

Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous motors SH 80 – Forced ventilation

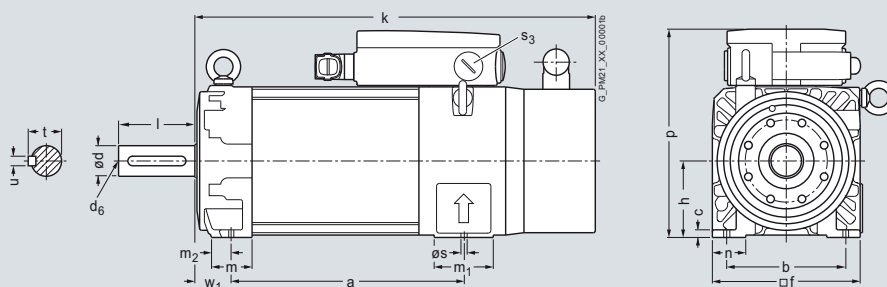
Dimensional drawings

For motor Dimensions in mm (inches)

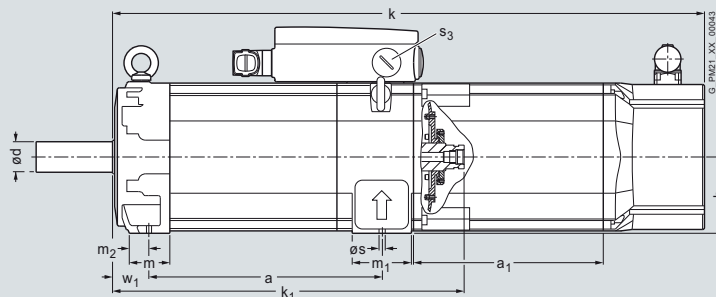
Shaft height	Type	DIN IEC	a B	b A	c HA	f AB	h H	k LB	m BA	m ₁ –	m ₂ –	n AA	p HD	p ₁ –	s K	s ₃ –	w ₁ C
1PH8, type of construction IM B3, forced ventilation																	
80	1PH8083		194 (7.64)	125 (4.92)	8 (0.31)	155 (6.10)	80 (3.15)	375 (14.76)	42 (1.65)	62 (2.44)	20 (0.79)	35 (1.38)	216 (8.5)	253.5 (9.98)	10 (0.39)	M25x1.5	38 (1.50)
	1PH8087		244 (9.61)					425 (16.73)									

Shaft height	Type	DIN IEC	Shaft extension DE				Design with hollow shaft		
			d D	l L	d ₆ –	t GA	u F	k LB	k ₁ –
80	1PH8083		32 (1.26)	80 (3.15)	M12	35 (1.39)	10 (0.39)	575 (22.64)	319.3 (12.57)
	1PH8087							625 (24.61)	369.3 (14.54)

1PH808



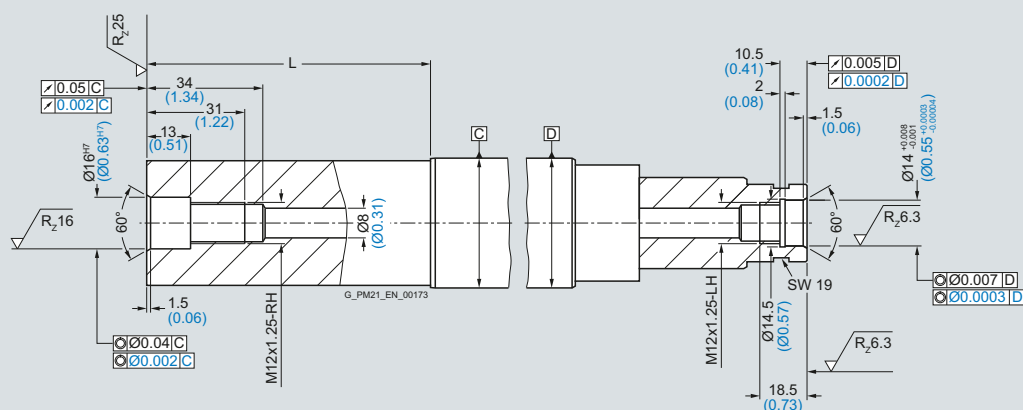
Design with hollow shaft



Hollow shaft

DE shaft extension

NDE shaft extension



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous motors SH 80 – Forced ventilation

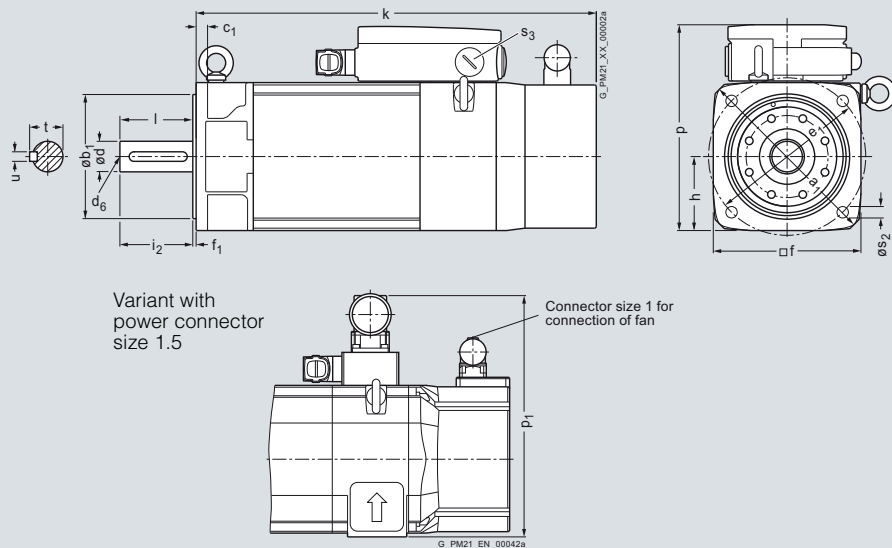
Dimensional drawings

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	p HD	p ₁ —	s ₂ —	s ₃ —
1PH8, type of construction IM B5, forced ventilation														
80	1PH8083		200 (7.87)	130 (5.12)	12 (0.47)	165 (6.50)	155 (6.10)	3.5 (0.14)	77.5 (3.05)	375 (14.76)	213.5 (8.41)	251 (9.88)	12 (0.47)	M25×1.5
	1PH8087									425 (16.73)				

Shaft height	Type	DIN IEC	Shaft extension DE						Design with hollow shaft	
			d D	l L	d ₆ –	i ₂ E	t GA	u F	k LB	k ₁ –
80	1PH8083		32 (1.26)	80 (3.15)	M12	80 (3.15)	35 (1.38)	10 (0.39)	575 (22.64)	319.3 (12.57)
	1PH8087								625 (24.61)	369.3 (14.54)

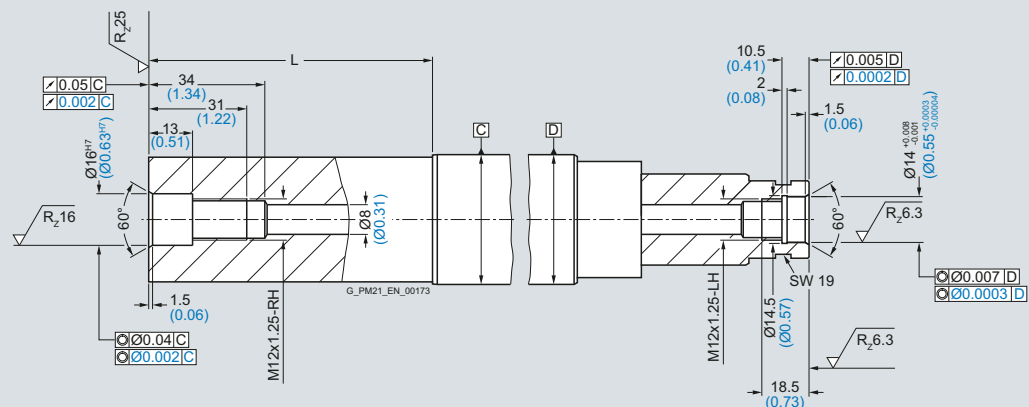
1PH808



Hollow shaft

DE shaft extension

NDE shaft extension



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous motors SH 100/SH 132 – Forced ventilation

Dimensional drawings

For motor		Dimensions in mm (inches)														
Shaft height	Type	DIN IEC	a B	b A	c HA	f AB	h H	k LB	m BA	m ₁ –	m ₂ –	n AA	p HD	p ₁ –	p ₂ –	p ₃ –
1PH8, type of construction IM B3, forced ventilation																
100	1PH8101		167 (6.57)	160 (6.30)	11 (0.43)	196 (7.72)	100 (3.94)	369.5 (14.55)	49 (1.93)	74 (2.91)	24 (0.94)	40 (1.57)	252 (9.92)	294 (11.6)	198 (7.80)	276.5 (10.89)
	1PH8103		202.5 (7.97)					405 (15.94)								
	1PH8105		262 (10.31)					464.5 (18.29)								
	1PH8107		297.5 (11.71)					500 (19.69)								
132	1PH8131		220.5 (8.68)	216 (8.50)	15 (0.59)	260 (10.24)	132 (5.2)	439 (17.28)	57 (2.24)	93 (3.66)	27 (1.06)	52 (2.05)	317.5 (12.50)	347 (13.66)	262 (10.31)	357.5 (14.07)
	1PH8133		265.5 (10.45)					484 (19.06)								
	1PH8135		310.5 (12.22)					529 (20.83)								
	1PH8137		350.5 (13.80)					569 (22.40)								

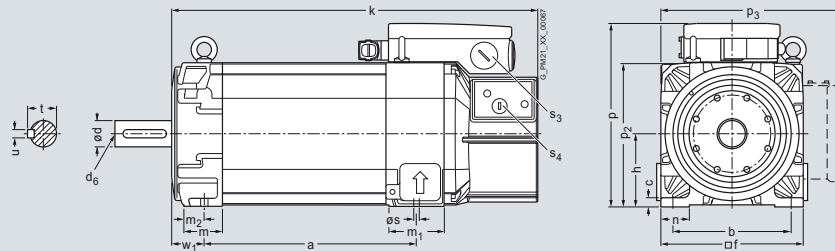
Shaft height	Type	DIN IEC	s K	s ₃ –	s ₄ –	w ₁ C	Shaft extension DE					Design with hollow shaft				
							d D	l L	d ₆ –	t GA	u F	k LB	k ₁ –	p HD	p ₃ –	s ₃ –
100	1PH8101		12 (0.47)	M32×1.5	M20×1.5	43 (1.69)	38 (1.50)	80 (3.15)	M12	41 (1.61)	10 (0.39)	569.5 (22.42)	312.3 (12.30)	266.5 (10.49)	276.5 (10.89)	M32×1.5
	1PH8103											605 (23.82)	347.8 (13.69)			
	1PH8105											664.5 (26.16)	407.3 (16.04)			
	1PH8107											700 (27.56)	442.8 (17.43)			
132	1PH8131		12 (0.47)	M40×1.5	M20×1.5	53 (2.09)	48 (1.89)	110 (4.33)	M16	51.5 (2.03)	14 (0.55)	639 (25.16)	372.8 (14.68)	347.5 (13.68)	357.5 (14.07)	M50×1.5
	1PH8133											684 (26.93)	417.8 (16.45)			
	1PH8135											729 (28.70)	462.8 (18.22)			
	1PH8137											769 (30.28)	502.8 (19.80)			

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

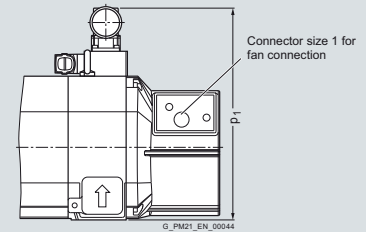
SIMOTICS M-1PH8 asynchronous motors SH 100/SH 132 – Forced ventilation

