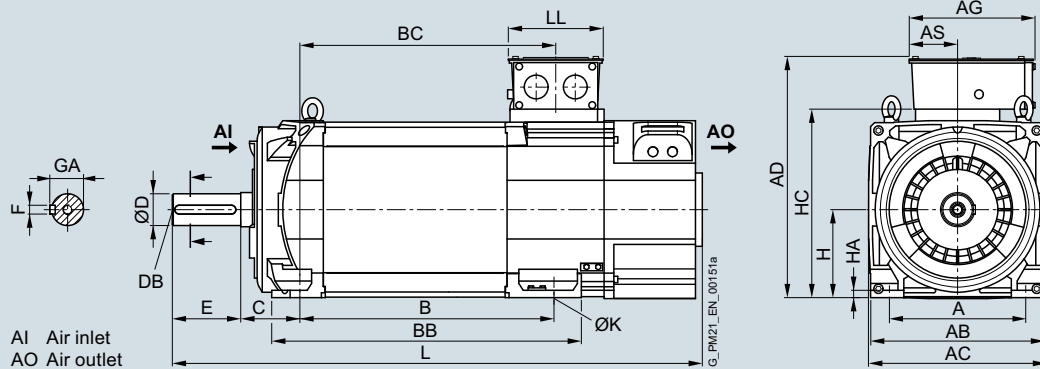
Terminal box type 1XB7 422

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)	

1PH818



Dimensional drawings

Main spindle motors

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

Dimensional drawings

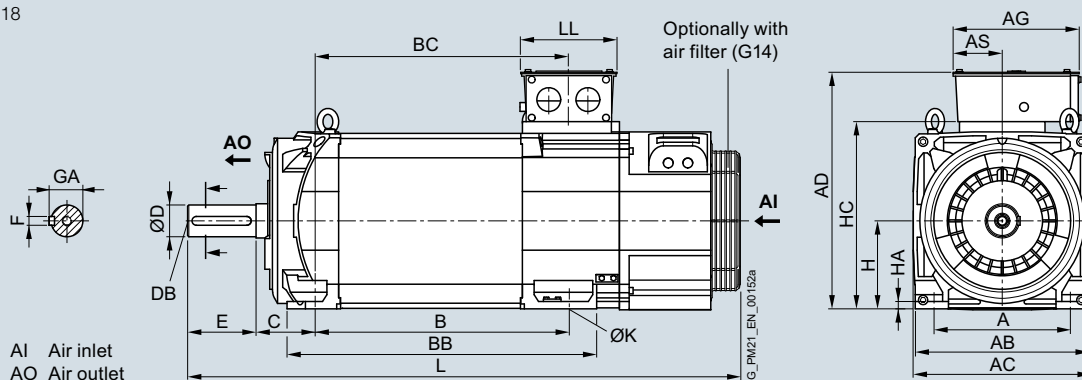
For motor		Dimensions in mm (inches)															
Shaft height	Type	IEC A	AB	AC	B	BB	C	D	DB	E	F	GA	H	HA	HC	K	L
1PH8 type of construction IM B3, forced ventilation – direction of air flow NDE → DE																	
180	1PH8184	279 (10.98)	356 (14.02)	364 (14.33)	430 (16.93)	545 (21.46)	121 (4.76)	65 (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 height	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		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
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		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
180	1PH8184	525 (20.67)	310 (12.20)	185 (7.28)	429 (16.89)	295 (11.61)
	1PH8186				519 (20.43)	

1PH818



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	M	N	P	S
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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 height	Type	IEC AD	AG	AS	BC	LL
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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)	

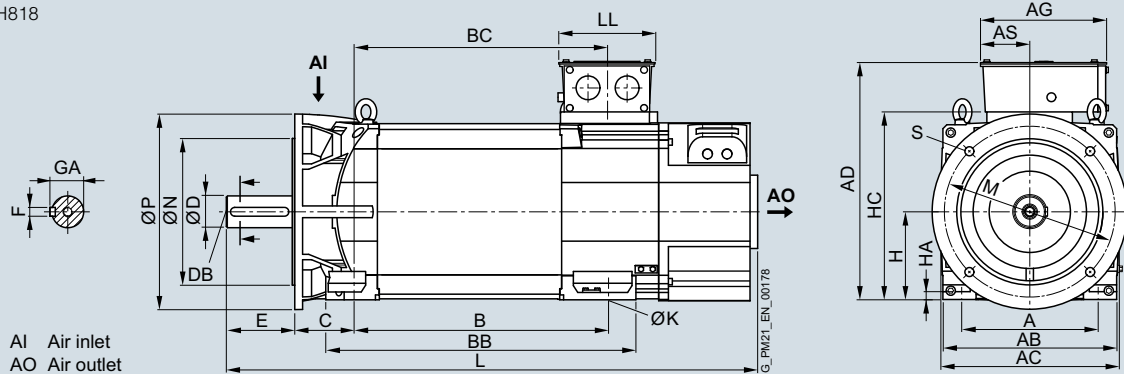
Terminal box type 1XB7 422

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)	

