

SIEMENS



Motors

Low-Voltage Motors SIMOTICS XP - 1MB5

Frame size 315 and 355
Power range 160 - 500 kW

Catalog
Add-on
D 81.1 AO

Edition
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Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Orientation

Overview

Overview explosion-proof motors 1MB5

Function	Basic Line ¹⁾ 1MB55	Basic Line ¹⁾ 1MB55
available SH	315	355
Bearing Size	Size 63	Size 63
Old grease outlet	Optional	Standard
Drainage	Stainless steel screw	Stainless steel screw
Fan cover	Steel	Steel
Paint system	Standard paint finish Corrosivity category C2	Standard paint finish Corrosivity category C2
Motor Protection	Optionally	Optionally
Rating plate	Steel	Steel
Warranty	12 month	12 month

Note:

1) If Performance line required, following options have to be ordered:

Q82 - Warranty extension of 24 months to 36 months

S02 - Special finish, corrosion class C3

B in 15th position of Article No. -The motors are equipped with 3 PTC thermistors for tripping in the motor winding.

L30 - Drainage for used grease (for SH 315)

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Super Premium Efficiency IE4

Self-ventilated motors Cast iron series 1MB55 . 4 Basic Line

Selection and ordering data

Operating values at rated power															Cast iron series 1MB55 . 4		IE4-according to IEC 60034-30-1		Article No		
P_{rated} 50 Hz	Frame size	n_{rated}	T_{rated}	$\eta_{rated, 4/4}$	$\eta_{rated, 3/4}$	$\eta_{rated, 2/4}$	$\cos \varphi_{rated, 4/4}$	I_{rated}	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}	L_{pFA}	L_{WA}	$m_{MM B3}$	J						
kW	FS	rpm	Nm	%	%	%	A							kg	kgm ²	KL					
<ul style="list-style-type: none"> Cooling: self-ventilated (IC 411) Efficiency according: Super Premium Efficiency IE4 Insulation: Thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B) 																					
2-pole: 3000 rpm at 50 Hz																					
250	315	2982	800,6	96,5	96,6	96,4	0,91	410	2,6	7,5	3	80	95	▲ 1MB55	■ 4-3AA6	■ - - - - -	1340 2,82 13				
315	315	2980	1009	96,5	96,7	96,5	0,91	520	2,4	7,5	2,9	81	96	▲ 1MB55	■ 4-3AA7	■ - - - - -	1490 3,11 13				
355	355	2984	1136	96,5	96,4	95,9	0,9	590	2,3	8,4	3,1	83	98	▲ 1MB55	■ 4-3BA3	■ - - - - -	2170 5,09 13				
400	355	2986	1279	96,5	96,5	96	0,91	660	2,3	7,7	3,1	83	98	▲ 1MB55	■ 4-3BA4	■ - - - - -	2240 5,46 13				
500	355	2988	1598	96,5	96,4	95,8	0,89	840	2,8	8,5	3,7	83	98	▲ 1MB55	■ 4-3BA5	■ - - - - -	2340 5,76 13				
4-pole: 1500 rpm at 50 Hz																					
250	315	1488	1604	96,7	97	97	0,86	435	2,3	6,5	2,6	75	90	▲ 1MB55	■ 4-3AB6	■ - - - - -	1520 5,09 13				
315	315	1488	2022	96,7	96,9	96,8	0,85	550	2,2	7,2	2,8	75	90	▲ 1MB55	■ 4-3AB7	■ - - - - -	1530 5,28 13				
355	355	1491	2274	96,7	96,8	96,5	0,85	620	2,2	7,5	3,2	78	93	▲ 1MB55	■ 4-3BB3	■ - - - - -	1960 6,26 13				
400	355	1491	2562	96,7	96,9	96,6	0,85	700	2,3	7,3	3,2	79	95	▲ 1MB55	■ 4-3BB4	■ - - - - -	2080 7,06 13				
6-pole: 1000 rpm at 50 Hz																					
200	315	992	1925	96,3	96,5	96,3	0,81	370	2,8	7	3	68	83	▲ 1MB55	■ 4-3AC7	■ - - - - -	1410 6,39 13				
250	315	992	2407	96,5	96,6	96,3	0,81	460	2,9	7,3	3	68	83	▲ 1MB55	■ 4-3AC8	■ - - - - -	1640 8,1 16				
315	355	992	3032	96,6	96,9	96,9	0,86	550	2,4	6,8	2,8	75	90	▲ 1MB55	■ 4-3BC2	■ - - - - -	2150 12,9 13				
355	355	993	3414	96,6	96,7	96,4	0,84	630	2,6	7,4	3,2	76	91	▲ 1MB55	■ 4-3BC3	■ - - - - -	2250 13,8 13				
400	355	994	3843	96,6	96,7	96,5	0,84	710	2,7	7,7	2,9	75	90	▲ 1MB55	■ 4-3BC4	■ - - - - -	2240 13,4 16				
8-pole: 750 rpm at 50 Hz																					
160	315	741	2062	95,1	95,5	95,5	0,79	305	2,4	6,2	2,4	67	82	▲ 1MB55	■ 4-3AD7	■ - - - - -	1420 6,78 13				
200	315	742	2574	95,4	95,6	95,3	0,78	390	2,7	6,7	2,9	72	87	▲ 1MB55	■ 4-3AD8	■ - - - - -	1660 8,6 16				
250	355	744	3209	95,4	95,8	95,8	0,8	475	2,4	7,1	2,7	73	88	▲ 1MB55	■ 4-3BD1	■ - - - - -	2280 13,3 16				
315	355	744	4043	95,4	95,7	95,4	0,8	600	2,4	7	2,9	73	88	▲ 1MB55	■ 4-3BD2	■ - - - - -	2310 13,8 16				
Zones																					
Zone 21 (occasionally conductive and non-conductive dust) Ex tb IIIC															1						Order code
Zone 22 (rarely conductive or temporarily non-conductive dust) Ex tc IIIB															2						-
Zone 2 (rarely explosive or temporarily explosive gases) Ex ec IIC															3						-
Voltages ¹⁾																					
50 Hz 400 VΔ/690 VY															60 Hz ¹⁾ 460 VΔ		Version				Order code
50 Hz 500 VΔ															60 Hz 575 VΔ		Normal	3	4		-
50 Hz 690 VΔ																	Without additional charge	4	0		-
																	Without additional charge	4	7		-
For other voltages and more information, see from page 2/15																					
Types of construction																					
Without flange IM B3 ²⁾															IM B5 ²⁾		Version	v			Order code
With flange																	Normal		A		-
																	With additional charge		F		-
For other types of construction and more information, see from page 2/16																					
Motor protection																					
Without ³⁾																	Version	v			Order code
PTC thermistor with 3 temperature sensors																	Normal		A		-
																	With additional		B		-
For other motor protection and more information, see from page 2/18																					
Terminal box position																					
Terminal box base left with terminal box 45°																	Version	v			Order code
Terminal box base right with terminal box 45°																	Without additional charge		2		-
																	Normal		3		-
For other terminal box positions and more information, see from page 2/19																					
Special versions																					
Forced-air cooled motors w/o ext. fan/fan cover (IC418)																	1MB55 . 4	■ . ■ ■ ■ ■	-Z	F90+ . . . + . . . + . . .	
For options, see from page 2/20																					
																	1MB55 . 4	■ . ■ ■ ■ ■	-Z	. . . + . . . + . . . + . . .	