Dimensional drawings

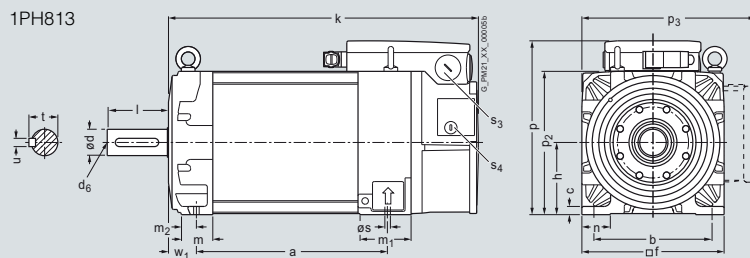
1PH810



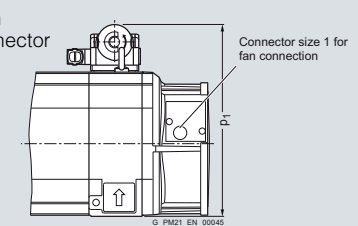
Variant with
power connector
size 1.5



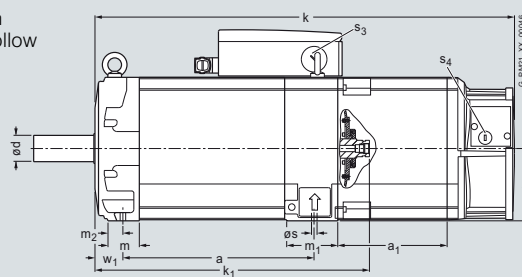
1PH813



Variant with
power connector
size 3



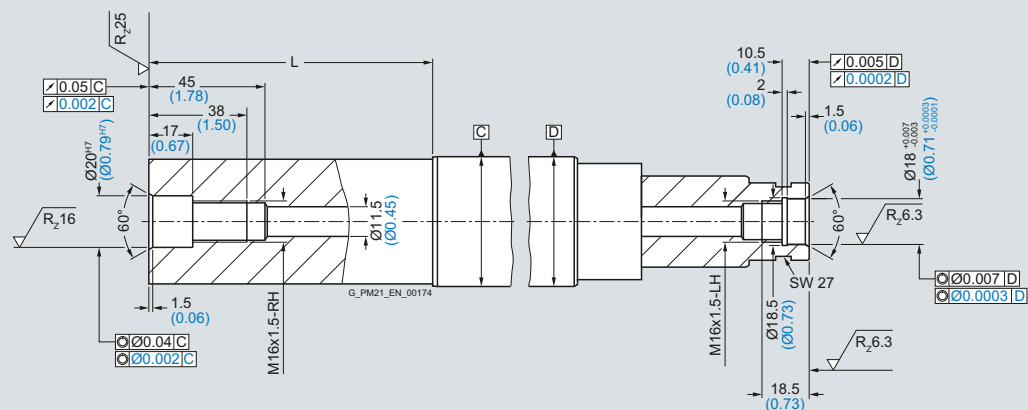
Design
with hollow
shaft



Hollow shaft
1PH810
1PH813

DE shaft extension

NDE shaft extension



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous motors SH 100 – Forced ventilation

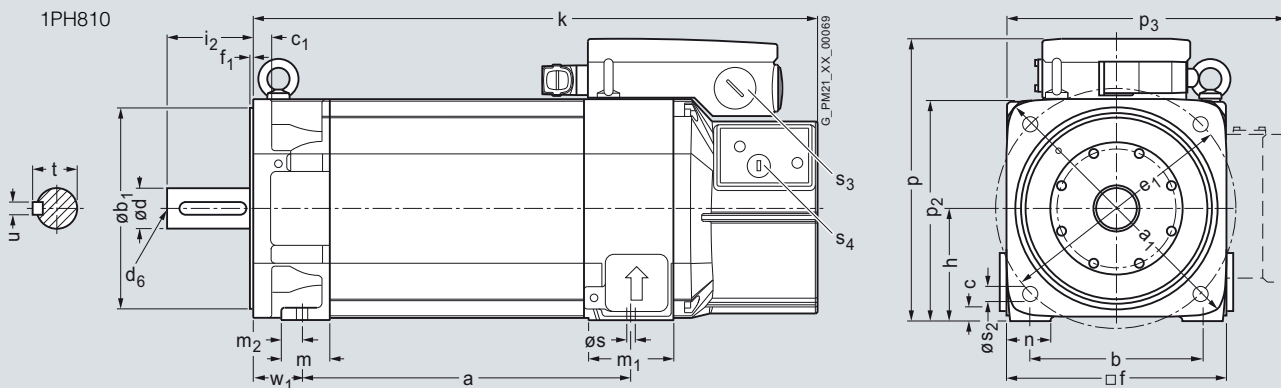
Dimensional drawings

For motor Dimensions in mm (inches)

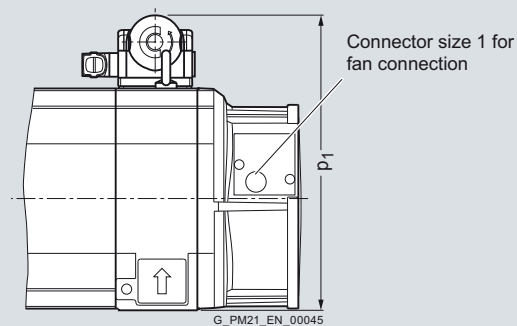
Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA	p HD	p ₁ –
1PH8, type of construction IM B35, forced ventilation																			
100	1PH8101		167 (6.57)	250 (9.84)	160 (6.30)	180 (7.09)	11 (0.43)	16 (0.63)	215 (8.46)	196 (7.72)	4 (0.16)	100 (3.94)	369.5 (14.55)	44 (1.73)	74 (2.91)	19 (0.75)	40 (1.57)	252 (9.92)	294 (11.57)
	1PH8103		202.5 (7.97)										405 (15.94)						
	1PH8105		262 (10.31)										464.5 (18.29)						
	1PH8107		297.5 (11.71)										500 (19.69)						

Shaft height	Type	DIN IEC	Shaft extension DE													Design with hollow shaft				
			p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	s ₄ –	w ₁ C	d D	l L	d ₆ –	i ₂ E	t GA	u F	k LB	k ₁ –	p HD	p ₃ –	s ₃ –
100	1PH8101		198 (7.80)	276.5 (10.89)	12 (0.47)	14 (0.55)	M32×1.5	M20×1.5	43 (1.69)	38 (1.50)	80 (3.15)	M12	80 (3.15)	41 (1.61)	10 (0.39)	569.5 (22.42)	312.3 (12.30)	266.5 (10.49)	276.5 (10.89)	M32×1.5
	1PH8103															605 (23.82)	347.8 (13.69)			
	1PH8105															664.5 (26.16)	407.3 (16.04)			
	1PH8107															700 (27.56)	442.8 (17.43)			

1PH810



Variant with
power connector
size 1.5



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

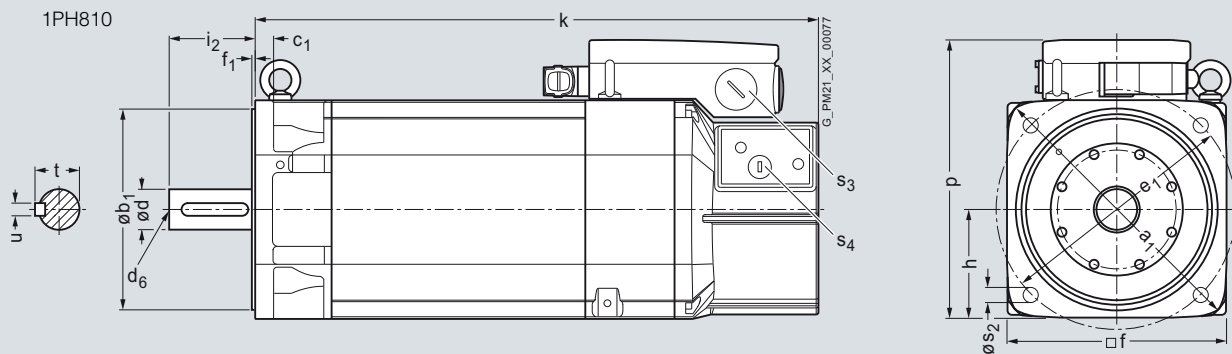
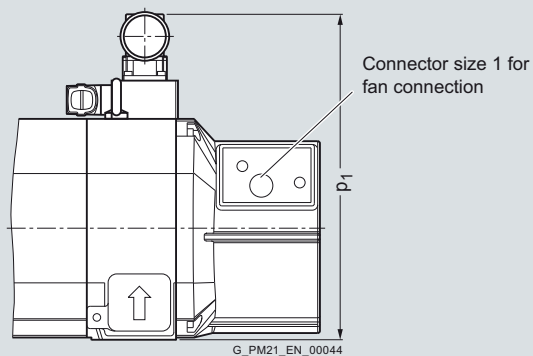
SIMOTICS M-1PH8 asynchronous motors
SH 100 – Forced ventilation

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	p HD	p ₁ –
1PH8, type of construction IM B5, forced ventilation												
100	1PH8101		250 (9.84)	180 (7.09)	16 (0.63)	215 (8.46)	196 (7.72)	4 (0.16)	98 (3.86)	369.5 (14.55)	250 (9.84)	292 (11.50)
	1PH8103									405 (15.94)		
	1PH8105									464.5 (18.29)		
	1PH8107									500 (19.69)		

Shaft height	Type	DIN IEC	s ₂ –	s ₃ –	s ₄ –	Shaft extension DE						Design with hollow shaft			
						d D	l L	d ₆ –	i ₂ E	t GA	u F	k LB	k ₁ –	p HD	s ₃ –
100	1PH8101		14 (0.55)	M32×1.5	M20×1.5	38 (1.50)	80 (3.15)	M12	80 (3.15)	41 (1.61)	10 (0.39)	569.5 (22.42)	312.3 (12.30)	264.5 (10.41)	M32×1.5
	1PH8103											605 (23.82)	347.8 (13.69)		
	1PH8105											664.5 (16.16)	407.3 (16.04)		
	1PH8107											700 (17.56)	442.8 (17.43)		

Variant with
power connector
size 1.5Connector size 1 for
fan connection

Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

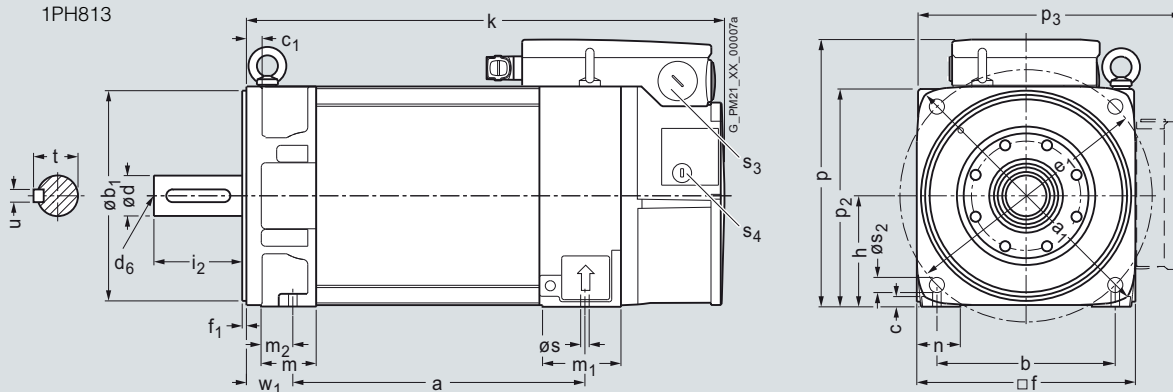
Dimensional drawings

For motor Dimensions in mm (inches)

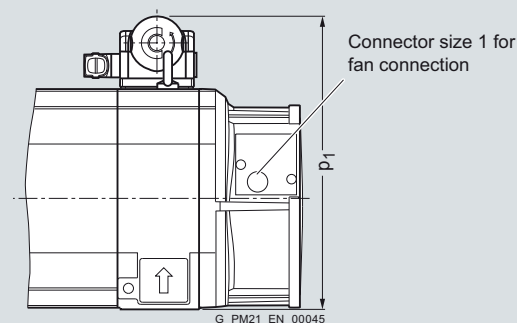
Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA	p HD	p ₁ –
1PH8, type of construction IM B35, forced ventilation																			
132	1PH8131		220.5 (8.68)	340 (13.39)	216 (8.50)	250 (9.84)	15 (0.59)	18 (0.71)	300 (11.81)	260 (10.24)	5 (0.20)	132 (5.20)	439 (17.28)	65 (2.56)	93 (3.66)	35 (1.38)	52 (2.05)	317.5 (12.50)	347 (13.66)
	1PH8133		265.5 (10.45)										484 (19.06)						
	1PH8135		310.5 (12.22)										529 (20.83)						
	1PH8137		350.4 (13.80)										569 (22.40)						