1PH818



Dimensional drawings

Main spindle motors

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 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	18	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
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)	

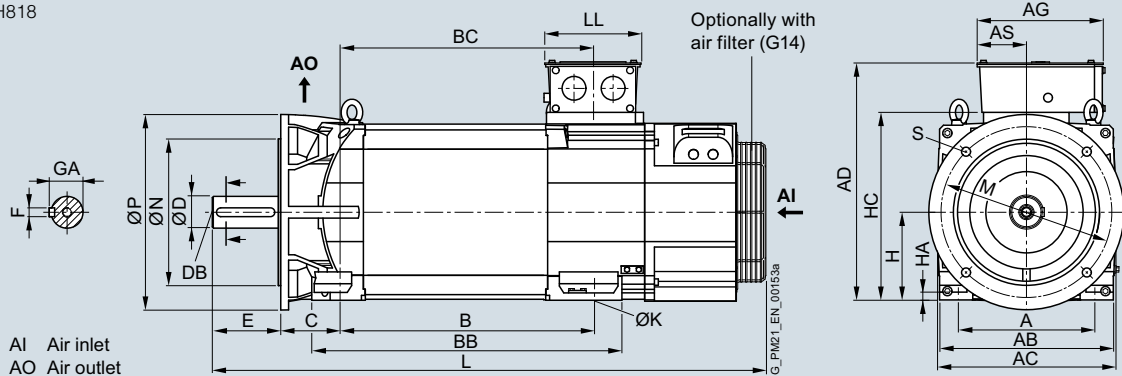
Terminal box type 1XB7 422

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)	

1PH818



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	M	N	P	S
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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 height	Type	IEC AD	AG	AS	BC	LL
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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)	

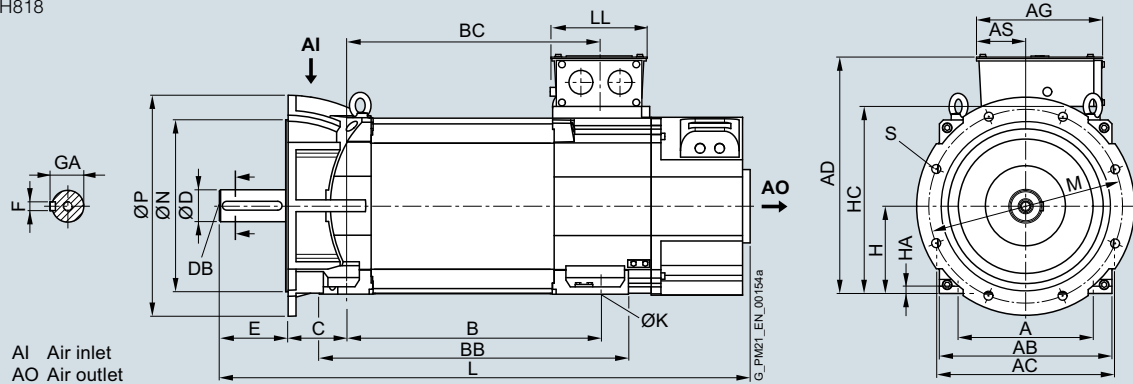
Terminal box type 1XB7 422

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)	

1PH818



Dimensional drawings

Main spindle motors

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

Dimensional drawings

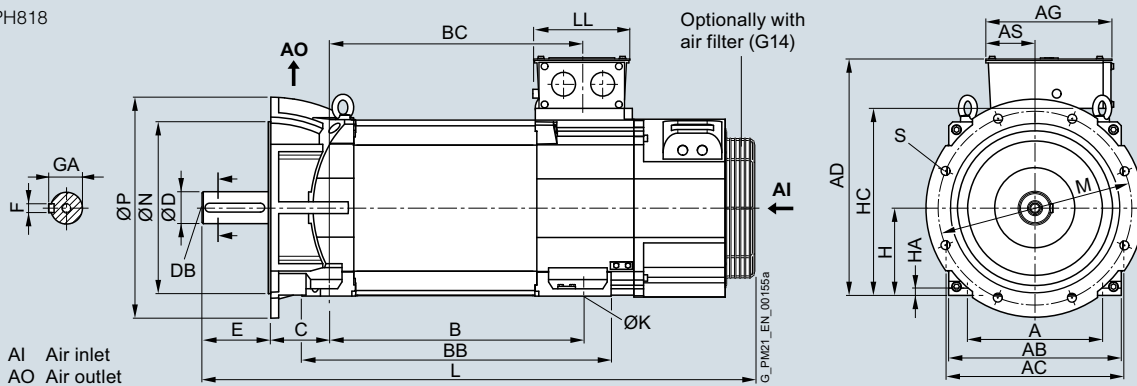
For motor		Dimensions in mm (inches)																			
Shaft height	Type	IEC A	AB	AC	B	BB	C	D	DB	E	F	GA	H	HA	HC	K	L	M	N	P	S
1PH8 type of construction IM B3, forced ventilation – direction of air flow NDE → DE, flange A450																					
180	1PH8184	279	356	364	430	545	121	65	M20	140	18	69	180	15	383	14.5	1047	400	350	450	18.5
		(10.98)	(14.02)	(14.33)	(16.93)	(21.46)	(4.76)	(2.56)		(5.51)	(0.71)	(2.72)	(7.09)	(0.59)	(15.08)	(0.57)	(41.22)	(15.75)	(13.78)	(17.72)	(0.73)
	1PH8186				520	635												1137			
					(20.47)	(25.00)												(44.76)			