- 1) Parallel supply lines are required, except in the case of connection to 690 V.
- 2) For a power rating of 315 kW, 2-pole, 60 Hz and 315 kW, 4-pole, 50 Hz, a larger terminal box can be used (order code R50) due to the magnitude of the current. Order code R50 alters the motor dimensions.
- 3) Motor protection A is not possible to order for Zone 21 Ex tb IIIC

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Super Premium Efficiency IE4

Self-ventilated motors Cast iron series 1MB55 . 4 Basic Line

Selection and ordering data

Operating values at rated power														Cast iron series 1MB55 . 4		IE4-according to IEC 60034-30-1		Article No		MM B3 J	
P _{Rated} 60 Hz	Frame size	n _{Rated}	T _{Rated}	η _{rated, 4/4}	η _{rated, 3/4}	η _{rated, 2/4}	cos φ _{rated, 4/4}	I _{Rated}	T _{LR} /T _{Rated}	I _{LR} /I _{Rated}	T _B /T _{Rated}	L _p /A	L _{WA}	▲ New	kg	kgm ²	KL				
kW	FS	rpm	Nm	%	%	%	A														
2-pole: 3600 rpm at 60 Hz																					
280	315	3582	746,5	96,2	96,2	95,7	0,91	400	2,9	7,6	2,9	84	99	▲ 1MB55	■ 4-3AA6	■ - - - - -	1340	2,82	13		
355	315	3580	946,9	96,2	96,2	95,8	0,91	510	2,6	7,2	2,8	85	100	▲ 1MB55	■ 4-3AA7	■ - - - - -	1490	3,11	13		
400	355	3584	1066	96,2	95,9	95,1	0,91	570	2,2	8	3	88	103	▲ 1MB55	■ 4-3BA3	■ - - - - -	2170	5,09	10		
450	355	3586	1198	96,2	96	95,3	0,92	640	2,4	7,9	3,1	88	103	▲ 1MB55	■ 4-3BA4	■ - - - - -	2240	5,46	10		
560	355	3588	1490	96,2	96	95,2	0,89	820	2,9	9,1	4	88	103	▲ 1MB55	■ 4-3BA5	■ - - - - -	2340	5,76	13		
4-pole: 1800 rpm at 60 Hz																					
290	315	1786	1551	96,2	96,4	96,2	0,87	435	2,2	6,3	2,4	78	93	▲ 1MB55	■ 4-3AB6	■ - - - - -	1520	5,09	10		
360	315	1788	1923	96,8	96,9	96,8	0,86	540	2,4	6,9	2,6	81	95	▲ 1MB55	■ 4-3AB7	■ - - - - -	1530	5,28	10		
410	355	1791	2186	96,2	96,2	95,8	0,86	620	2,2	7,9	3,1	82	97	▲ 1MB55	■ 4-3BB3	■ - - - - -	1960	6,26	10		
460	355	1791	2453	96,8	96,9	96,6	0,86	690	2,1	7,9	3,1	82	97	▲ 1MB55	■ 4-3BB4	■ - - - - -	2080	7,06	10		
6-pole: 1200 rpm at 60 Hz																					
240	315	1191	1924	96,5	96,7	96,6	0,83	375	2,5	7,3	2,7	71	86	▲ 1MB55	■ 4-3AC7	■ - - - - -	1410	6,39	13		
300	315	1191	2405	96,5	96,7	96,4	0,83	470	2,6	7,9	2,7	72	87	▲ 1MB55	■ 4-3AC8	■ - - - - -	1640	8,1	13		
380	355	1192	3044	96,5	96,8	96,6	0,87	570	2,2	7	2,6	78	93	▲ 1MB55	■ 4-3BC2	■ - - - - -	2150	12,9	10		
425	355	1193	3402	96,5	96,6	96,3	0,85	650	2,7	7,6	2,9	79	94	▲ 1MB55	■ 4-3BC3	■ - - - - -	2250	13,8	13		
480	355	1193	3842	96,5	96,7	96,4	0,86	730	2,6	7,9	2,7	79	94	▲ 1MB55	■ 4-3BC4	■ - - - - -	2240	13,4	13		
8-pole: 900 rpm at 60 Hz																					
192	315	890	2060	95,4	95,9	95,8	0,79	320	2,2	6,1	2,2	76	90	▲ 1MB55	■ 4-3AD7	■ - - - - -	1420	6,78	13		
240	315	891	2572	95,8	96,2	96,1	0,79	400	2,7	7,1	2,7	72	87	▲ 1MB55	■ 4-3AD8	■ - - - - -	1660	8,6	13		
300	355	893	3208	95,8	96,2	96,1	0,81	485	2,2	7,7	2,5	78	93	▲ 1MB55	■ 4-3BD1	■ - - - - -	2280	13,3	13		
380	355	893	4064	95,8	96,1	95,9	0,81	610	2,2	7,5	2,5	78	93	▲ 1MB55	■ 4-3BD2	■ - - - - -	2310	13,8	13		
Zones														Zones		Order code					
Zone 21 (occasionally conductive and non-conductive dust) Ex tb IIIC														1			-				
Zone 22 (rarely conductive or temporarily non-conductive dust) Ex tc IIIB														2			-				
Zone 2 (rarely explosive or temporarily explosive gases) Ex ec IIC														3			-				
Voltages ¹⁾														Voltages		Order code					
50 Hz 400 VΔ/690 VY				60 Hz ¹⁾ 460 VΔ				Normal		3	4	-									
50 Hz 500 VΔ				60 Hz 575 VΔ				Without additional charge		4	0	-									
50 Hz 690 VΔ								50 Hz		4	7	-									
For other voltages and more information, see from page 2/15																	...				
Types of construction														Version		Order code					
Without flange IM B3 ²⁾								Normal		A		-									
With flange IM B5 ²⁾								With additional charge		F		-									
For other types of construction and more information, see from page 2/16																	...				
Motor protection														Motor protection		Order code					
Without ³⁾								Normal		A		-									
PTC thermistor with 3 temperature sensors								With additional		B		-									
For other motor protection and more information, see from page 2/18																	...				
Terminal box position														Version		Order code					
Terminal box base left with terminal box 45°								Without additional charge		2		-									
Terminal box base right with terminal box 45°								Normal		3		-									
For other terminal box positions and more information, see from page 2/19																	...				
Special versions														Version		Order code					
Forced-air cooled motors w/o ext. fan/fan cover (IC418)								1MB55 . 4		■	■	■	■	■	■	-Z	F90+ . . . + . . . + . . .				
For options, see from page 2/20																	...				

- 1) Parallel supply lines are required, except in the case of connection to 690 V.
- 2) For a power rating of 315 kW, 2-pole, 60 Hz and 315 kW, 4-pole, 50 Hz, a larger terminal box can be used (order code R50) due to the magnitude of the current. Order code R50 alters the motor dimensions.
- 3) Motor protection A is not possible to order for Zone 21 Ex tb IIIC