Shaft height	Type	DIN IEC	Shaft extension DE												Design with hollow shaft					
			p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	s ₄ –	w ₁ C	d D	l L	d ₆ –	i ₂ E	t GA	u F	k LB	k ₁ –	p HD	p ₃ –	s ₃ –
132	1PH8131		262 (10.31)	357.5 (14.07)	12 (0.47)	18 (0.71)	M40x1.5	M20x1.5	53 (2.09)	48 (1.89)	110 (4.33)	M16	110 (4.33)	51.5 (2.03)	14 (0.55)	639 (25.16)	372.8 (14.68)	347.5 (13.68)	357.5 (14.07)	M50x1.5
	1PH8133															684 (26.93)	417.8 (16.45)			
	1PH8135															729 (28.70)	462.8 (18.22)			
	1PH8137															769 (30.28)	502.8 (19.80)			

1PH813



Variant with
power connector
size 3



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

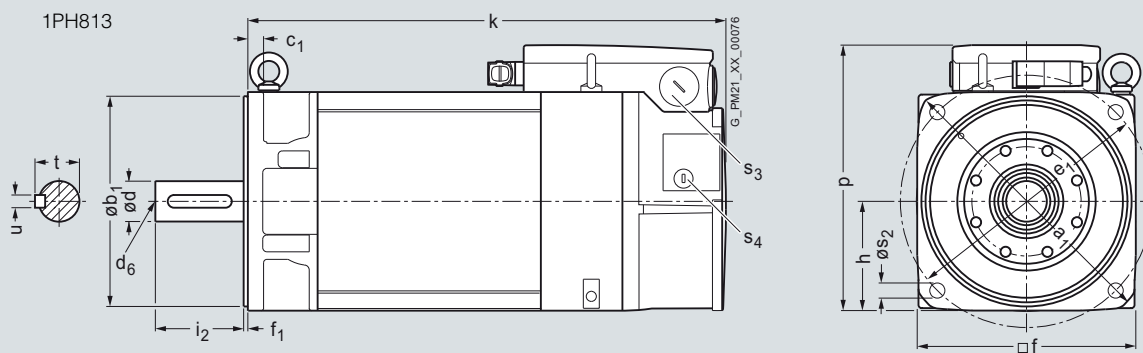
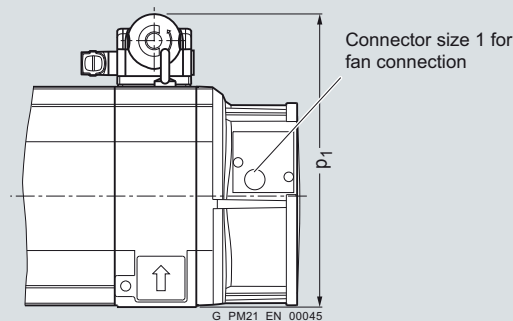
SIMOTICS M-1PH8 asynchronous motors
SH 132 – Forced ventilation

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	p HD	p ₁ –
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)	315.5 (12.42)	345 (13.58)
	1PH8133									484 (19.06)		
	1PH8135									529 (20.83)		
	1PH8137									569 (22.40)		

Shaft height	Type	DIN IEC	Shaft extension DE									Design with hollow shaft			
			s ₂ –	s ₃ –	s ₄ –	d D	l L	d ₆ –	i ₂ E	t GA	u F	k LB	k ₁ –	p HD	s ₃ –
132	1PH8131		18 (0.71)	M40×1.5	M20×1.5	48 (1.89)	110 (4.33)	M16	110 (4.33)	51.5 (2.03)	14 (0.55)	639 (25.16)	372.8 (14.68)	345.5 (13.60)	M50×1.5
	1PH8133											684 (26.93)	417.8 (16.45)		
	1PH8135											729 (28.70)	462.8 (18.22)		
	1PH8137											769 (30.28)	502.8 (19.80)		

Variant with
power connector
size 3

Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

Dimensional drawings

For motor Dimensions in mm (inches)

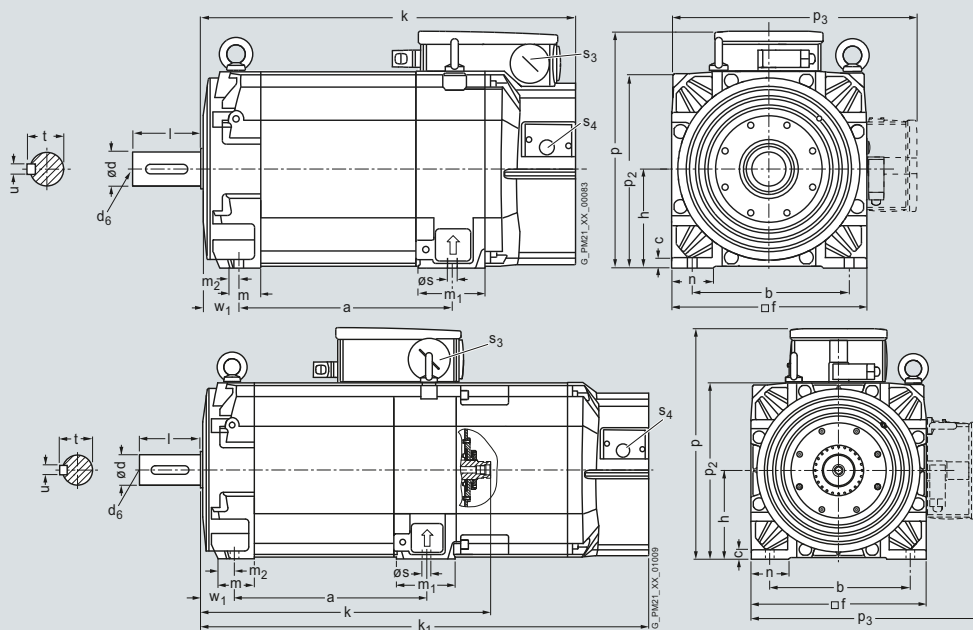
Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
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1PH8, type of construction IM B3, forced ventilation

160	1PH8163	346.5 (13.64)	–	254 (10.00)	–	17 (0.67)	23 (0.91)	–	314 (12.36)	–	160 (6.30)	610.5 (24.04)	64 (2.52)	99.5 (3.92)	28 (1.10)	70 (2.76)
	1PH8165	406.5 (16.00)										670.5 (26.40)				

Shaft height	Type	DIN IEC	p HD	Shaft extension DE										Design with hollow shaft						
				p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	s ₄ –	w ₁ Cv	d D	d ₆ –	l L	t GA	u F	k LB	k ₁ –	p HD	s ₃ –
160	1PH8163		382.5 (15.06)	–	317 (12.48)	412.5 (16.24)	14 (0.55)	–	M50×1.5	M20×1.5	61 (2.40)	55 (2.17)	M20	110 (4.33)	59 (2.32)	16 (0.63)	810.5 (31.91)	520.8 (20.50)	415.5 (16.36)	M63 × 1.5
	1PH8165																870.5 (34.27)	580.8 (22.87)		

1PH816

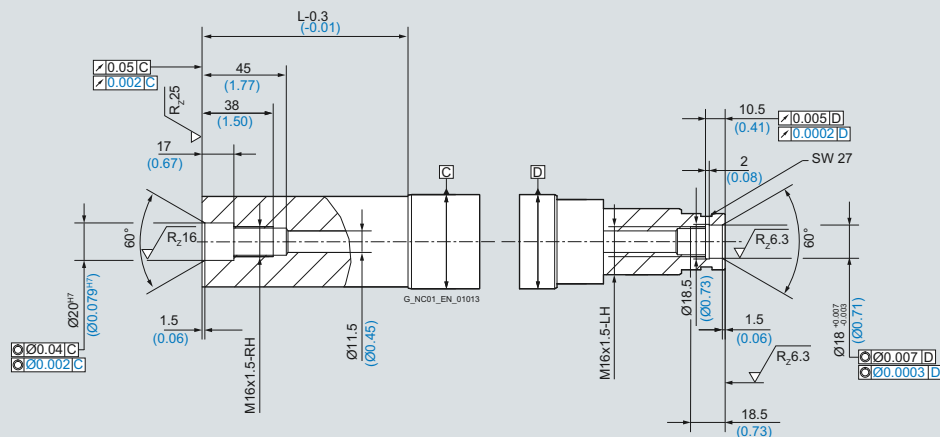


Design with hollow shaft

Hollow shaft

DE shaft extension

NDE shaft extension



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous 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
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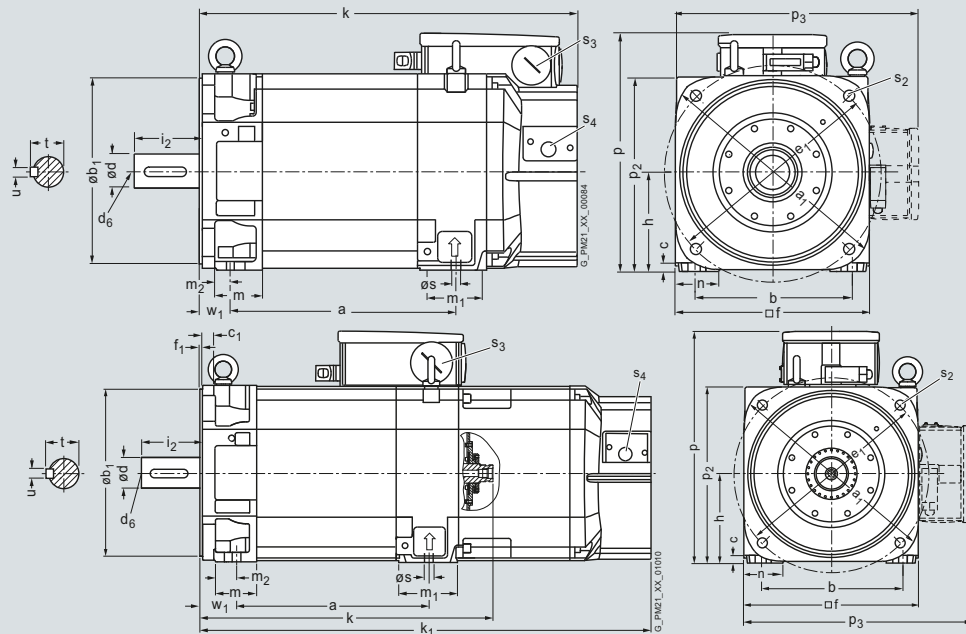
1PH8, type of construction IM B5/IM B35, forced ventilation

160	1PH8163		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)	610.5 (24.04)	55 (2.17)	99.5 (3.92)	19 (0.75)	70 (2.76)
	1PH8165		406.5 (16.00)										670.5 (26.40)				

Shaft height	Type	DIN IEC	p HD	Shaft extension DE										Design with hollow shaft							
				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	k LB	k ₁ –	p HD	s ₃ –	
160	1PH8163		382.5 (15.06)	–	317 (12.48)	412.5 (16.24)	14 (0.55)	18 (0.71)		M50×1.5	M20×1.5	61 (2.40)	55 (2.17)	M20	110 (4.33)	59 (2.32)	16 (0.63)	810.5 (31.91)	520.8 (20.50)	415.5 (16.36)	M63 × 1.5
	1PH8165																	870.5 (34.27)	580.8 (22.87)		