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

Terminal box type 1XB7 422		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
180	1PH8184	499	303	120	429	230
		(19.65)	(11.93)	(4.72)	(16.89)	(9.06)
	1PH8186				519	
					(20.43)	

Terminal box type 1XB7 700		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
180	1PH8184	525	310	185	429	295
		(20.67)	(12.20)	(7.28)	(16.89)	(11.61)
	1PH8186				519	
					(20.43)	

1PH818



AI Air inlet
AO Air outlet

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
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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
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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)	

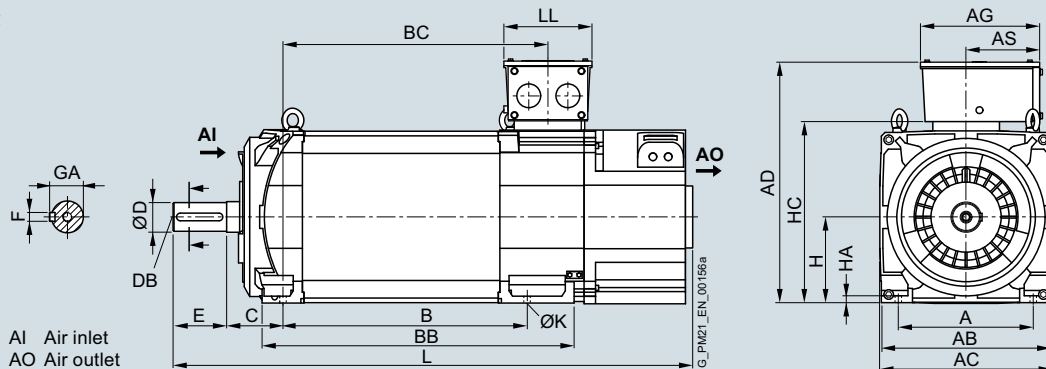
Terminal box type 1XB7 422

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)	

1PH822



Dimensional drawings

Main spindle motors

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

Dimensional drawings

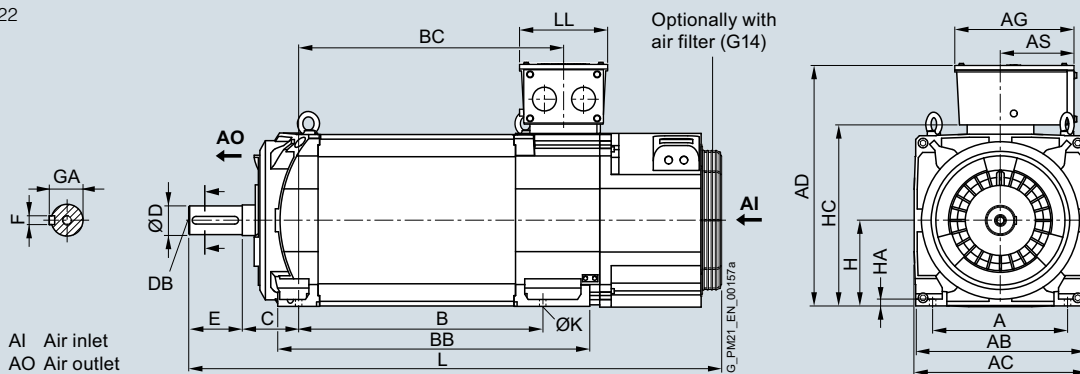
For motor		Dimensions in mm (inches)															
Shaft height	Type	IEC A	AB	AC	B	BB	C	D	DB	E	F	GA	H	HA	HC	K	L
1PH8 type of construction IM B3, forced ventilation – direction of air flow NDE → DE																	
225	1PH8224	356 (14.02)	446 (17.56)	454 (17.87)	445 (17.52)	625 (24.61)	149 (5.87)	75 (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 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		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
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		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
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)	