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Premium Efficiency IE3

Self-ventilated motors Cast iron series 1MB55 . 3 Basic Line

Selection and ordering data

Operating values at rated power														Cast iron series 1MB55 . 3 IE4-according to IEC 60034-30-1 Article No		mM B3 J			
P _{rated} 50 Hz	Frame size	n _{rated}	T _{rated}	η _{rated} , 4/4	η _{rated} , 3/4	η _{rated} , 2/4	Cos φ _{rated} , 4/4	I _{rated}	T _{LR} / T _{rated}	λ _{LR} / λ _{rated}	T _B / T _{rated}	L _p /A	L _{WA}	Article No	kg	kgm ²	KL		
kW	FS	rpm	Nm	%	%	%	A							▲ New					
2-pole: 3000 rpm at 50 Hz																			
250	315	2982	800,6	95,8	95,9	95,6	0,91	415	2,8	7,2	3	80	94	▲ 1MB55	■ 3-3AA6	■ -	1340	2,82	13
315	315	2980	1009	95,8	96	95,8	0,91	520	2,4	7,5	2,9	81	96	▲ 1MB55	■ 3-3AA7	■ -	1490	3,11	13
355	355	2984	1136	95,8	95,7	95,2	0,9	590	2,3	8,4	3,1	83	98	▲ 1MB55	■ 3-3BA3	■ -	2170	5,09	13
400	355	2986	1279	95,8	95,8	95,3	0,91	660	2,3	7,7	3,1	83	98	▲ 1MB55	■ 3-3BA4	■ -	2240	5,46	13
500	355	2988	1598	95,8	95,7	95,1	0,89	850	2,8	8,5	3,7	83	98	▲ 1MB55	■ 3-3BA5	■ -	2340	5,76	13
4-pole: 1500 rpm at 50 Hz																			
250	315	1490	1602	96	96,2	95,9	0,87	430	2,1	7,2	2,8	75	91	▲ 1MB55	■ 3-3AB6	■ -	1400	4,55	13
315	315	1488	2022	96	96,2	96,1	0,85	560	2,2	7,2	2,8	75	90	▲ 1MB55	■ 3-3AB7	■ -	1530	5,28	13
355	355	1491	2274	96	96,1	95,8	0,88	610	2,2	7,5	3,1	81	95	▲ 1MB55	■ 3-3BB3	■ -	2070	6,36	13
400	355	1491	2562	96	96,1	95,9	0,87	690	2,1	7,3	3	80	95	▲ 1MB55	■ 3-3BB4	■ -	2100	7,06	13
6-pole: 1000 rpm at 50 Hz																			
200	315	992	1925	95,8	96	95,8	0,81	370	2,8	7	3	68	83	▲ 1MB55	■ 3-3AC7	■ -	1410	6,39	13
250	315	992	2407	95,8	95,9	95,6	0,81	465	2,9	7,2	3	68	83	▲ 1MB55	■ 3-3AC8	■ -	1640	8,1	16
315	355	992	3032	95,8	96,1	96,1	0,86	550	2,4	6,8	2,8	75	90	▲ 1MB55	■ 3-3BC2	■ -	2150	12,9	13
355	355	993	3414	95,8	95,9	95,6	0,84	640	2,6	7,4	3,2	76	91	▲ 1MB55	■ 3-3BC3	■ -	2250	13,8	13
400	355	994	3843	95,8	96	95,8	0,84	720	2,7	7,7	2,9	75	90	▲ 1MB55	■ 3-3BC4	■ -	2240	13,4	16
8-pole: 750 rpm at 50 Hz																			
160	315	741	2062	94,3	94,7	94,7	0,79	310	2,4	6,2	2,4	67	82	▲ 1MB55	■ 3-3AD7	■ -	1420	6,78	13
200	315	742	2574	94,6	94,8	94,5	0,78	390	2,7	6,7	2,9	72	87	▲ 1MB55	■ 3-3AD8	■ -	1660	8,6	16
250	355	744	3209	94,6	95	95	0,8	475	2,4	7,1	2,7	73	88	▲ 1MB55	■ 3-3BD1	■ -	2280	13,3	16
315	355	744	4043	94,6	94,9	94,6	0,8	600	2,4	7	2,9	73	88	▲ 1MB55	■ 3-3BD2	■ -	2310	13,8	16
Zones																			
Zone 21 (occasionally conductive and non-conductive dust) Ex tb IIIC														1					Order code
Zone 22 (rarely conductive or temporarily non-conductive dust) Ex tc IIIB														2					-
Zone 2 (rarely explosive or temporarily explosive gases) Ex ec IIC														3					-
Voltages ¹⁾																			
50 Hz 400 VΔ/690 VY														60 Hz ¹⁾ 460 VΔ		Version		Order code	
50 Hz 500 VΔ														60 Hz 575 VΔ		Normal		3 4	-
50 Hz 690 VΔ																Without additional charge		4 0	-
																50 Hz		4 7	-
For other voltages and more information, see from page 2/15																			
Types of construction																			
Without flange IM B3 ²⁾														Version		Normal		A	-
With flange IM B5 ²⁾														With additional charge				F	-
For other types of construction and more information, see from page 2/16																			
Motor protection																			
Without ³⁾														Version		Normal		A	-
PTC thermistor with 3 temperature sensors														With additional				B	-
For other motor protection and more information, see from page 2/18																			
Terminal box position																			
Terminal box base left with terminal box 45°														Version		Without additional charge		2	-
Terminal box base right with terminal box 45°														Normal				3	-
For other terminal box positions and more information, see from page 2/19																			
Special versions																			
Forced-air cooled motors w/o ext. fan/fan cover (IC418)														1MB55 . 4		■ . ■ ■ ■ ■		-Z F90+ . . . + . . . + . . .	
For options, see from page 2/20																			

- 1) Parallel supply lines are required, except in the case of connection to 690 V.
- 2) For a power rating of 315 kW, 2-pole, 60 Hz and 315 kW, 4-pole, 50 Hz, a larger terminal box can be used (order code R50) due to the magnitude of the current. Order code R50 alters the motor dimensions.
- 3) Motor protection A is not possible to order for Zone 21 Ex tb IIIC

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Premium Efficiency IE3

Self-ventilated motors Cast iron series 1MB55 . 3 Basic Line

Selection and ordering data

Operating values at rated power															Cast iron series 1MB55 . 3 IE4-according to IEC 60034-30-1 Article No		MM B3 J					
P_{rated} 60 Hz P50	Frame size	n_{rated}	T_{rated}	$\eta_{rated, 4/4}$	$\eta_{rated, 3/4}$	$\eta_{rated, 2/4}$	$\cos \varphi_{rated, 4/4}$	I_{rated}	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}	L_{pFA}	L_{WA}									
kW	FS	rpm	Nm	%	%	%	A															
2-pole: 3000 rpm at 60 Hz P50																						
250	315	3584	666,1	95,8	95,6	94,9	0,91	360	3,3	8,4	3,2	84	99	▲	1MB55	■	3-3AA6	■	-	1340	2,82	16
315	315	3582	839,8	95,8	95,7	95,1	0,91	455	2,9	8,2	3,2	85	100	▲	1MB55	■	3-3AA7	■	-	1490	3,11	13
355	355	3588	944,8	95,8	95,4	94,4	0,9	520	2,5	8,4	3,4	88	103	▲	1MB55	■	3-3BA3	■	-	2170	5,09	13
400	355	3588	1065	95,8	95,5	94,6	0,91	580	2,7	8,5	3,5	88	103	▲	1MB55	■	3-3BA4	■	-	2240	5,46	13
500	355	3590	1330	95,8	95,5	94,6	0,89	740	3,3	9,7	4,5	88	103	▲	1MB55	■	3-3BA5	■	-	2340	5,76	13
4-pole: 1800 rpm at 60 Hz P50																						
250	315	1791	1333	96,2	96,1	95,4	0,86	380	2,6	8	3	81	96	▲	1MB55	■	3-3AB6	■	-	1400	4,55	13
315	315	1790	1680	96,2	96,2	95,9	0,85	485	2,8	7,5	3	81	95	▲	1MB55	■	3-3AB7	■	-	1530	5,28	13
355	355	1793	1891	96,2	96,1	95,5	0,88	530	2,5	8,8	3,5	85	99	▲	1MB55	■	3-3BB3	■	-	2070	6,36	13
400	355	1792	2132	96,2	96,1	95,5	0,87	600	2,5	8,4	3,4	83	97	▲	1MB55	■	3-3BB4	■	-	2100	7,06	13
6-pole: 1200 rpm at 60 Hz P50																						
200	315	1194	1601	95,8	95,8	95,3	0,81	325	3,1	8,6	3,3	72	87	▲	1MB55	■	3-3AC7	■	-	1410	6,39	16
250	315	1193	1999	95,8	95,8	95,4	0,81	405	3	8,1	3,2	71	86	▲	1MB55	■	3-3AC8	■	-	1640	8,1	16
315	355	1194	2519	95,8	95,9	95,5	0,86	480	2,6	8	3,1	78	93	▲	1MB55	■	3-3BC2	■	-	2150	12,9	13
355	355	1194	2839	95,8	95,7	95,2	0,83	560	3,2	8,5	3,5	79	94	▲	1MB55	■	3-3BC3	■	-	2250	13,8	16
400	355	1194	3199	95,8	95,8	95,3	0,84	620	3,1	8,9	3,2	79	94	▲	1MB55	■	3-3BC4	■	-	2240	13,4	16
8-pole: 900 rpm at 60 Hz P50																						
160	315	893	1711	94,5	94,7	94,3	0,79	270	2,8	7,1	2,7	76	91	▲	1MB55	■	3-3AD7	■	-	1420	6,78	16
200	315	893	2139	95	95,1	94,7	0,77	345	3,2	7,5	3,2	72	87	▲	1MB55	■	3-3AD8	■	-	1660	8,6	16
250	355	895	2667	95	95,2	94,8	0,78	425	2,6	8,3	3	78	93	▲	1MB55	■	3-3BD1	■	-	2280	13,3	16
315	355	3584	666,1	95	95,1	94,6	0,78	530	2,6	8,2	3,1	78	93	▲	1MB55	■	3-3BD2	■	-	2310	13,8	16
Zones															Order code							
Zone 21 (occasionally conductive and non-conductive dust) Ex tb IIIC															1	-						
Zone 22 (rarely conductive or temporarily non-conductive dust) Ex tc IIIB															2	-						
Zone 2 (rarely explosive or temporarily explosive gases) Ex ec IIC															3	-						
Voltages ¹⁾															Version		Order code					
50 Hz	400 VΔ/690 VY		60 Hz ¹⁾		460 VΔ		Normal		3	4	-											
50 Hz	500 VΔ		60 Hz		575 VΔ		Without additional charge		4	0	-											
50 Hz	690 VΔ						50 Hz		4	7	-											
For other voltages and more information, see from page 2/15															...							
Types of construction															Version		Order code					
Without flange IM B3 ²⁾															Normal		A	-				
With flange IM B5 ²⁾															With additional charge		F	-				
For other types of construction and more information, see from page 2/16															...							
Motor protection															Version		Order code					
Without ³⁾															Normal		A	-				
PTC thermistor with 3 temperature sensors															With additional		B	-				
For other motor protection and more information, see from page 2/18															...							
Terminal box position															Version		Order code					
Terminal box base left with terminal box 45°															Without additional charge		2	-				
Terminal box base right with terminal box 45°															Normal		3	-				
For other terminal box positions and more information, see from page 2/19															...							
Special versions															Order code							
Forced-air cooled motors w/o ext. fan/fan cover (IC418)															1MB55 . 4		-Z F90+					
For options, see from page 2/20															1MB55 . 4		-Z					