1PH816

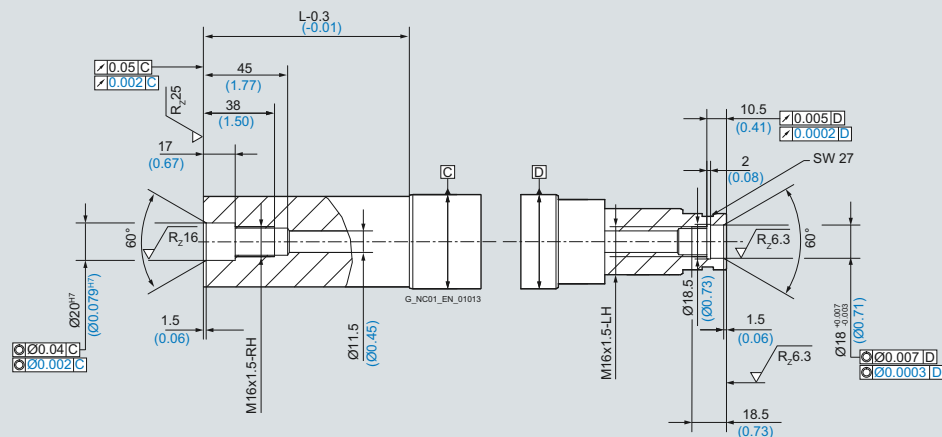
Design with hollow shaft



Hollow shaft

DE shaft extension

NDE shaft extension



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

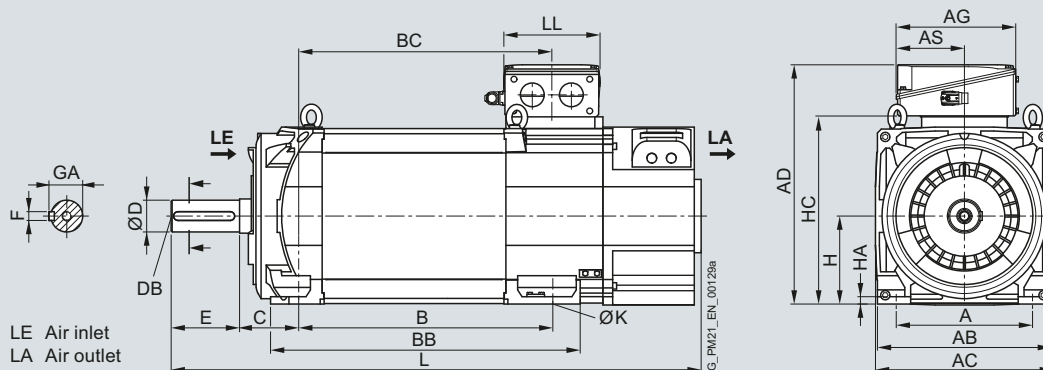
Dimensional drawings

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 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 Type height	IEC AD	AG	AS	BC	LL	
Terminal box type 1XB7 322						
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422						
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700						
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

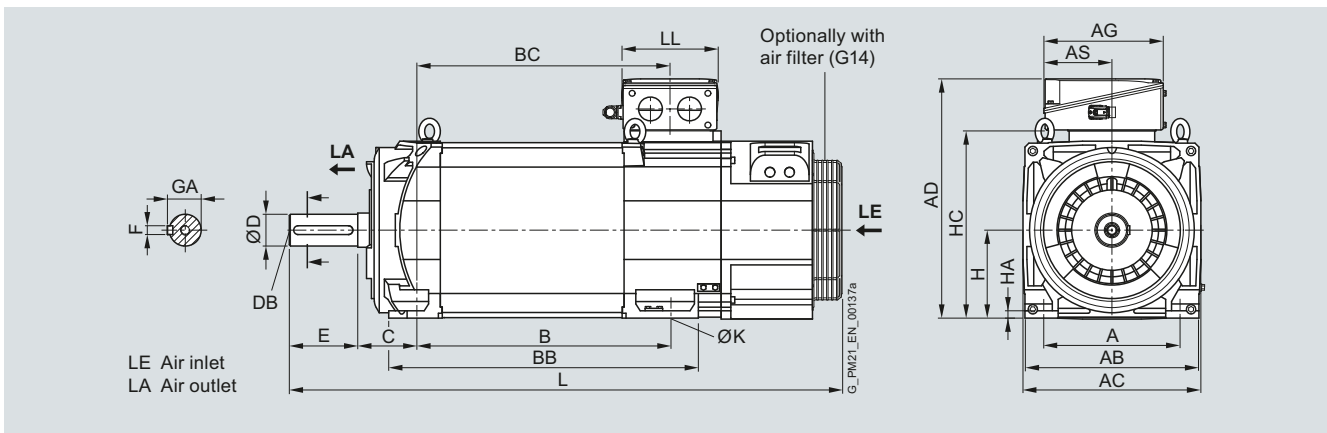
Dimensional drawings

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 height	IEC AD	AG	AS	BC	LL	
Terminal box type 1XB7 322						
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422						
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700						
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

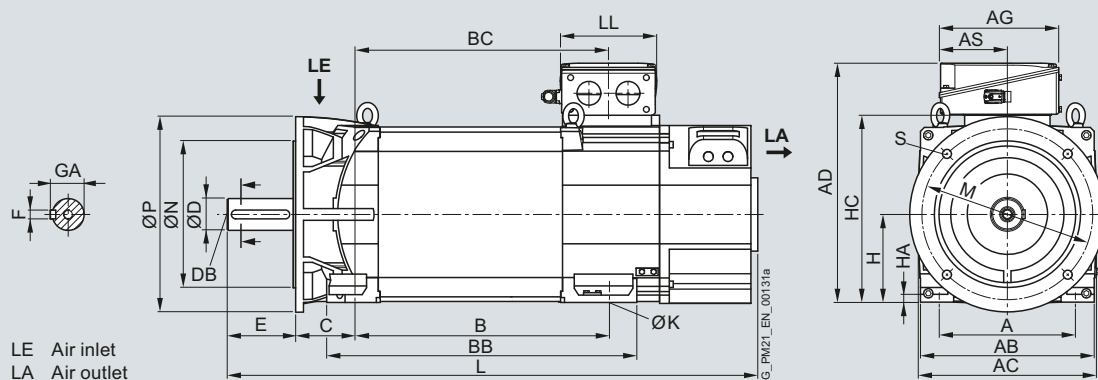
Dimensional drawings

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 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
Terminal box type 1XB7 322						
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422						
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700						
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

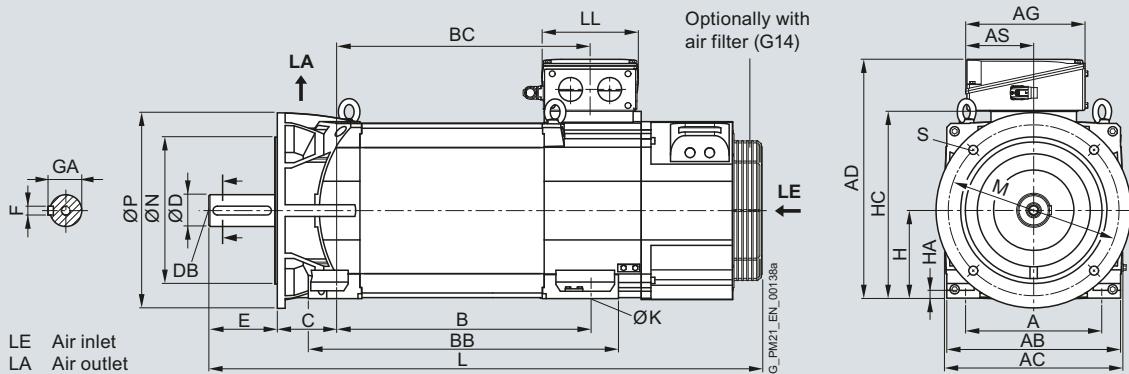
Dimensional drawings

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																					
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	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422						
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700						
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

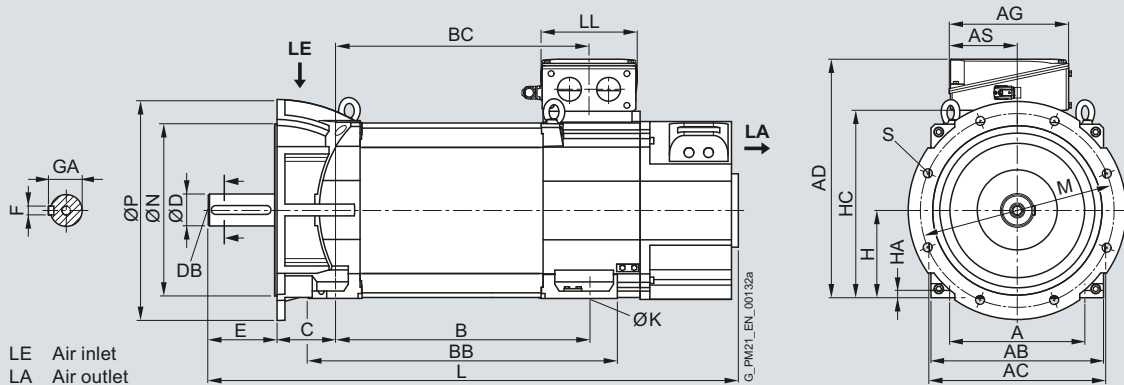
Dimensional drawings

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 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
Terminal box type 1XB7 322						
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422						
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700						
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

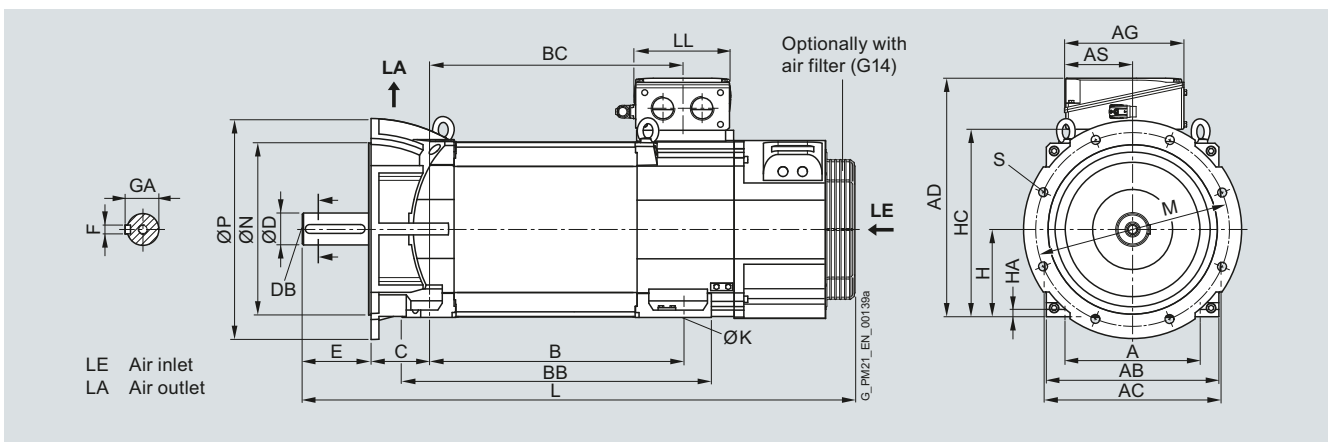
Dimensional drawings

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 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 height	Type	IEC AD	AG	AS	BC	LL
Terminal box type 1XB7 322						
180	1PH8184	490 (19.29)	245 (9.65)	140 (5.51)	429 (16.89)	196 (7.72)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 422						
180	1PH8184	533 (20.98)	281 (11.06)	176 (6.93)	429 (16.89)	233 (9.17)
	1PH8186				519 (20.43)	

Terminal box type 1XB7 700						
180	1PH8184	586 (23.07)	297 (11.69)	156 (6.14)	429 (16.89)	310 (12.20)
	1PH8186				519 (20.43)	



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

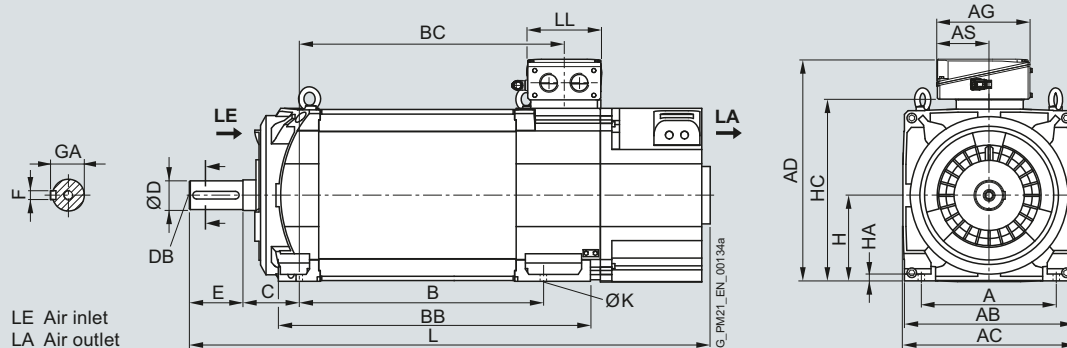
Dimensional drawings

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
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 (40.04)
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	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 1XB7 422						
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 1XB7 700						
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 asynchronous and synchronous motors for SINAMICS S120