1PH822



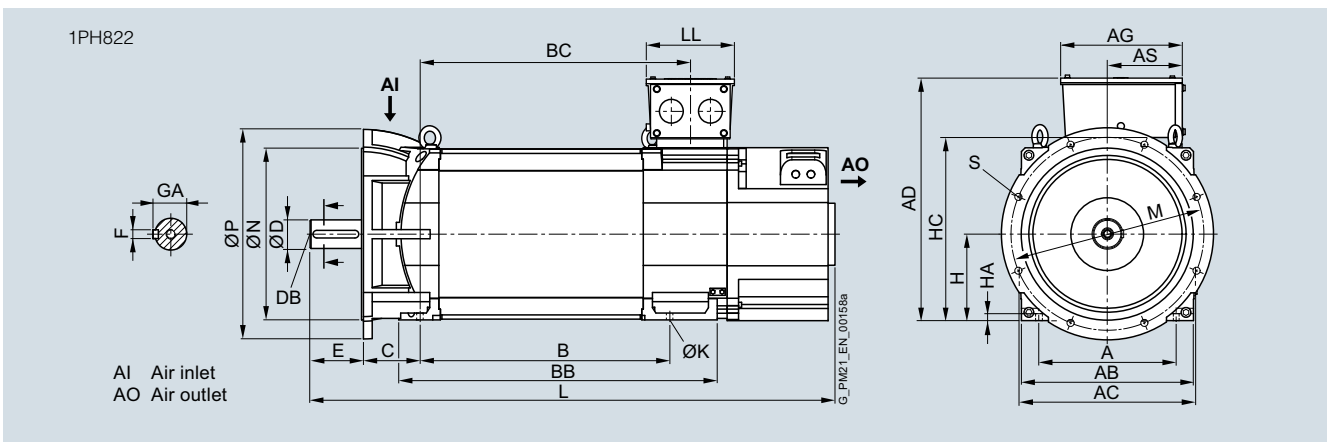
Dimensional drawings

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	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 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		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
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		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
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

Main spindle motors

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	M	N	P	S
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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)	500 (19.69)	450 (17.72)	550 (21.65)	18.5 (0.73)
	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
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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)	

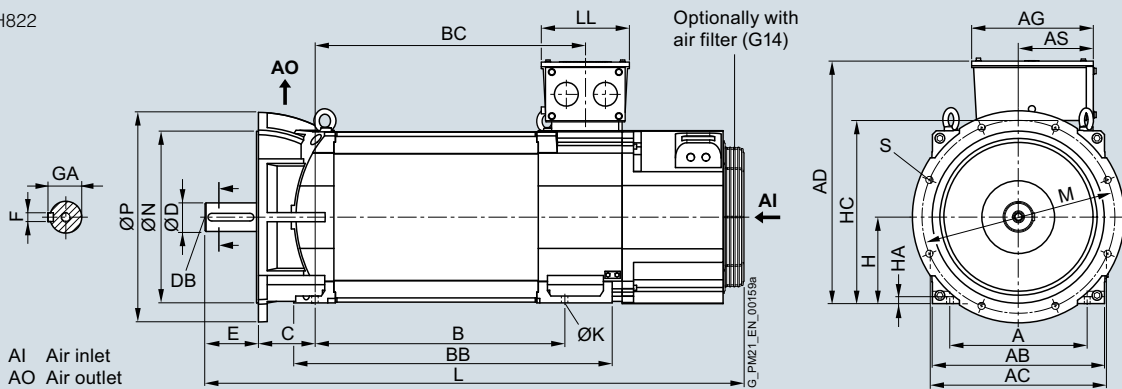
Terminal box type 1XB7 422

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)	