- 1) Parallel supply lines are required, except in the case of connection to 690 V.
- 2) For a power rating of 315 kW, 2-pole, 60 Hz and 315 kW, 4-pole, 50 Hz, a larger terminal box can be used (order code R50) due to the magnitude of the current. Order code R50 alters the motor dimensions.
- 3) Motor protection A is not possible to order for Zone 21 Ex tb IIIC

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Premium Efficiency IE3

Self-ventilated motors Cast iron series 1MB55 . 3 Basic Line

Selection and ordering data

Operating values at rated power														Cast iron series 1MB55 . 3 IE4-according to IEC 60034-30-1 Article No		MM B3 J			
P _{Rated} 60 Hz	Frame size	n _{Rated}	T _{Rated}	η _{Rated} , 4/4	η _{Rated} , 3/4	η _{Rated} , 2/4	cos φ _{Rated} , 4/4	I _{Rated}	T _{LR} / T _{Rated}	I _{LR} / I _{Rated}	T _B / T _{Rated}	L _{pFA}	L _{WA}	Article No	kg	kgm ²	KL		
kW	FS	rpm	Nm	%	%	%	A							▲ New					
2-pole: 3600 rpm at 60 Hz																			
280	315	3580	746,9	95,8	95,7	95,2	0,91	405	2,9	7,5	2,9	84	99	▲ 1MB55 ■ 3-3AA6 ■ - - - - -	1340	2,82	16		
355	315	3580	946,9	95,8	95,8	95,4	0,91	510	2,6	7,2	2,8	85	100	▲ 1MB55 ■ 3-3AA7 ■ - - - - -	1490	3,11	13		
400	355	3584	1066	95,8	95,5	94,7	0,91	580	2,2	7,9	3	88	103	▲ 1MB55 ■ 3-3BA3 ■ - - - - -	2170	5,09	13		
450	355	3586	1198	95,8	95,6	94,9	0,92	640	2,4	7,9	3,1	88	103	▲ 1MB55 ■ 3-3BA4 ■ - - - - -	2240	5,46	13		
560	355	3588	1490	95,8	95,6	94,8	0,89	820	2,9	9,1	4	88	103	▲ 1MB55 ■ 3-3BA5 ■ - - - - -	2340	5,76	13		
4-pole: 1800 rpm at 60 Hz																			
290	315	1788	1549	96,2	96,3	95,8	0,87	435	2,2	6,9	2,6	81	96	▲ 1MB55 ■ 3-3AB6 ■ - - - - -	1400	4,55	13		
360	315	1788	1923	96,2	96,3	96,2	0,86	550	2,4	6,7	2,6	81	95	▲ 1MB55 ■ 3-3AB7 ■ - - - - -	1530	5,28	13		
410	355	1791	2186	96,2	96,2	95,8	0,89	600	2,2	8	3	85	99	▲ 1MB55 ■ 3-3BB3 ■ - - - - -	2070	6,36	13		
460	355	1790	2454	96,2	96,2	95,8	0,88	680	2,2	7,6	3	83	97	▲ 1MB55 ■ 3-3BB4 ■ - - - - -	2100	7,06	13		
6-pole: 1200 rpm at 60 Hz																			
240	315	1191	1924	95,8	96	95,9	0,83	380	2,5	7,2	2,7	71	86	▲ 1MB55 ■ 3-3AC7 ■ - - - - -	1410	6,39	16		
300	315	1191	2405	95,8	96	95,7	0,83	475	2,6	7,8	2,7	72	87	▲ 1MB55 ■ 3-3AC8 ■ - - - - -	1640	8,1	16		
380	355	1192	3044	95,8	96,1	95,9	0,87	570	2,2	7	2,6	78	93	▲ 1MB55 ■ 3-3BC2 ■ - - - - -	2150	12,9	13		
425	355	1193	3402	95,8	95,9	95,6	0,85	660	2,7	7,5	2,9	79	94	▲ 1MB55 ■ 3-3BC3 ■ - - - - -	2250	13,8	16		
480	355	1193	3842	95,8	96	95,7	0,86	730	2,6	7,9	2,7	79	94	▲ 1MB55 ■ 3-3BC4 ■ - - - - -	2240	13,4	16		
8-pole: 900 rpm at 60 Hz																			
192	315	890	2060	95	95,5	95,4	0,79	320	2,2	6,1	2,2	76	90	▲ 1MB55 ■ 3-3AD7 ■ - - - - -	1420	6,78	16		
240	315	891	2572	95	95,4	95,3	0,79	400	2,7	7,1	2,7	72	87	▲ 1MB55 ■ 3-3AD8 ■ - - - - -	1660	8,6	16		
300	355	893	3208	95	95,4	95,2	0,81	490	2,2	7,7	2,5	78	93	▲ 1MB55 ■ 3-3BD1 ■ - - - - -	2280	13,3	16		
380	355	893	4064	95	95,3	95,1	0,81	620	2,2	7,5	2,5	78	93	▲ 1MB55 ■ 3-3BD2 ■ - - - - -	2310	13,8	16		
Zones															Order code				
Zone 21 (occasionally conductive and non-conductive dust) Ex tb IIIC															1	-			
Zone 22 (rarely conductive or temporarily non-conductive dust) Ex tc IIIB															2	-			
Zone 2 (rarely explosive or temporarily explosive gases) Ex ec IIC															3	-			
Voltages ¹⁾															Version			Order code	
50 Hz	400 VΔ/690 VY			60 Hz ¹⁾	460 VΔ			Normal			3 4	-							
50 Hz	500 VΔ			60 Hz	575 VΔ			Without additional charge			4 0	-							
50 Hz	690 VΔ						50 Hz			4 7	-								
For other voltages and more information, see from page 2/15															...				
Types of construction															Version			Order code	
Without flange		IM B3 ²⁾			Normal			A			-								
With flange		IM B5 ²⁾			With additional charge			F			-								
For other types of construction and more information, see from page 2/16															...				
Motor protection															Version			Order code	
Without ³⁾		Normal			A			-											
PTC thermistor with 3 temperature sensors		With additional			B			-											
For other motor protection and more information, see from page 2/18															...				
Terminal box position															Version			Order code	
Terminal box base left with terminal box 45°		Without additional charge			2			-											
Terminal box base right with terminal box 45°		Normal			3			-											
For other terminal box positions and more information, see from page 2/19															-				
Special versions															Order code				
Forced-air cooled motors w/o ext. fan/fan cover (IC418)															1MB55 . 4- ■ -Z F90+ +				
For options, see from page 2/20															1MB55 . 4- ■ -Z + +				

- 1) Parallel supply lines are required, except in the case of connection to 690 V.
- 2) For a power rating of 315 kW, 2-pole, 60 Hz and 315 kW, 4-pole, 50 Hz, a larger terminal box can be used (order code R50) due to the magnitude of the current. Order code R50 alters the motor dimensions.
- 3) Motor protection A is not possible to order for Zone 21 Ex tb IIIC