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

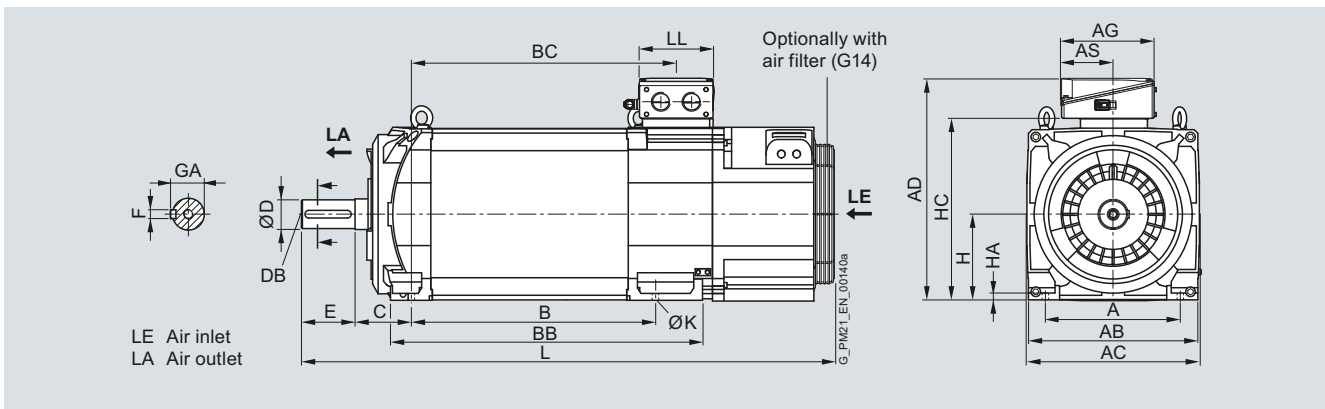
Dimensional drawings

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
height																	
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	IEC AD	AG	AS	BC	LL	
height						
Terminal box type 1XB7 322						
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 1XB7 422						
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 1XB7 700						
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)	



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

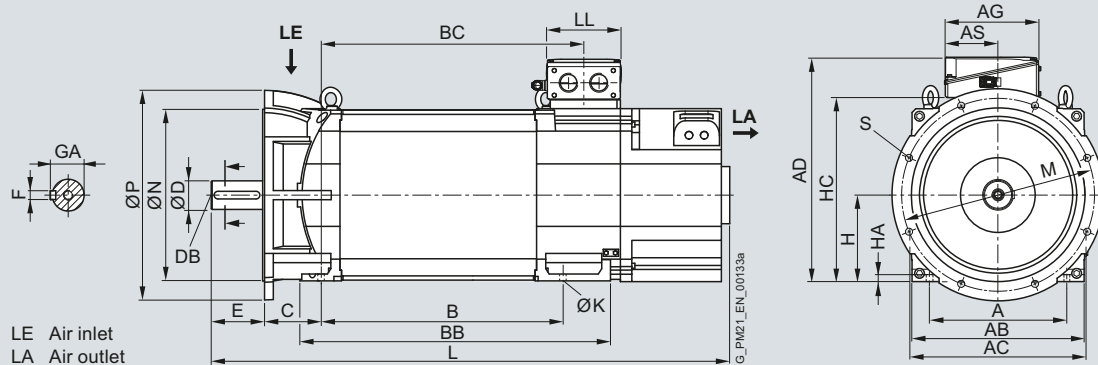
Dimensional drawings

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
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	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 1XB7 422						
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 1XB7 700						
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 asynchronous and synchronous motors for SINAMICS S120

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

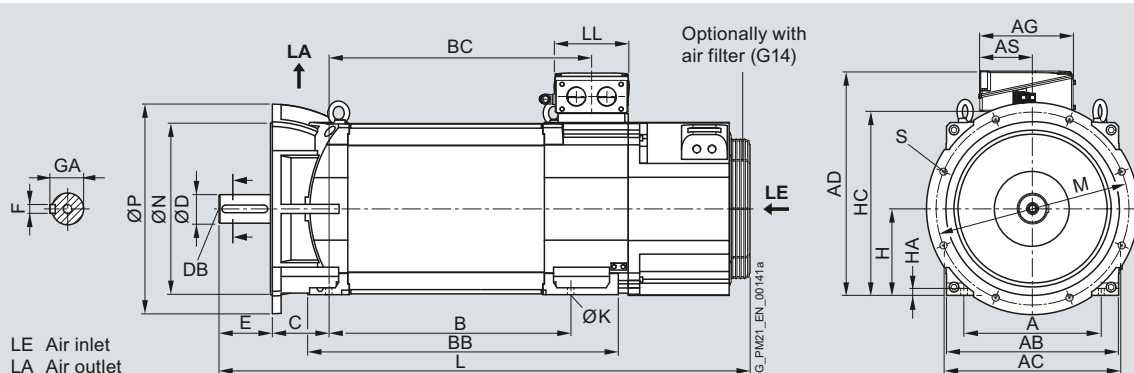
Dimensional drawings

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
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)	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
Terminal box type 1XB7 322						
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 1XB7 422						
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 1XB7 700						
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)	



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

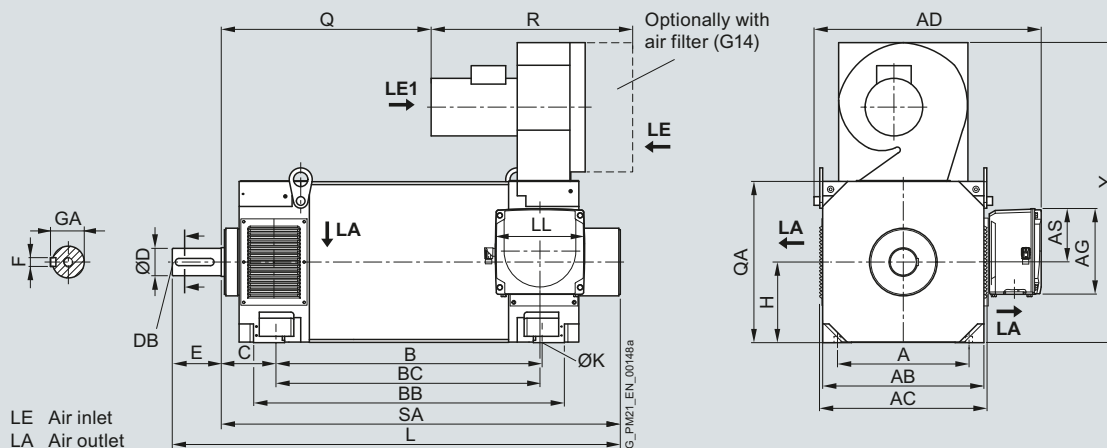
SIMOTICS M-1PH8 asynchronous motors SH 280 – Forced ventilation

Dimensional drawings

For motor		Dimensions in mm (inches)																			
Shaft	Type	IEC	A	AB	AC	B	BB	C	D	DB	E	F	GA	H	K	L	Q	QA	R	SA	Y
height																					
1PH8, type of construction IM B3, forced ventilation – direction of air flow NDE → DE																					
280	1PH8284	457 (17.99)	560 (22.05)	582 (22.91)	684 (26.93)	840 (33.07)	190 (7.48)	95 (3.74)	M24	170 (6.69)	25 (0.98)	100 (3.94)	280 (11.02)	24 (0.94)	1316 (51.81)	489 (19.25)	560 (22.05)	700 (27.56)	1146 (45.12)	1042 (41.02)	
	1PH8286				794 (31.26)	950 (37.40)									1426 (56.14)	599 (23.58)			1256 (49.45)		
	1PH8288				924 (36.38)	1080 (42.52)									1556 (61.26)	729 (28.70)			1386 (54.57)		

Terminal box		Dimensions in mm (inches)				
Shaft height	Type	IEC AD	AG	AS	BC	LL
Terminal box type 1XB7 700						
280	1PH8284	789 (31.06)	297 (11.69)	186 (7.32)	677 (26.65)	310 (12.20)
	1PH8286				787 (30.98)	
	1PH8288				917 (36.10)	

Terminal box type 1XB7 712						
280	1PH8284	836 (32.91)	371 (14.61)	201 (7.91)	691 (27.20)	370 (14.57)
	1PH8286				801 (31.54)	
	1PH8288				931 (36.65)	



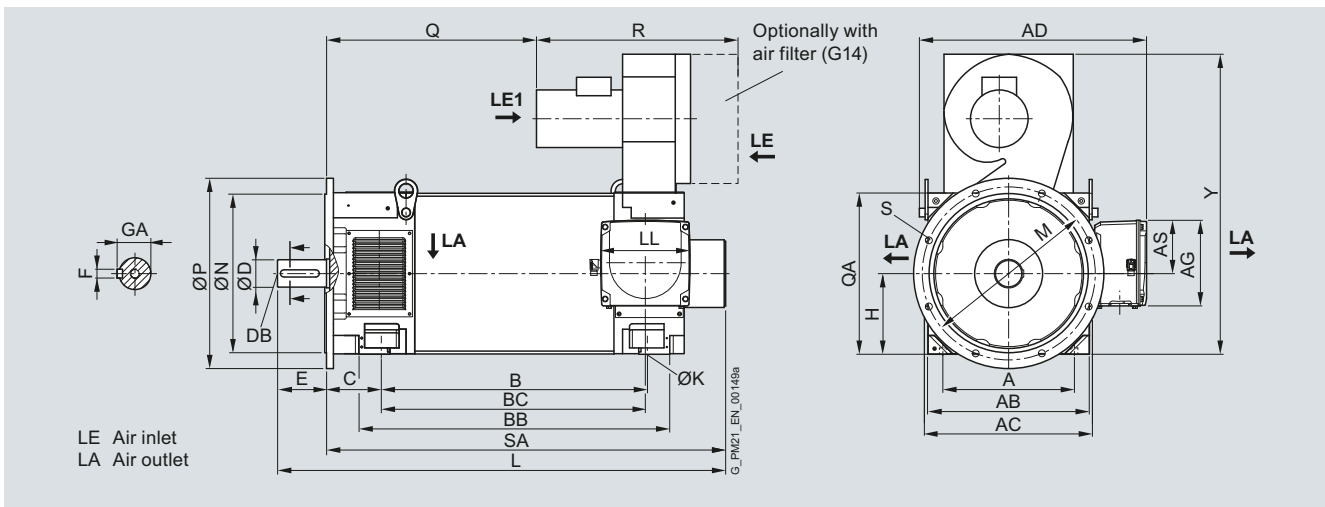
SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous motors
SH 280 – 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
1PH8, type of construction IM B35, forced ventilation – direction of air flow NDE → DE, flange A660													
280	1PH8284	457 (17.99)	560 (22.05)	582 (22.91)	684 (26.93)	840 (33.07)	190 (7.48)	95 (3.74)	M24	170 (6.69)	25 (0.98)	100 (3.94)	280 (11.02)
	1PH8286				794 (31.26)	950 (37.40)							
	1PH8288				924 (36.38)	1080 (42.52)							
		K	L	M	N	P	Q	QA	R	S	SA	Y	
	1PH8284	24 (0.94)	1316 (51.81)	600 (23.62)	550 (21.65)	660 (25.98)	489 (19.25)	560 (22.05)	700 (27.56)	24 (0.94)	1146 (45.12)	1042 (41.02)	
	1PH8286		1426 (56.14)				599 (23.58)				1256 (49.45)		
	1PH8288		1556 (61.26)				729 (28.70)				1386 (54.57)		

Terminal box		Dimensions in mm (inches)					
Shaft height	Type	IEC AD	AG	AS	BC	LL	
Terminal box type 1XB7 700							
280	1PH8284	789 (31.06)	297 (11.69)	186 (7.32)	677 (26.65)	310 (12.20)	
	1PH8286				787 (30.98)		
	1PH8288				917 (36.10)		
Terminal box type 1XB7 712							
280	1PH8284	836 (32.91)	371 (14.61)	201 (7.91)	691 (27.20)	370 (14.57)	
	1PH8286				801 (31.54)		
	1PH8288				931 (36.65)		



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous motors SH 80 to SH 132 – Water cooling

Dimensional drawings

For motor Dimensions in mm (inches)