1PH822



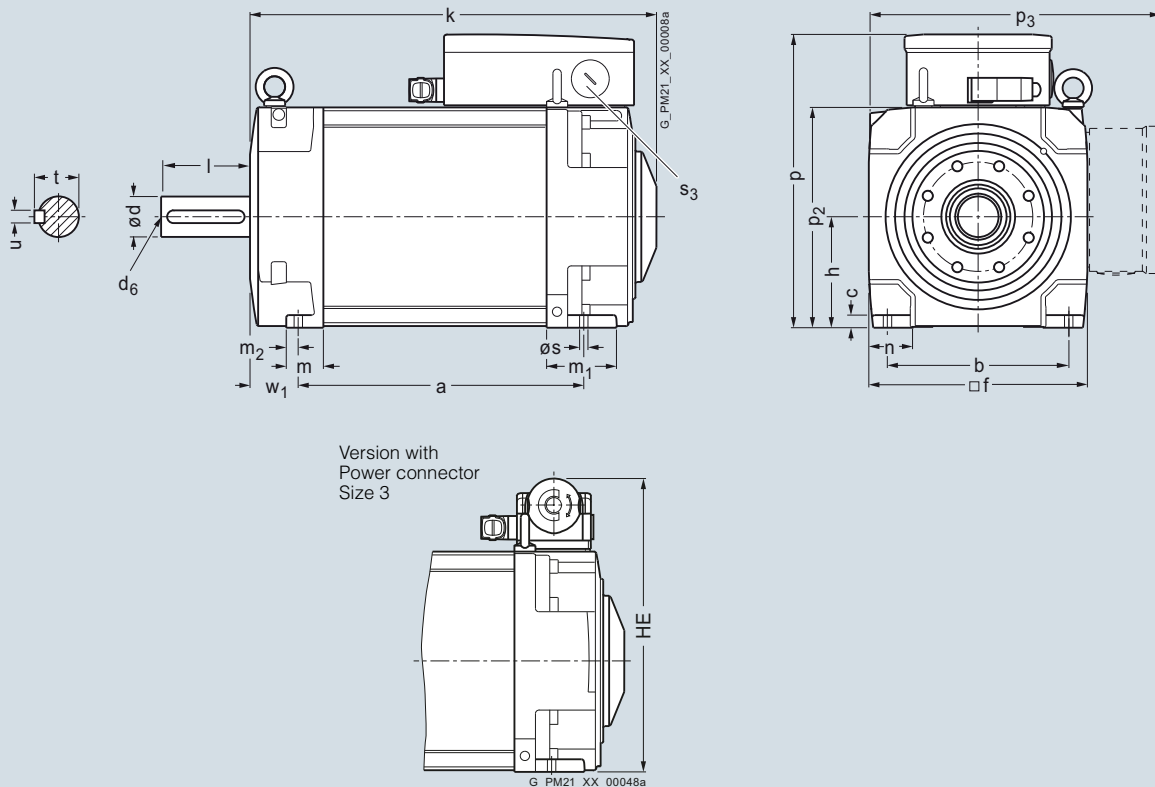
Dimensional drawings

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											Shaft extension DE				
			p HD	- HE	p ₂ -	p ₃ -	s K	s ₂ -	s ₃ -	w ₁ C	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 x 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

Main spindle motors

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

Dimensional drawings

For motor Dimensions in mm (inches)

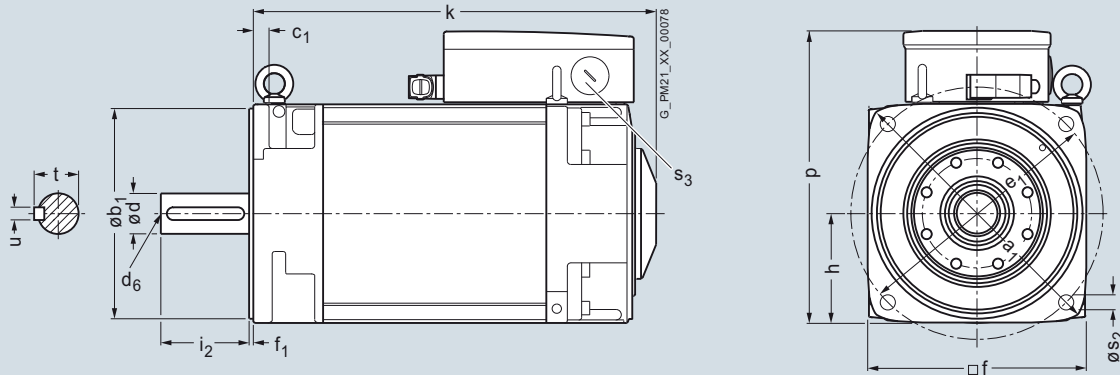
Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
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1PH8 type of construction IM B5, water cooling

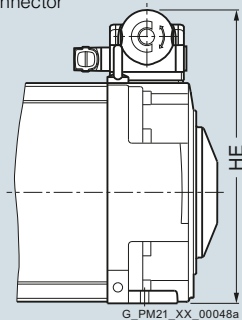
132	1PH8131	–	340 (13.39)	–	250 (9.84)	–	18 (0.71)	300 (11.81)	260 (10.24)	5 (0.20)	132 (5.20)	347.5 (13.68)	–	–	–	–	–
	1PH8133												392.5 (15.45)				
	1PH8135												437.5 (17.22)				
	1PH8137												477.5 (18.80)				

Shaft height	Type	DIN IEC											Shaft extension DE				
			p HD	– HE	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	w ₁ C	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