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Voltages

Selection and ordering data

Voltages				60 working days	
Cast-iron series 1MB5					
Voltages	Voltage code 12th and 13th position of the Order No.	Additional identification code with order code and plain text if required	315 315 1MB55.4 1MB55.3	355 355	IEC
					Ex tc (Zone 22) Ex tb (Zone 21) Ex ec (Zone2)
					IE4 IE3
Voltages at 50 Hz or 60 Hz					
50 Hz 400 VΔ/690 VY 60 Hz 460 VΔ	34	-	□	□	
50 Hz 500 VΔ	40	-	○	○	
50 Hz 690 VΔ	47	-	206,-	206,-	
50 Hz 380 VΔ/660 VY 60 Hz 440 VΔ	33	-	404,-	618,-	
50 Hz 415 VΔ 60 Hz 480 VΔ	35	-	404,-	618,-	
50 Hz 400 VΔ	90	M4B	O. R.	O. R.	
Voltage at 60 Hz and required output					
440 VΔ; 50-Hz-output	90	M2D	404,-	618,-	
460 VΔ; 50-Hz-output	90	M2F	404,-	618,-	
575 VΔ; 50-Hz-output	90	M2H	404,-	618,-	
480 VΔ; 50-Hz-output	90	M2L	404,-	618,-	
440 VΔ; 60-Hz-output	90	M1D	404,-	618,-	
460 VΔ; 60-Hz-output	90	M1F	404,-	618,-	
575 VΔ; 60-Hz-output	90	M1H	404,-	618,-	
480 VΔ; 60-Hz-output	90	M1L	404,-	618,-	
Non-standard voltage and/or frequencies					
Non-standard winding ¹⁾	90	M1Y • and identification code	993,-	1130,-	

- Standard version
- Without additional charge

- 1) Plain text must be specified in the order: Voltage between 200 and 690 V (voltages outside this range are available on request), frequency, circuit, for 60 Hz additionally required rated power in kW.
- 2) For VSD operation can be used voltages till 480V (only advance insulation system)

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Types of construction

Selection and ordering data

Types of construction Cast-iron series 1MB5

60
working days

Types of construction	Type of construction code 14th position of the Order No.	Additional identification code with order code and plain text if required	315	355			
			1MB55.4	1MB55.3	IEC	Ex tc (Zone 22)	IE4
						Ex tb (Zone 21)	
						Ex ec (Zone2)	IE3
Without flange							
IM B3	A	-	□	□			
IM B6 ¹⁾	T	-	○	○			
IM B7 ¹⁾	U	-	○	○			
IM B8 ¹⁾	V	-	○	○			
IM V6 ¹⁾	D	-	○	○			
IM V5 with protective cover 1)2)	C	-Z H00	751,-	876,-			
With flange							
	acc. to DIN EN 50347		FF740	FF840			
	acc. to DIN 42948		A 800	A 900			
IM B5	F	-	1030,-	4120,-			
IM V1 with protective cover ¹⁾²⁾	G	-Z H00	1791,-	4996,-			
IM V3 ¹⁾	H	-	1030,-	4120,-			
IM B35 ¹⁾	J	-	1180,-	4330,-			

- Standard version
- Without additional charge
- Not possible

1) The following applies for explosion-proof motors: In the case of the types of construction with shaft extension down, the version "with protective cover" is required. For types of construction with shaft extension pointing upwards, a suitable cover must be implemented to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0). The cover must not block the cooling air flow.

2) The "Standard cylindrical shaft extension (second shaft extension)" option (order code L05) is not possible.

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Motor protection

Selection and ordering data

Motor protection

Cast-iron series 1MB5

60
working days

Motor protection	Motor protection code	Additional identification code with order code and plain text if required	315	355	IEC	Ex tc (Zone 22)	IE4
			1MB55.4			Ex tb (Zone 21)	
			1MB55.3			Ex ec (Zone2)	IE3
Motor protection (winding protection)							
Without motor protection	A	-	□	□			
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping ¹⁾	B	-	398,-	398,-			
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping ¹⁾	C	-	666,-	666,-			
Motor temperature detection with embedded temperature sensor KTY 84-130 ¹⁾	F	-	868,-	868,-			
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ¹⁾	G	-	1470,-	1470,-			
Installation of 3 PT100 resistance thermometers in stator winding ¹⁾	H	-	1640,-	1640,-			
Installation of 6 PT100 resistance thermometers in stator winding ¹⁾	J	-	2420,-	2420,-			
1 P t1000 resistance thermometer (2 terminals)	K	-	868,-	868,-			
2 P t1000 resistance thermometer (4 terminals)	L	-	1470,-	1470,-			
1 P t100 resistance thermometer – 2-wire input (2 terminals)	P	-	1310,-	1310,-			
3 Pt100 resistance thermometers – 3-wire input (9 terminals)	Q	-	1970,-	1970,-			
6 Pt100 resistance thermometers – 3-wire input (18 terminals)	R	-	2900,-	2900,-			

- Standard version
- Not possible

1) Evaluation with associated tripping unit (see Catalog IC 10) is recommended.

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

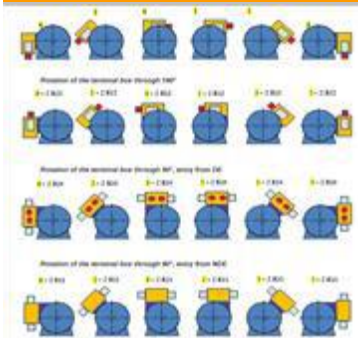
SIMOTICS XP 1MB5 explosion-proof motors

Connection box position

Selection and ordering data

Connection box Cast-iron series 1MB5

60
working days



Connection box position code
16th position of the Order No.

Additional identification code with order code and plain text if required

315

355

1MB55.4

IEC

Ex tc (Zone 22)
Ex tb (Zone 21)
Ex ec (Zone 2)

IE4

1MB55.3

IE3

Connection box position

Terminal box socket on LHS with mounting on top	0	-	618,-	618,-
Terminal box socket on RHS with mounting on top	1	-	618,-	618,-
Terminal box socket on LHS with 45° inclined mounting	2	-	○	○
Terminal box socket on RHS with 45° inclined mounting	3	-	○	○
Terminal box on RHS	5	-	618,-	618,-
Connection box on LHS	6	-	618,-	618,-
Connection box on LHS (base below)	9	R5L	618,-	618,-
Connection box on RHS (base below)	9	R6R	618,-	618,-
Terminal box bottom left	9	R7L	618,-	618,-
Terminal box bottom right	9	R7R	618,-	618,-

○ Without additional charge

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Options

Selection and ordering data

Options				60 working days	
Cast-iron series 1MB5		315	355		
Special versions	MLFB or Additional identification code -Z with order code and plain text if required	1MB55.4	1MB55.3	IEC	Ex tc (Zone 2) Ex tb (Zone 21) Ex ec (Zone2)
					IE4 IE3
Design for Zones 2, 21, and 22 according to ATEX ²⁾					
Design additional for dust Ex tc - zone 22	B30	788,-	854,-	Ex ec (Zone 2)	1MB553.
Design IIC with marking IIB ¹⁾	B31	0	0	Ex ec (Zone 2)	1MB553.
VIK version	C02	874,-	1360,-	Ex ec (Zone 2)	1MB553.
Version for converter operation					
Version for converter operation in the basic version with SINAMICS G120 operating data with PM240-2	B40	O. R.	O. R.		
Version for converter operation in basic version with operating data SINAMICS S150	B41	O. R.	O. R.		
Version for converter operation with operating data for voltage-source converter	B43	O. R.	O. R.		
Operating data such as order code B40 with alternative SINAMICS converters on the rating plate ¹⁷⁾	Y68 • and type of converter	O. R.	O. R.		
Y68 with plain text (C-text) G120 with PM240					
Y68 with plain text (C-text) G120P with PM330					
Y68 with plain text (C-text) G130					
Y68 with plain text (C-text) G150					
Y68 with plain text (C-text) G180					
Y68 with plain text (C-text) S120 (BLM/SLM)					
Y68 with plain text (C-text) S150					
Operating data such as order code B41 with alternative SINAMICS converters on the rating plate ¹⁷⁾					
Y68 with plain text (C-text) S120 (ALM)					
Motor protection (bearing protection)					
3 PTC thermistors – for tripping (2 terminals) ¹⁸⁾	Q11	398,-	398,-		
2 PTC thermistors – for alarm and tripping (4 terminals)	Q12	666,-	666,-		
1 Pt1000 resistance thermometer (2 terminals)	Q35	868,-	868,-		
2 Pt1000 resistance thermometers (4 terminals)	Q36	1470,-	1470,-		
6 Pt1000 resistance thermometers (12 terminals)	Q37	-	-		
3 Pt100 resistance thermometers – 2-wire input (6 terminals)	Q60	1640,-	1640,-		
6 Pt100 resistance thermometers – 2-wire input (12 terminals)	Q61	2420,-	2420,-		
1 Pt100 resistance thermometer – 2-wire input (2 terminals)	Q62	1310,-	1310,-		
3 Pt100 resistance thermometers – 3-wire input (9 terminals)	Q63	1970,-	1970,-		
6 Pt100 resistance thermometers – 3-wire input (18 terminals)	Q64	2900,-	2900,-		