									High Performance/ hollow shaft encoder					
									without hollow shaft	with hollow shaft				
Shaft height	Type	DIN IEC	a B	b A	c HA	f AB	h H	k LB	k LB	k LB	m BA	m ₁ –	m ₂ –	n AA
1PH8, type of construction IM B3, water cooling														
80	1PH8083		194 (7.64)	125 (4.92)	8 (0.31)	155 (6.10)	80 (3.15)	301.5 (11.87)	306.3 (12.06)	319.3 (12.57)	37 (1.46)	63.5 (2.50)	15 (0.59)	35 (1.38)
	1PH8087		244 (9.61)					351.5 (13.84)	356.3 (14.03)	369.3 (14.54)				
100	1PH8101		167 (6.57)	160 (6.30)	11 (0.43)	196 (7.72)	100 (3.94)	289.5 (11.40)	294.5 (11.59)	312.3 (12.30)	44 (1.73)	68 (2.68)	19 (0.75)	43 (1.69)
	1PH8103		202.5 (7.97)					325 (12.80)	330 (12.99)	347.8 (13.69)				
	1PH8105		262 (10.31)					384.5 (15.14)	389.5 (15.33)	407.3 (16.04)				
	1PH8107		297.5 (11.71)					420 (16.54)	425 (16.73)	442.8 (17.43)				
132	1PH8131		220.5 (8.68)	216 (8.50)	15 (0.59)	260 (10.24)	132 (5.20)	347.5 (13.68)	355 (13.98)	372.8 (14.68)	43 (1.69)	81 (3.19)	13 (0.51)	43 (1.69)
	1PH8133		265.5 (10.45)					392.5 (15.45)	400 (15.75)	417.8 (16.45)				
	1PH8135		310.5 (12.22)					437.5 (17.22)	445 (17.52)	462.8 (18.22)				
	1PH8137		350.5 (13.80)					477.5 (18.80)	485 (19.09)	502.8 (19.80)				
	1PH8138		350.5 (13.80)					477.5 (18.80)	485 (19.09)	502.8 (19.80)				

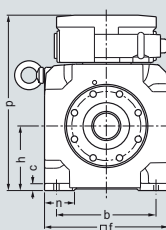
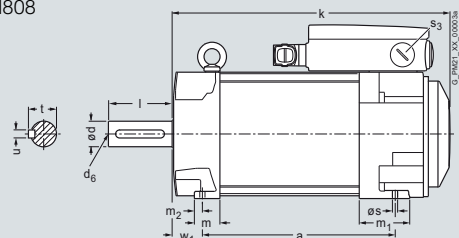
Shaft height	Type	DIN IEC							Shaft extension DE					
									w ₁ C	d D	d ₆ –	t GA	u F	l L
80	1PH8083		216 (8.50)	253.5 (9.98)	–	–	10 (0.39)	M25×1.5	38 (1.50)	32 (1.26)	M12	35 (1.38)	10 (0.39)	80 (3.15)
	1PH8087													
100	1PH8101		266.5 (10.49)	294 (11.57)	198 (7.80)	276.5 (10.89)	12 (0.47)	M32×1.5	43 (1.69)	38 (1.50)	M12	41 (1.61)	10 (0.39)	80 (3.15)
	1PH8103													
	1PH8105													
	1PH8107													
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	51.5 (2.03)	14 (0.55)	110 (4.33)
	1PH8133													
	1PH8135													
	1PH8137													
	1PH8138													

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

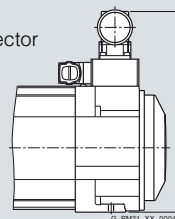
SIMOTICS M-1PH8 asynchronous motors SH 80 to SH 132 – Water cooling

Dimensional drawings

1PH808



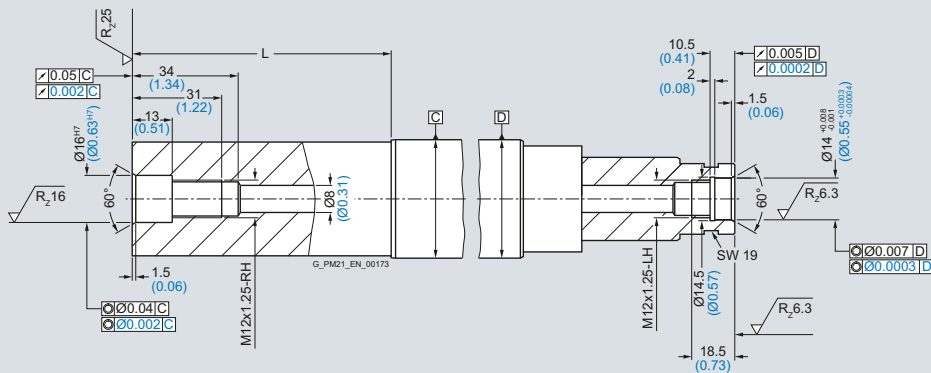
Variant with
power connector
size 1.5



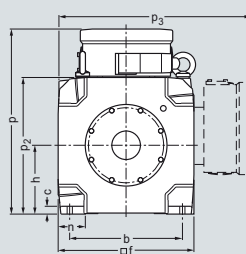
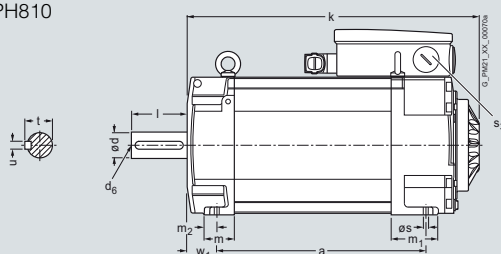
Hollow shaft
1PH808

DE shaft extension

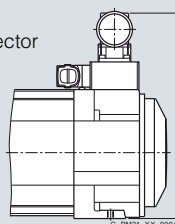
NDE shaft extension



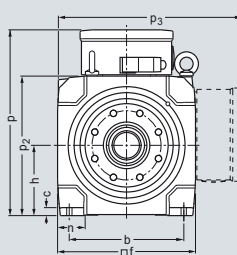
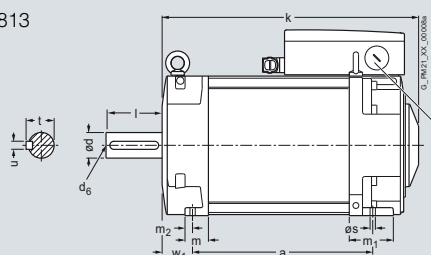
1PH810



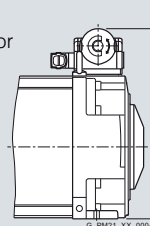
Variant with
power connector
size 1.5



1PH813



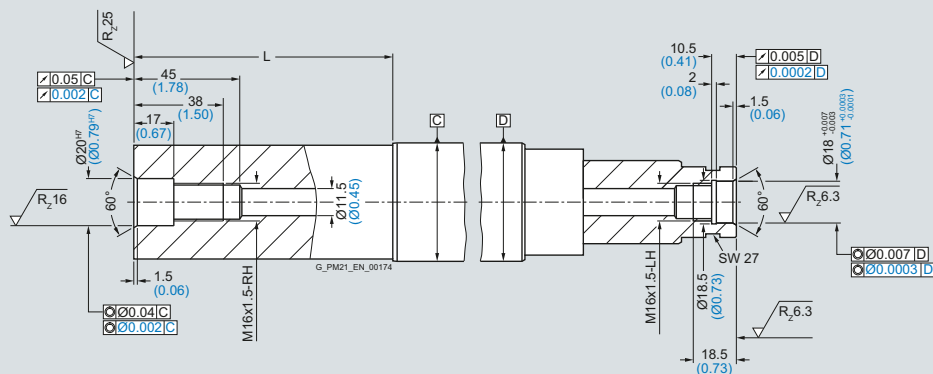
Variant with
power connector
size 3



Hollow shaft
1PH810
1PH813

DE shaft extension

NDE shaft extension



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous motors SH 80 to SH 132 – Water cooling

Dimensional drawings

For motor Dimensions in mm (inches)

												Standard/ Advanced/ Performance	High Performance/ hollow shaft encoder		
													without hollow shaft	with hollow shaft	
Shaft height	Type	DIN IEC	a ₁ P	b ₁ N	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	l L	k LB		k LB	k LB	
1PH8, type of construction IM B5, water cooling															
80	1PH8083		199 (7.83)	130 (5.12)	12 (0.47)	165 (6.50)	155 (6.10)	3.5 (0.14)	77.5 (3.05)	80 (3.15)	301.5 (11.87)		306.3 (12.06)	319.3 (12.57)	
	1PH8087										351.5 (13.84)		356.3 (14.03)	369.3 (14.51)	
100	1PH8101		250 (9.84)	180 (7.09)	16 (0.63)	215 (8.46)	196 (7.72)	4 (0.16)	98 (3.86)	80 (3.15)	289.5 (11.40)		294.5 (11.59)	312.3 (12.30)	
	1PH8103										325 (12.80)		330 (12.99)	347.8 (13.69)	
	1PH8105										384.5 (15.14)		389.5 (15.33)	407.3 (16.04)	
	1PH8107										420 (16.54)		425 (16.73)	442.8 (17.43)	
132	1PH8131		340 (13.39)	250 (9.84)	18 (0.71)	300 (11.81)	260 (10.24)	5 (0.20)	130 (5.12)	110 (4.33)	347.5 (13.68)		355 (13.98)	372.8 (14.68)	
	1PH8133										392.5 (15.45)		400 (15.75)	417.8 (16.45)	
	1PH8135										437.5 (17.22)		445 (17.52)	462.8 (18.22)	
	1PH8137										477.5 (18.80)		485 (19.09)	502.8 (19.80)	
	1PH8138										477.5 (18.80)		485 (19.09)	502.8 (19.80)	

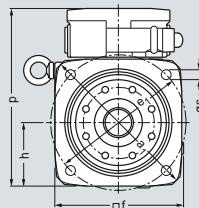
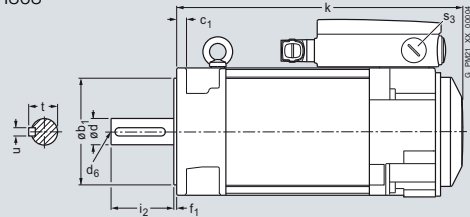
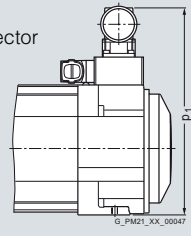
Shaft height	Type	DIN IEC	p HD	p ₁ –	s ₂ –	s ₃ –	Shaft extension DE					t GA	u F
							d D	d ₆ –	i ₂ E				
80	1PH8083		213.5 (8.41)	251 (9.88)	12 (0.47)	M25×1.5	32 (1.25)	M12	80 (3.15)	35 (1.38)	10 (0.39)		
	1PH8087												
100	1PH8101		264.5 (10.41)	292 (11.50)	14 (0.55)	M32×1.5	38 (1.50)	M12	80 (3.15)	41 (1.61)	10 (0.39)		
	1PH8103												
	1PH8105												
	1PH8107												
132	1PH8131		345.5 (13.6)	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												
	1PH8138												

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous motors
SH 80 to SH 132 – Water cooling

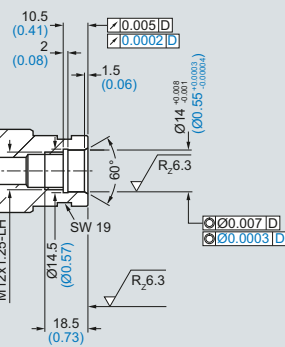
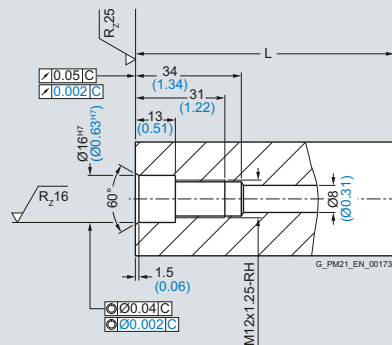
Dimensional drawings

1PH808

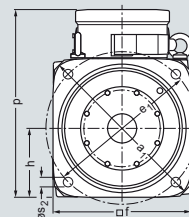
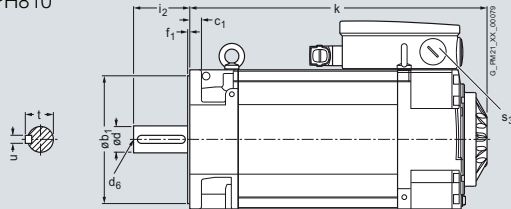
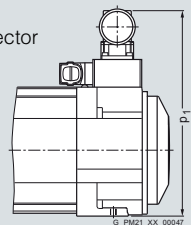
Variant with
power connector
size 1.5Hollow shaft
1PH808