Version with
Power connector
Size 3



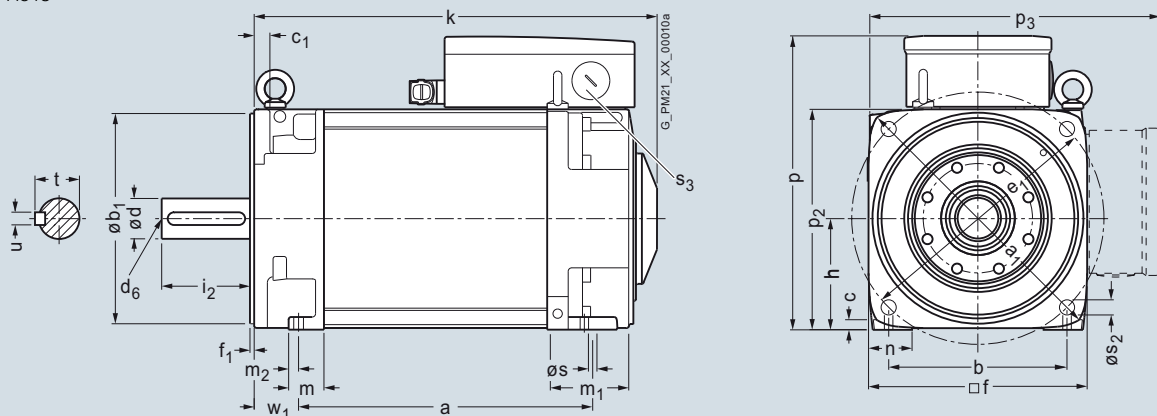
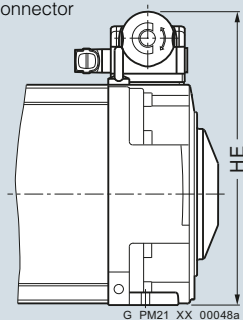
Dimensional drawings

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	Shaft extension DE												
			p HD	– HE	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	w ₁ C	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

Version with
Power connector
Size 3

Dimensional drawings

Main spindle motors

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

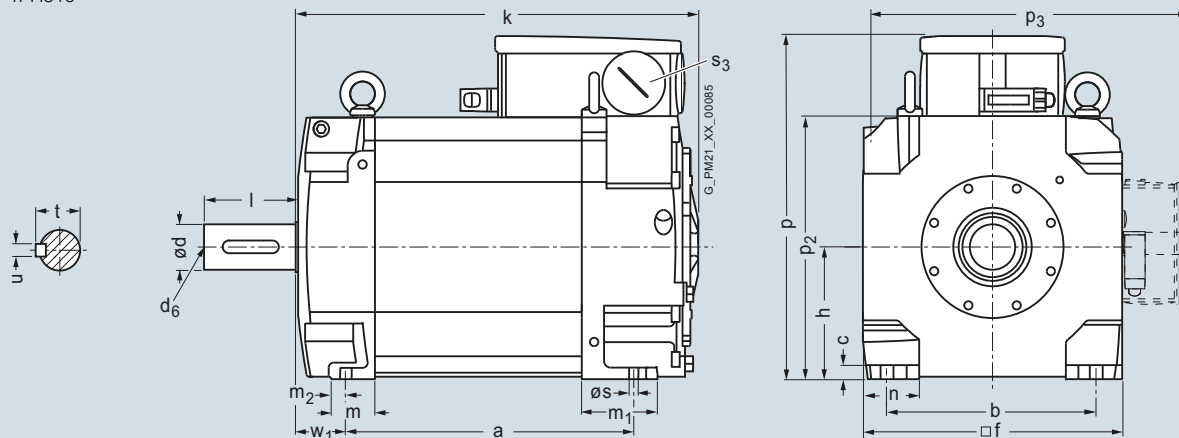
Dimensional drawings

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 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	p HD	p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	s ₄ –	w ₁ C	Shaft extension DE				
												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