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Options

Selection and ordering data

Options		60 working days				
Cast-iron series 1MB5		315	355			
Special versions	MLFB or Additional identification code -Z with order code and plain text if required	1MB55.4	1MB55.3	IEC	Ex tc (Zone 22) Ex tb (Zone 21) Ex ec (Zone 2)	IE4 IE3
Installation of 2 PT100 screw-in resistance thermometers in basic circuit for rolling-contact bearings ²⁾	Q72	4220,-	4220,-			
Installation of 2 PT100 screw-in resistance thermometers in 3-wire circuit for rolling-contact bearings ²⁾	Q78	4640,-	4640,-			
Installation of 2 PT100 double screw-in resistance thermometers in 3-wire circuit for rollingcontact bearings ²⁾	Q79	5560,-	5560,-			
Motor connection and connection box for explosion-proof versions						
External grounding		<input type="checkbox"/>	<input type="checkbox"/>			
Terminal box on NDE	H08	1180,-	1240,-			
Second external grounding	H70	15,5	15,5			
Rotation of the connection box through 90°, entry from DE ¹⁴⁾	R10	122,-	122,-			
Rotation of the connection box through 90°, entry from NDE	R11	122,-	122,-			
Rotation of the connection box through 180°	R12	122,-	122,-			
One metal cable gland	R15	<input type="checkbox"/>	<input type="checkbox"/>			
EMC cable gland, maximum configuration, certified according to ATEX	R16	O.R.	O.R.			
Stud terminal for cable connection accessories pack (3 items)	R17	185,-	O.R.		Ex tb (Zone 21) 1MB551. Ex tc (Zone 22) 1MB552.	
Cable gland, max. configuration, certified according to ATEX	R18	409,-	618,-			
Saddle terminal for connection without cable lug, accessories pack (6 items)	R19	721,-	1550,-		Ex tb (Zone 21) 1MB551. Ex tb (Zone 21) 1MB552.	
		<input type="checkbox"/>	<input type="checkbox"/>		Ex ec (Zone 2) 1MB553.	
Next larger connection box	R50	2190,-	-			
Drilled removable entry plate	R52	500,-	618,-			
Auxiliary connection box cast-iron (small)	R62	278,-	309,-			
Auxiliary connection box cast-iron (big)	R63	618,-	618,-			
Non-standard threaded through hole (NPT or G thread)	Y61	657,-	773,-			
Windings and insulation for explosion-proof versions						
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % ³⁾	N05	107,-	107,-			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % ³⁾	N06	107,-	107,-			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % ³⁾	N07	993,-	993,-			

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Options

Selection and ordering data

Options Cast-iron series 1MB5				60 working days		
Special versions	MLFB or Additional identification code -Z with order code and plain text if required	315	355	IEC	Ex tc (Zone 22) Ex tb (Zone 21) Ex ec (Zone 2)	
		1MB55.4				IE4
		1MB55.3				IE3
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	N08	993,-	993,-			
Increased air humidity/temperature with 30 to 60 g water per m ³ of air	N30	1320,-	1320,-			
Increased air humidity/temperature with 60 to 100 g water per m ³ of air	N31	1780,-	1960,-			
Temperature class 155 (F), used acc. to 130 (B), with higher coolant temperature and/or site altitude	Y50 • and specified output ... KT... °C or AH ... m above sea level	1480,-	2060,-			
Colors and paint finish						
Standard finish in RAL 7030 stone gray		□	□			
Unpainted (only cast-iron parts primed)	S00	O	O			
Unpainted, only primed	S01	81,7	81,7			
Special finish	S02	299,-	361,-			
Sea-air proof special finish	S03	814,-	876,-			
Off-shore special finish	S04	7910,-	8340,-			
Internal coating	S05	□	□			
Top Layer Polyurethan ⁴⁾	S06	779,-	824,-		Ex ec (Zone 2) 1MB553.	
Finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1 · Part 1)	Y53 • and standard finish RAL	742,-	900,-			
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors" (see Catalog D 81.1 · Part 1)	Y56 • and special finish RAL	720,-	730,-			
Special technology						
Mounting of explosion-proof rotary pulse encoder for use in Zones 2, 21 and 22 ¹²⁾	G30	O. R.	O. R.			

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Options

Selection and ordering data

Options		60 working days			
Cast-iron series 1MB5		315	355		
Special versions	MLFB or Additional identification code -Z with order code and plain text if required	1MB55.4	1MB55.3	IEC	Ex tc (Zone 22) Ex tb (Zone 21) Ex ec (Zone 2)
					IE4 IE3
Mechanical design and degrees of protection					
Protective Cover	H00	751,-	876,-		
Vibration-proof version (Permanent endurance strength according to class 3M4 acc. IEC721-3-3:1994)	H02	680,-	773,-		
Condensation drainage holes	H03	□	□		
Rust-resistant screws (externally)	H07	275,-	309,-		
IP65 degree of protection ⁵⁾	H20	663,-	680,-		Ex ec (Zone 2) 1MB553.
IP56 degree of protection ⁶⁾	H22	728,-	1440,-		Ex ec (Zone 2) 1MB553.
Drive-end seal for flange-mounting motors, oil-tight to 0.1 bar Not possible for type of construction IM V3	H23	469,-	546,-		
Shaft sealing rings in viton	H25	134,-	227,-		Not possible in combination with option code D03
Jacking screws	H30	O. R.	O. R.		
Mechanischer Schutz für Geber	G43	O. R.	O. R.		
Coolant temperature and site altitude for explosion-proof versions					
Coolant temperature -40 to +40 °C	D03	4810,-	6360,-		
Designs in accordance with standards and specifications for explosion-proof versions					
IECEx-certificate	D37	764,-	856,-		
Bearings and lubrication					
Regreasing device with lubrication nipple M10x1 according to DIN 71412-A	L19	O	O		
Located bearing DE	L20	1050,-	1240,-		
Located bearing NDE	L21	□	□		
Bearing design for increased cantilever forces	L22	618,-	1440,-		
Regreasing device	L23	□	□		
Special bearing for DE and NDE, bearing size 63	L25	□	□		
Spent grease removal	L30	185,-	□		
Increased maximal speed	L37	O.R.	O.R.		
Measuring nipple for SPM shock pulse measurement for bearing inspection	Q01	518,-	553,-		
Lagerisolierung DE (AS) ¹⁷⁾	L50	2010,-	2160,-		
Lagerisolierung NDE (BS) ¹⁷⁾	L51	2010,-	2160,-		
Balance and vibration quantity					
Vibration quantity level A		□	□		
Vibration quantity level B	L00	1680,-	1850,-		Not for: 2-pole motors
Half-key balancing		□	□		
Balancing without key, key is supplied	L01	82,-	87,6		
Full-key balancing	L02	205,-	205,-		
Shaft and rotor					
Shaft extension with standard dimensions, without feather keyway	L04	1040,-	1080,-		
Second standard shaft extension	L05	509,-	546,-		