DE shaft extension

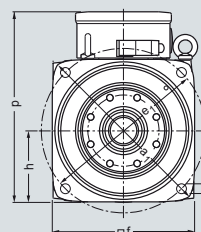
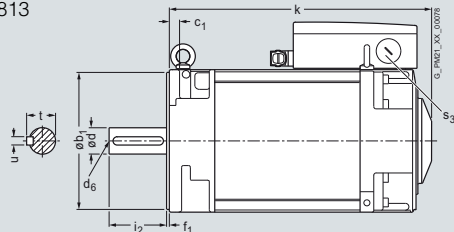
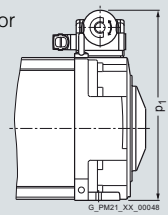
NDE shaft extension



1PH810

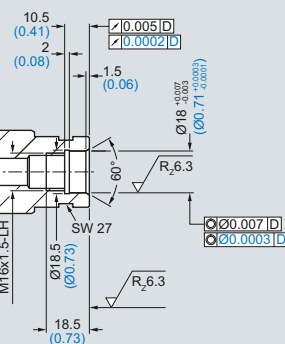
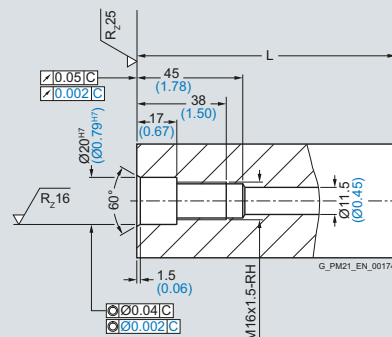
Variant with
power connector
size 1.5

1PH813

Variant with
power connector
size 3Hollow shaft
1PH810
1PH813

DE shaft extension

NDE shaft extension



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous motors SH 100/SH 132 – Water cooling

Dimensional drawings

For motor Dimensions in mm (inches)

														Standard/ Advanced/ Performance	High Performance		
			a	a ₁	b	b ₁	c	c ₁	e ₁	f	f ₁	h	l	k	without hollow shaft	with hollow shaft	
Shaft height	Type	DIN IEC	B	P	A	N	HA	LA	M	AB	T	H	L	LB	k LB	k LB	m BA
1PH8, type of construction IM B35, water cooling																	
100	1PH8101		167 (6.57)	250 (9.84)	160 (6.30)	180 (7.09)	11 (0.43)	16 (0.63)	215 (8.46)	196 (7.72)	4 (0.16)	100 (3.94)	80 (3.15)	289.5 (11.40)	294.5 (11.59)	312.3 (12.30)	37 (1.46)
	1PH8103		202.5 (7.97)											325 (12.80)	330 (12.99)	347.8 (13.69)	
	1PH8105		262 (10.31)											384.5 (15.14)	389.5 (15.33)	407.3 (16.04)	
	1PH8107		297.5 (11.71)											420 (16.54)	425 (16.73)	442.8 (17.43)	
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)	110 (4.33)	347.5 (13.68)	355 (13.98)	372.8 (14.68)	42 (1.65)
	1PH8133		265.5 (10.45)											392.5 (15.45)	400 (15.75)	417.8 (16.45)	
	1PH8135		310.5 (12.22)											437.5 (17.22)	445 (17.52)	462.8 (18.22)	
	1PH8137		350.5 (13.80)											477.5 (18.80)	485 (19.09)	502.8 (19.80)	
	1PH8138		350.5 (13.80)											477.5 (18.80)	485 (19.09)	502.8 (19.80)	

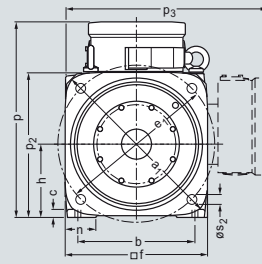
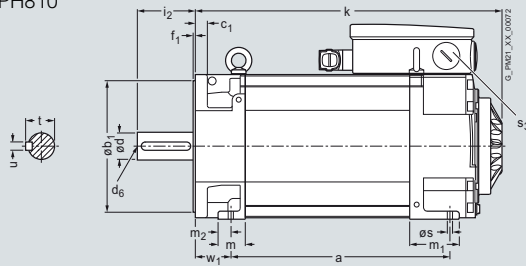
Shaft height	Type	DIN IEC												Shaft extension DE					
			m ₁ –	m ₂ –	n AA	p HD	p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	w ₁ C	d D	d ₆ –	i ₂ E	t GA	u F	
100	1PH8101		68 (2.68)	12 (0.47)	43 (1.69)	266.5 (10.49)	294 (11.57)	198 (7.80)	276.5 (10.89)	12 (0.47)	14 (0.55)	M32×1.5	43 (1.69)	38 (1.50)	M12	80 (3.15)	41 (1.61)	10 (0.39)	
	1PH8103																		
	1PH8105																		
	1PH8107																		
132	1PH8131		81 (3.19)	12 (0.47)	43 (1.69)	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																		
	1PH8138																		

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

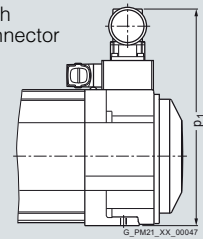
SIMOTICS M-1PH8 asynchronous motors SH 100/SH 132 – Water cooling

Dimensional drawings

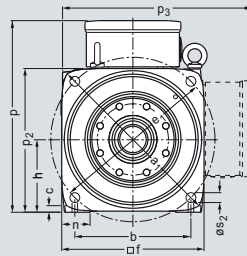
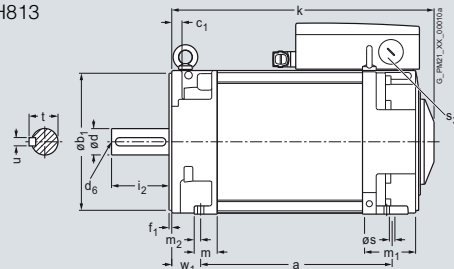
1PH810



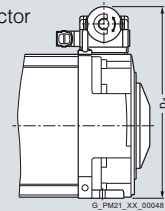
Variant with
power connector
size 1.5



1PH813



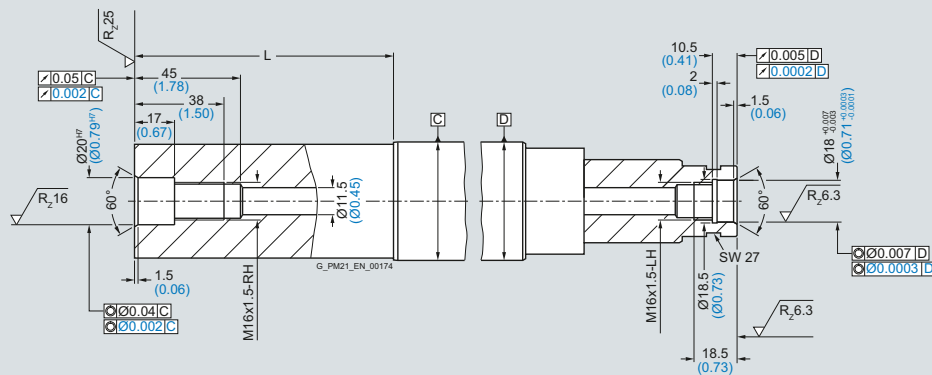
Variant with
power connector
size 3



Hollow shaft
1PH810
1PH813

DE shaft extension

NDE shaft extension



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

Dimensional drawings

For motor Dimensions in mm (inches)

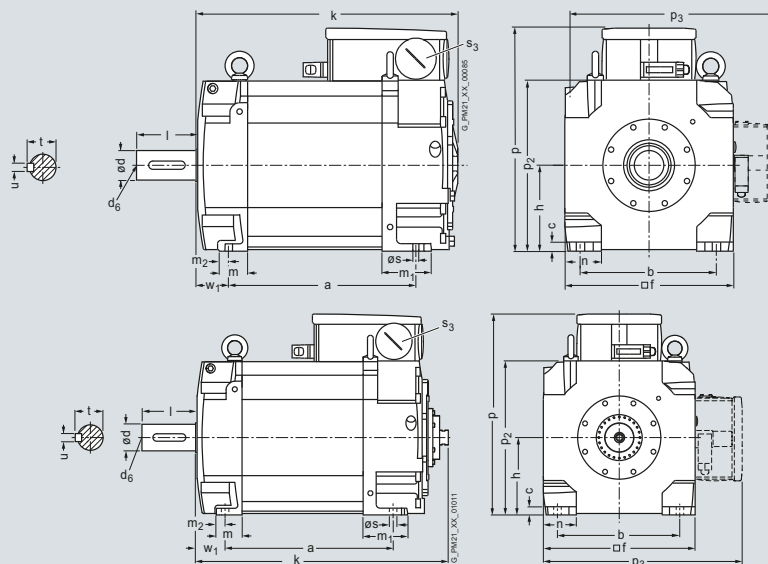
Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h H	k LB	m BA	m ₁ –	m ₂ –	n AA
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1PH8, type of construction IM B3, water cooling

160	1PH8163		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)
	1PH8165		406.5 (16.00)										548.5 (21.59)				
	1PH8166																

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					Design with hollow shaft
												d D	d ₆ –	l L	t GA	u F	k LB
160	1PH8163		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)	520.8 (20.50)
	1PH8165																580.8 (22.87)
	1PH8166																580.8 (22.87)

1PH816

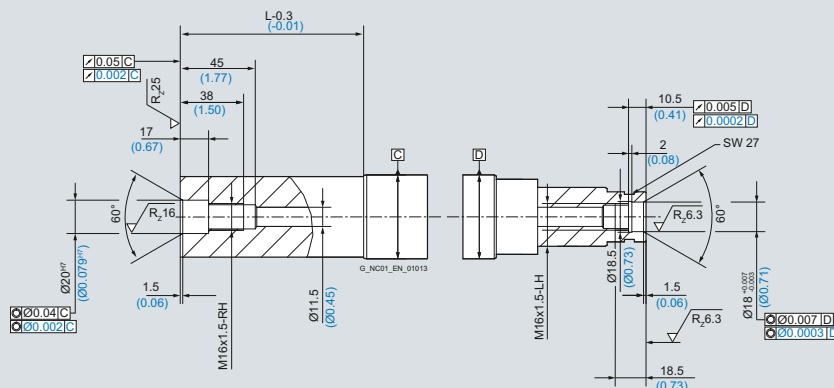


Design with hollow shaft

Hollow shaft

DE shaft extension

NDE shaft extension



SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

Dimensional drawings

For motor Dimensions in mm (inches)

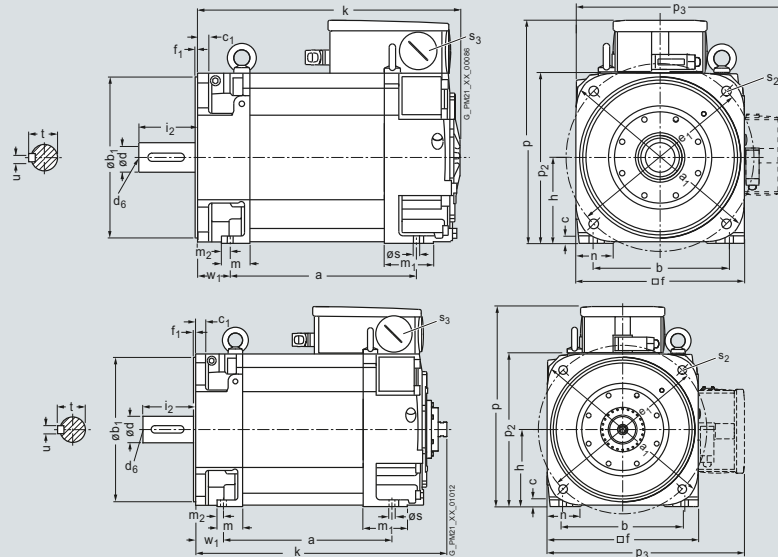
Shaft height	Type	DIN IEC	a B	a ₁ P	b A	b ₁ N	c HA	c ₁ LA	e ₁ M	f AB	f ₁ T	h Hv	k LB	m BA	m ₁ –	m ₂ –	n AA
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1PH8, type of construction IM B5/IM B35, water cooling