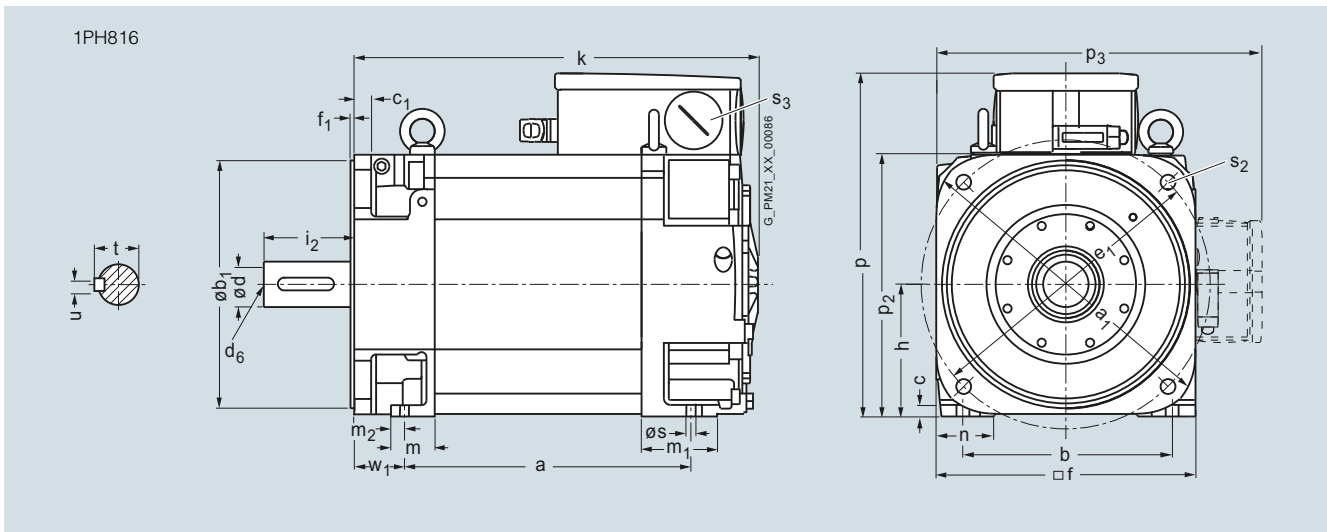


Dimensional drawings

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															



Dimensional drawings

Main spindle motors

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

Dimensional drawings

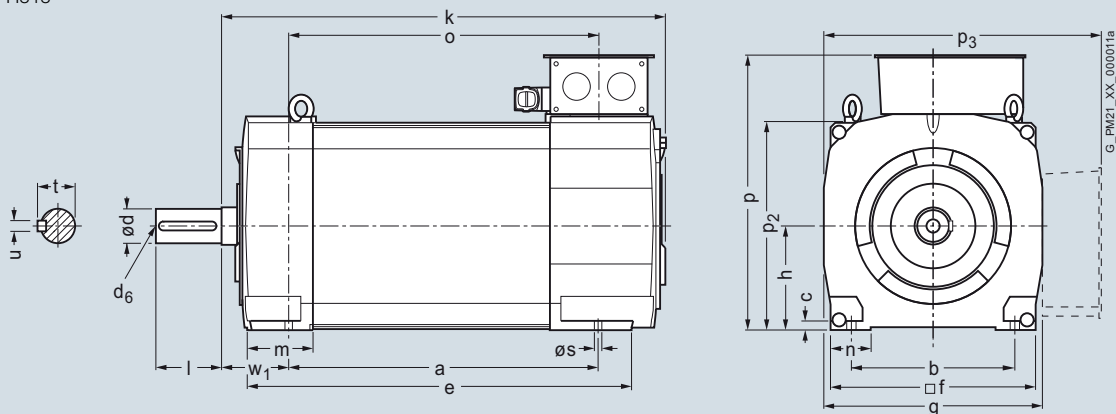
For motor Dimensions in mm (inches)

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
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)					

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

Shaft height	Type	DIN IEC	Shaft extension DE					Terminal box type											
			d D	d ₆ -	l E	t GA	u F	1XB7322		1XB7422		1XB7700							
							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	69	18	484	485	197	258	539	540	230	303	588	574	310	295
	1PH8186																		