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Options

Selection and ordering data

Options		60 working days	
Cast-iron series 1MB5		315	355
Special versions	MLFB or Additional identification code -Z with order code and plain text if required	1MB55.4	1MB55.3
		IEC	Ex tc (Zone 22) Ex tb (Zone 21) Ex ec (Zone 2)
			IE4 IE3
Standard shaft made of stainless steel	L06	5770,-	6900,-
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L07	554,-	554,-
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors	L08	811,-	811,-
Non-standard shaft extension, DE ⁸⁾	Y58 • and customer specifications	1040,-	1340,-
Non-standard shaft extension, NDE ⁸⁾	Y59 • and customer specifications	1040,-	1340,-
Special shaft steel	Y60 • and customer specifications	O. R.	O. R.
Heating and ventilation for explosion-proof versions			
Fan of brass material	F68	O. R.	O. R.
Metal fan cover	F74	<input type="checkbox"/>	<input type="checkbox"/>
Metal external fan ¹⁵⁾	F76	<input type="checkbox"/>	<input type="checkbox"/>
Anti-condensation heating for 230 V	Q02	929,-	1180,-
Anti-condensation heating for 115 V	Q03	929,-	1180,-
Anti-condensation heating for 400 V (2 terminals)	Q06	2710,-	3280,-
Rating plate and extra rating plates			
Second rating plate, loose	M10	66,3	66,3
Rating plate, stainless steel	M11	<input type="checkbox"/>	<input type="checkbox"/>
Extra rating plate or rating plate with deviating rating plate data	Y80 • and customer specifications	206,-	206,-
Extra rating plate with identification codes	Y82 • and customer specifications	107,-	107,-
Additional information on rating plate and on package label (max. 20 characters)	Y84 • and customer specifications	107,-	107,-
Adhesive label, supplied loose (printed with: Article No., Serial No.; 2 lines of text)	Y85 • and customer specifications	66,3	66,3
Verlängerung der Mängelhaftung			
Extension of the liability for defects by 12 months to a total of 24 months (2 years) from delivery ¹³⁾	Q80	2,3%	2,3%
Extension of the liability for defects by 24 months to a total of 36 months (2 years) from delivery ¹³⁾	Q82	4,6%	<input type="checkbox"/>
Packaging, safety notes, documentation and test certificates for explosion-proof versions			
Acceptance test certificate 3.1 in accordance with EN 10204 ¹⁰⁾	B02	28,1	28,1
Printed German/English Operating Instructions enclosed	B04	<input type="checkbox"/>	<input type="checkbox"/>

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Options

Selection and ordering data

Options				60 working days		
Cast-iron series 1MB5						
Special versions	MLFB or Additional identification code -Z with order code and plain text if required	315	355	IEC	Ex tc (Zone 22) Ex tb (Zone 21) Ex ec (Zone 2)	IE4
		1MB55.4	1MB55.3			IE3
Equivalent circuit diagram	B51	1080,-	1080,-			
Starting curve (torque-speed and current-speed curve)	B52	1550,-	1550,-			
Document - Electrical data sheet	B60	309,-	309,-			
Document - Order dimensional drawing	B61	309,-	309,-			
Normal tests (routine test) with acceptance	B65	3810,-	3810,-			
Temperature rise test without acceptance	B67	16300,-	17800,-			
Temperature rise test with acceptance	B68	19400,-	20900,-			
Type test with heat run for vertical motors, without acceptance ¹⁶⁾	B80	19300,-	19300,-			
Type test with heat run for vertical motors, with acceptance ¹⁶⁾	B81	22600,-	22600,-			
Type test with heat run for horizontal motors, without acceptance	B82	12500,-	12500,-			
Type test with heat run for horizontal motors, with acceptance	B83	14000,-	14000,-			
Documentation "Basic"	B90	O. R.	O. R.			
Documentation "Advanced"	B91	O. R.	O. R.			
Documentation "Projects"	B92	O. R.	O. R.			
Photo documentation of the motor "Basic"	B93	O. R.	O. R.			
Photo documentation of the motor "Advanced"	B94	O. R.	O. R.			
Connected in star for dispatch	M01	46,-	51,5			
Connected in delta for dispatch	M02	46,-	51,5			
Printed Operating Instructions (Compact) in other official EU languages enclosed ¹¹⁾	Y98 • and identification code	63,-	63,-			

■ Standard version

○ Without additional charge

- Not possible

· This order code only determines the price of the version – Additional plain text is required.

- 1) Please inquire regarding combination with order code D03 and C02. Not possible in combination with order codes H20 and H22.
- 2) Evaluation with appropriate tripping unit (see Catalog IC 10) is recommended. A certified tripping unit is necessary for use in hazardous areas.
- 3) There is no derating in combination with order codes M2A, M2B, M2C, M2D, M2E, M2F, M2G, M2H.
- 4) Order code S06 cannot be combined with order code S00, S01 and S02. It can be combined with Y53 and Y56 on request.
- 5) Order code H20 (IP65 degree of protection) can only be ordered for Zone 2. For Zone 21, IP65 degree of protection is standard. Not possible for Zone 22, because only IP55 degree of protection is required.
- 6) Order code H22 IP56 degree of protection is only possible for Zone 2. Degree of protection IP56 is not permissible for Zone 21 (IP65 degree of protection) and Zone 22 (IP55 degree of protection).
- 7) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Options

- 8) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the feather keyway must be specified in a sketch. It must be ensured that only feather keys in accordance with DIN 6885, Form A are permitted to be used. The feather keyway is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The feather keys are supplied in every case. For order codes Y58, Y59, and L05:
 - Dimensions D and DA \leq internal diameter of roller bearing (see dimension tables under "Dimensions")
 - Dimensions E and EA \leq 2 x length E (normal) of the shaft extensionFor an explanation of the order codes, see Catalog D 81.1 · Part 1.
- 9) The metal external fan is standard for these motors in the version Ex tb (zone 21), Ex tc (zone 22) and Ex ec (zone 2). The metal external fan is not possible in combination with the low-noise version – Order code F77 or F78.
- 10) The delivery time for the acceptance test certificate may differ from the delivery time for the motor.
- 11) The compact operating instructions are available in PDF format for all official EU languages at <http://support.automation.siemens.com/WW/view/en/10803948/133300>
- 12) Can be combined with order codes N30, N31, L51 on request. Not admissible in combination with order code L05. Protective cover not possible.
- 13) The delivery time for the factory test certificate may differ from the delivery time for the motor.
- 14) Not possible with flange A800 mounting on DE side - as standard for SH315, Not possible with flange A900 mounting on DE side - as standard for shaft height 355, combination with option H08 it is possible.
- 15) For chemical industry must be used steel fan
- 16) For IM V1-motors: (load) tests are performed as IM B3 (horizontal) (IM-identification acc. to EN 60034-7)
- 17) Combination of L50 and L51 is not possible for explosion-proof motors.
- 18) Standard by Ex tb motors (Zone 21) in shaft height 315 and 355.

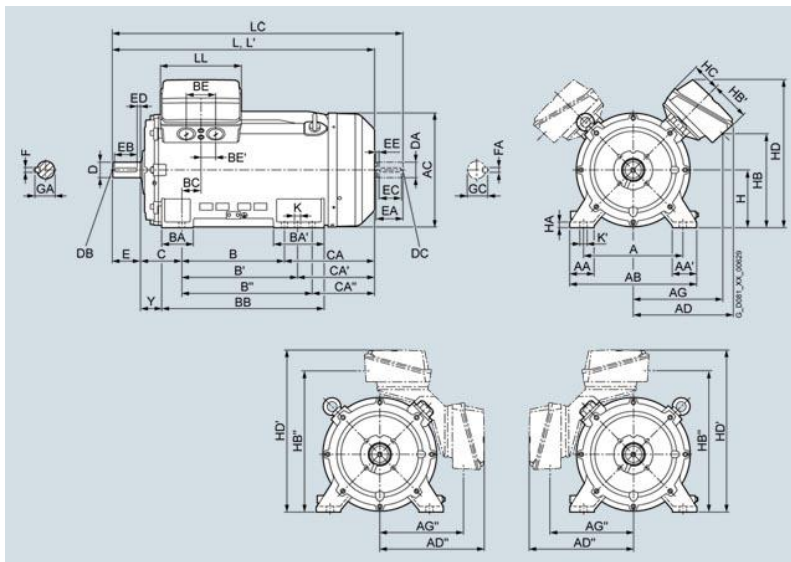
Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