160	1PH8163		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)
	1PH8165		406.5 (16.00)										548.5 (21.59)				
	1PH8166																

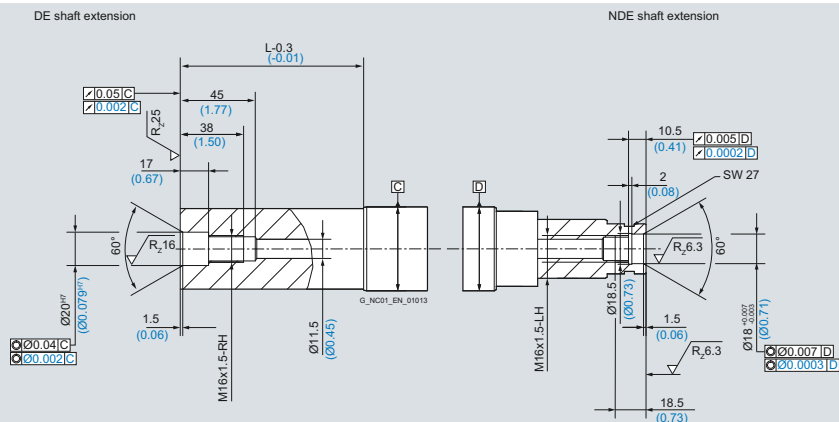
Shaft height	Type	DIN IEC	Shaft extension DE												Design with hollow shaft		
			p HD	p ₁ –	p ₂ –	p ₃ –	s K	s ₂ –	s ₃ –	s ₄ –	w ₁ C	d D	d ₆ –	i ₂ E	t GA	u F	k LB
160	1PH8163		415.5 (16.36)	–	317 (12.48)	412.5 (16.24)	14 (0.55)	18 (0.71)	M63 × 1.5	–	61 (2.40)	55 (2.17)	M20	110 (4.33)	59 (2.32)	16 (0.63)	520.8 (20.50)
	1PH8165																580.8 (22.87)
	1PH8166																580.8 (22.87)

1PH816



Design with hollow shaft

Hollow shaft



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous 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

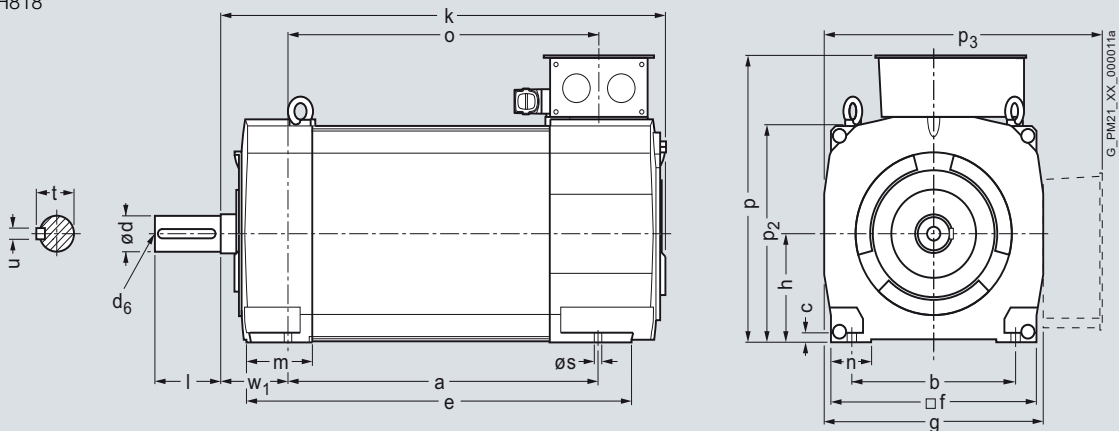
1XB7322

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



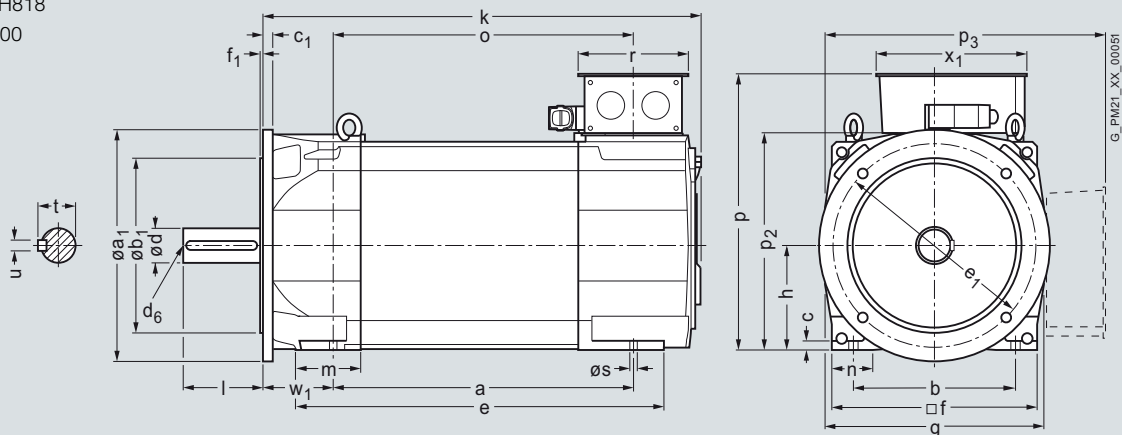
SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

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

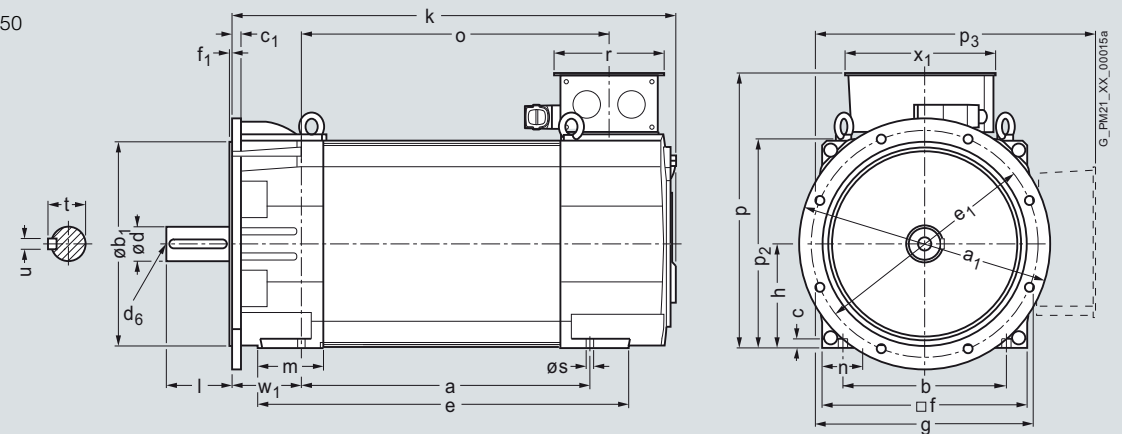
Dimensional drawings

For motor		Dimensions in mm (inches)																			
Shaft height	Type	DIN IEC	a B	D400		D450		D400		D450		D400		D450		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 (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 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 (2.87)	372 (14.65)	14.5 (0.57)	121 (4.76)	65m6	M20	140 (5.51)	69 (2.72)	18 (0.71)		
	1PH8186												

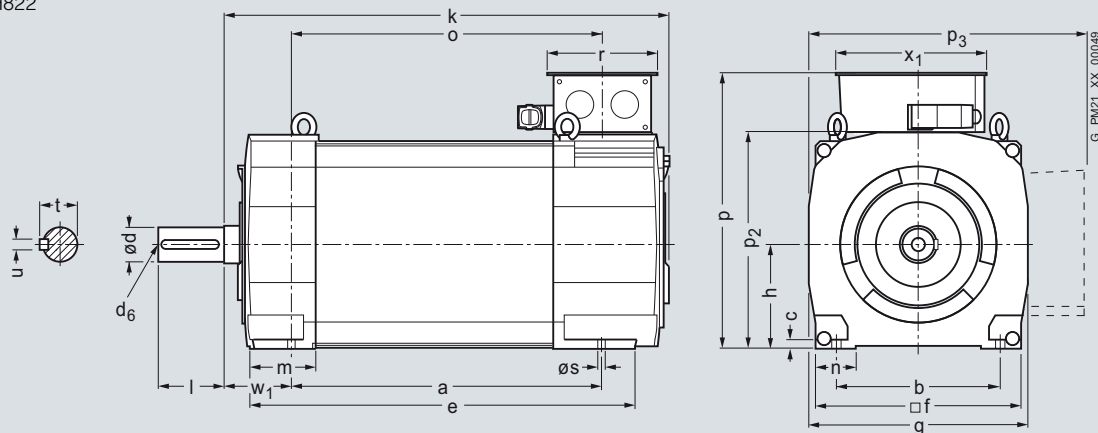
1PH818
D400

D450



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

For motor Dimensions in mm (inches)

[illegible]

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous 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)				

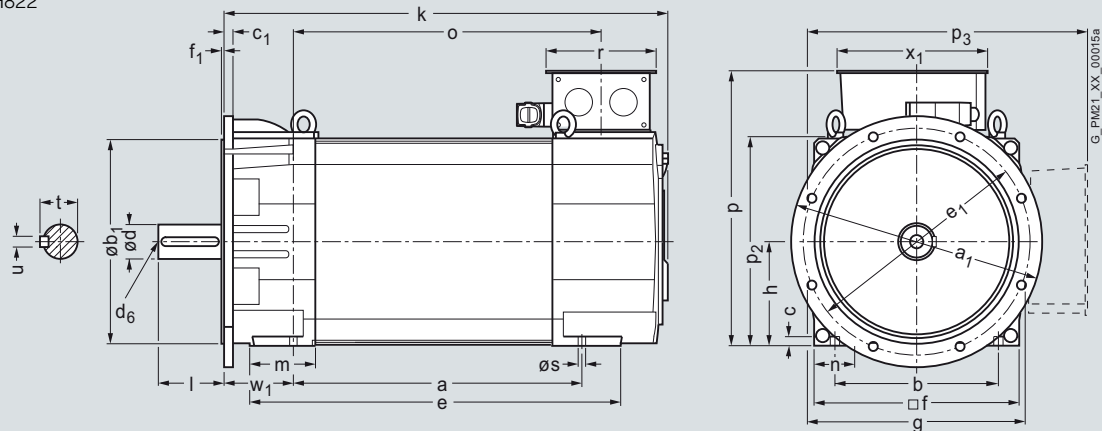
Shaft extension DE

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



Dimensional drawings

SIMOTICS M asynchronous and synchronous motors for SINAMICS S120

SIMOTICS M-1PH8 asynchronous motors SH 280 – Water cooling

Dimensional drawings

For motor Dimensions in mm (inches)

Shaft height	Type	DIN IEC														Shaft extension DE				
			a B	b A	c LA/HA	f AB	g AC	h H	k LB	m BA	n AA	p ₂ –	s K	w ₁ C	d D	d ₆ –	l E	t GA	u F	
1PH8, types of construction IM B3/IM V5, water cooling																				
280	1PH8284		684 (26.93)	457 (17.99)	21 (0.83)	556 (21.89)	588 (23.15)	280 (11.02)	1134 (44.65)	220 (8.66)	105 (4.13)	574 (22.60)	24 (0.94)	190 (7.48)	95m6	M24	170 (6.69)	100 (3.94)	25 (0.98)	
	1PH8286		794 (31.26)						1244 (48.98)											
	1PH8288		924 (36.38)						1374 (54.09)											

Shaft height	Type	DIN IEC	Terminal box type															
			1XB7322				1XB7422				1XB7700				1XB7712			
			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	p HD	p ₃ –	r LL	x ₁ AG
280	1PH8284		709 (27.91)	716 (28.19)	197 (7.76)	258 (10.16)	724 (28.5)	731 (28.78)	230 (9.06)	303 (11.93)	770 (30.31)	777 (30.59)	310 (12.2)	318 (12.52)	820 (32.28)	827 (32.56)	377 (14.84)	370 (14.57)
	1PH8286																	
	1PH8288																	

1PH828