1PH818

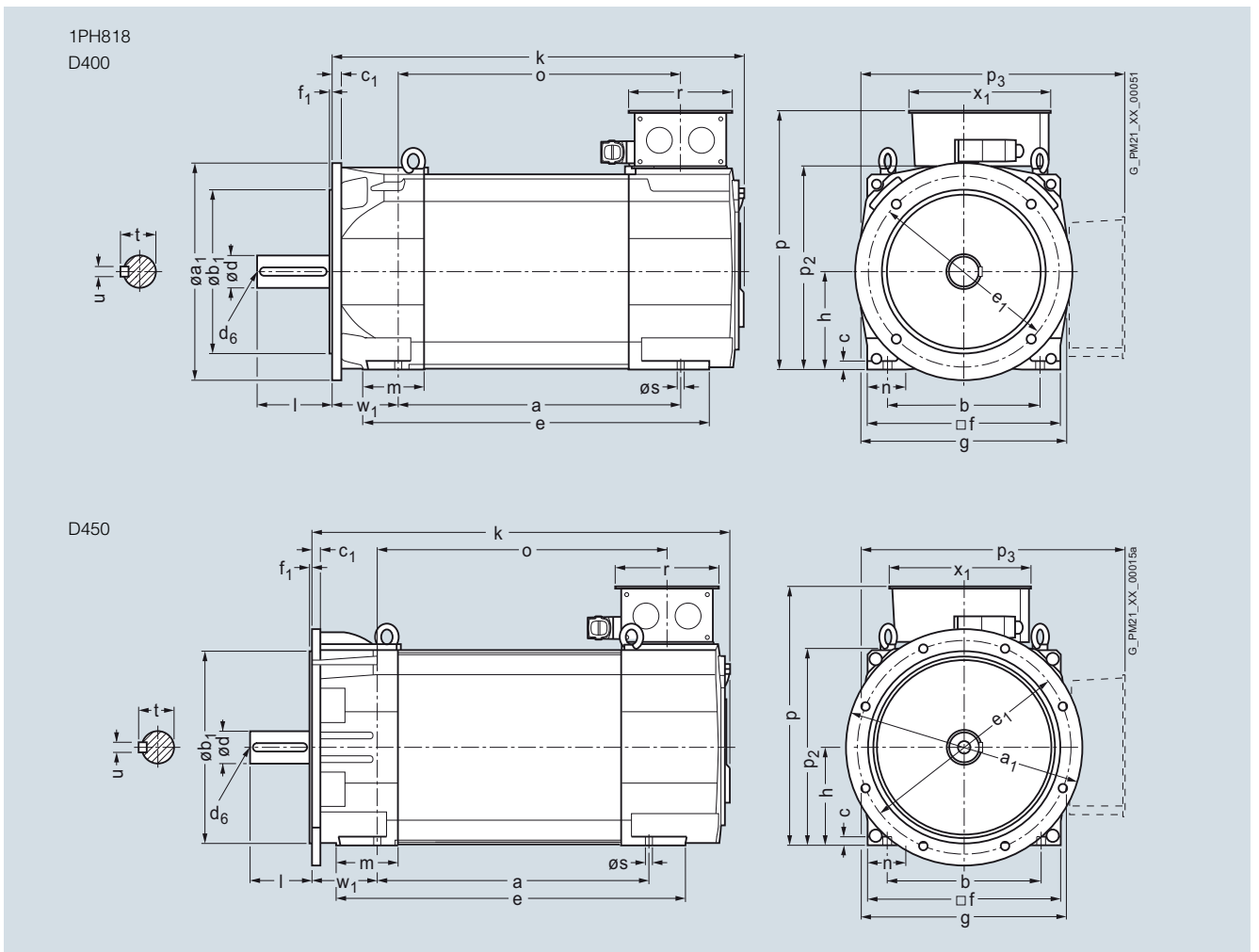


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Dimensional drawings

For motor		Dimensions in mm (inches)																		
Shaft height	Type	DIN IEC	D400			D450			D400			D450			f AB	f ₁ T	g AC	h H	k LB	m BA
			a B	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 (16.93)	400 (15.75)	450 (17.72)	279 (10.98)	300 (11.81)	350 (13.78)	15 (0.59)	16 (0.63)	350 (13.78)	400 (15.75)	356 (14.02)	5 (0.20)	384 (15.12)	180 (7.09)	670 (26.38)	123 (4.84)		
	1PH8186		520 (20.47)																760 (29.92)	

Shaft height	Type	DIN IEC	Shaft extension DE								Terminal box type		
			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 (2.87)	372 (14.65)	14.5 (0.57)	121 (4.76)	65m6	M20	140 (5.51)	69 (2.72)	18 (0.71)		
	1PH8186												



Dimensional drawings

Main spindle motors

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

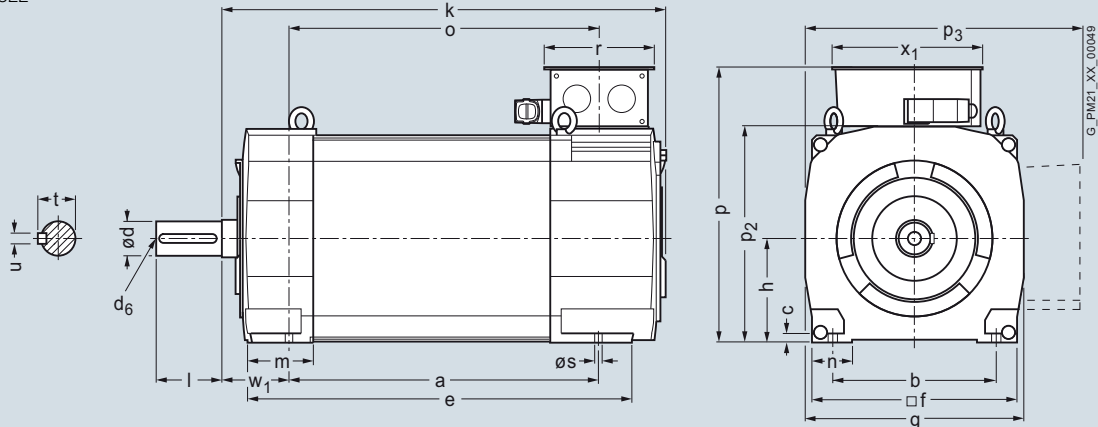
Dimensional drawings

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 height	Type	DIN IEC	Shaft extension DE					Terminal box type											
			d D	d ₆ -	l E	t GA	u F	1XB7322				1XB7422		1XB7700					
							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 (5.51)	79.5 (3.13)	20 (0.79)	579 (22.80)	577 (22.72)	197 (7.76)	258 (10.16)	634 (24.96)	632 (24.88)	230 (9.06)	303 (11.93)	683 (26.89)	666 (26.22)	310 (12.20)	295 (11.61)
	1PH8226																		
	1PH8228																		

1PH822



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