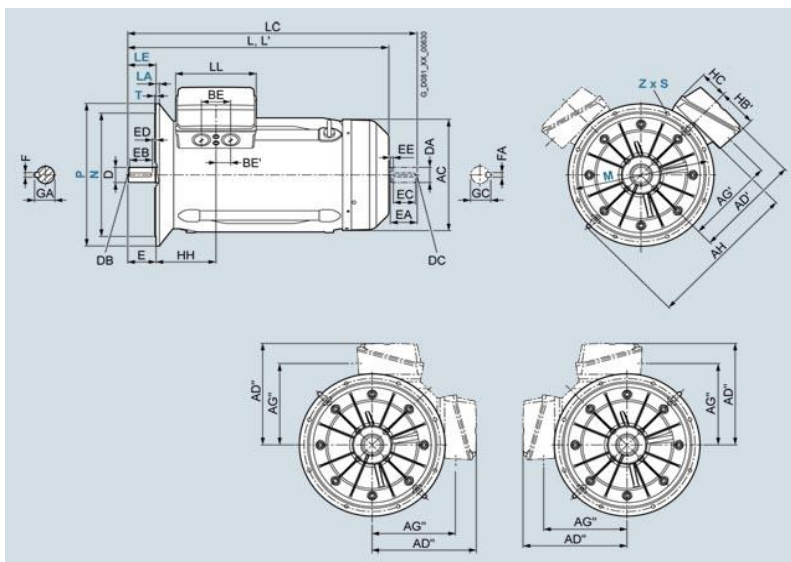
Dimensions

Dimension drawings

Type of construction IM B3



Type of construction IM V1



For motor			Dimension designation acc. to IEC																										
Frame size	Motor type	No. of poles	A	AA	AB	AC	AD	AD'	AD''	AG	AG'	AG''	AH	B	B'	B''	BA	BA'	BB	BC	BE	BE'	C	CA	CA'	CA''	H	HA	Y
315 L	3AA6	2	508	120	610	641	590	565	540	553	459	890	457	508	-	176	227	648	139	120	60	216	469	418	-	315	50	146	
	3AB6, 3AB7	4												508	560	630	298	770					528	476	406				
	3AA7	2																					498	446	376				
	3AC8	6																					618	566	496				
	3AC7, 3AD7	6, 8					543			491	473										135	67,5	528	476	406				
	3AD8	8																					618	566	496				
355 S/M/L	3BA3, 3BA4,	2	610	150	780	718	620	657	644	550	542	940	630	710	800	198	315	998	116	240	120	254	553	473	383	355	49	130	
	3BA5, 3BB3,	2, 4																											
	3BB4	4																											
	3BC2, 3BC3	6														194	311						648	568	478	35			
	3BC4,	6																											
	3BD1, 3BD2	8																											

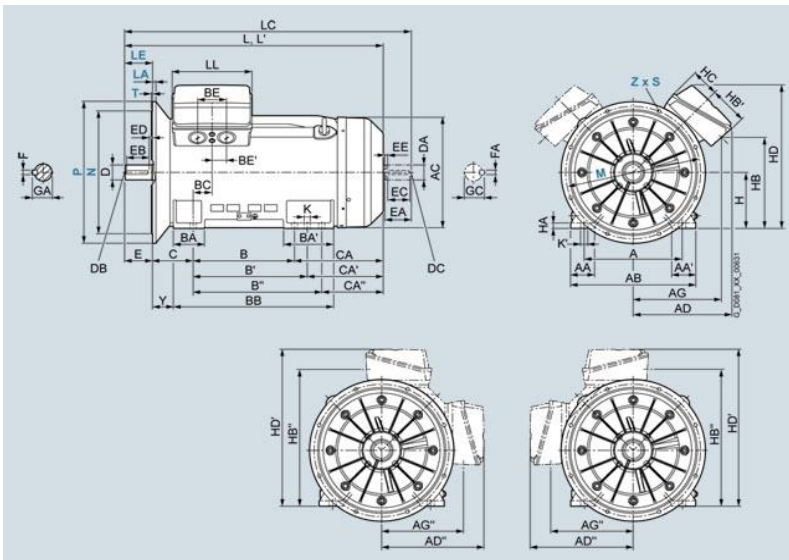
Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Dimensions

Dimension drawings

Type of construction IM B35



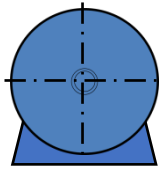
For motor			Dimension designation acc. to IEC										DE shaft extension				NDE shaft extension											
Frame size	Motor type	No. of poles	HH	HB	HB'	HC	HD	K	K'	L	LC ¹⁾	LL	LM	D	DB	E	EB	ED	F	GA	DA	DC	EA	EC	EE	FA	GC	
315 L	3AA6	2	355	421	336	167	800	28	35	1282	1427	327	1392	65	M20	140	125	10	18	69	60	M20	140	125	10	18	64	
	3AB6, 3AB7	4								1422	1567	1532	85		170	140	25	22	90	70						20	74,5	
	3AA7	2								1362	1507	1472	65		140	125	10	18	69	60							18	64
	3AC8	4								1512	1657	1622	85		170	140	25	22	90	70							20	74,5
	3AC7, 3AD7 3AD8	6, 8 8		491	225						1422	1567	1532															
355 S/M/L	3BA3, 3BA4, 3BA5,	2	370	578	247	188	911	35	42	1577	1722	519	1717	75	M20	140	125	10	20	79.5	60	M20	140	125	10	18	64	
	3BB3, 3BC2, 3BC3, 3BB4, 3BC4, 3BD1	4, 6, 8								1607	1782	1747	95	M24	170	140	25	25	100	80			170	140	25	22	85,5	
	3BD2	8								1702	1877	1842																

1) In the low-noise version, a second shaft extension and/or mounted encoder is not possible.

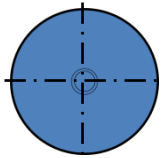
Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Terminal box concept



B3-frame



B5-frame



Terminal box



Adapter



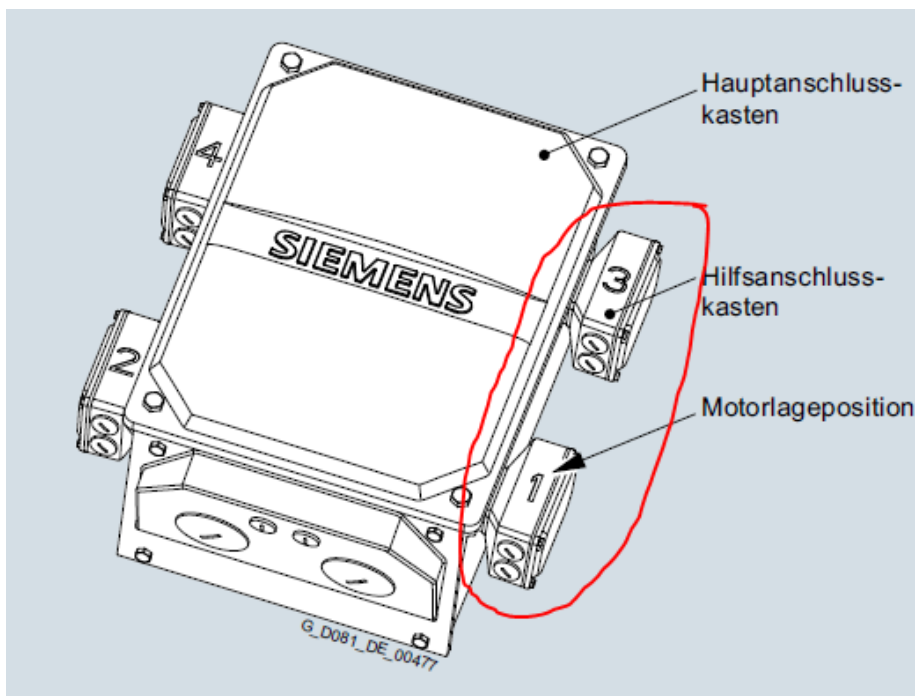
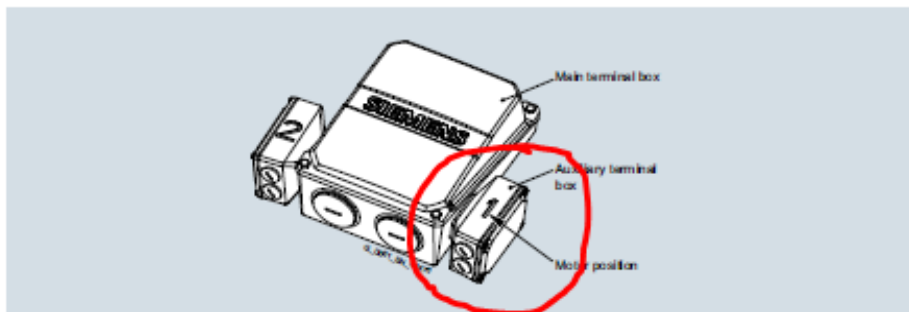
Auxiliary terminal box 1 (& 3)



Auxiliary terminal box 2 (& 4)



Cable inlet

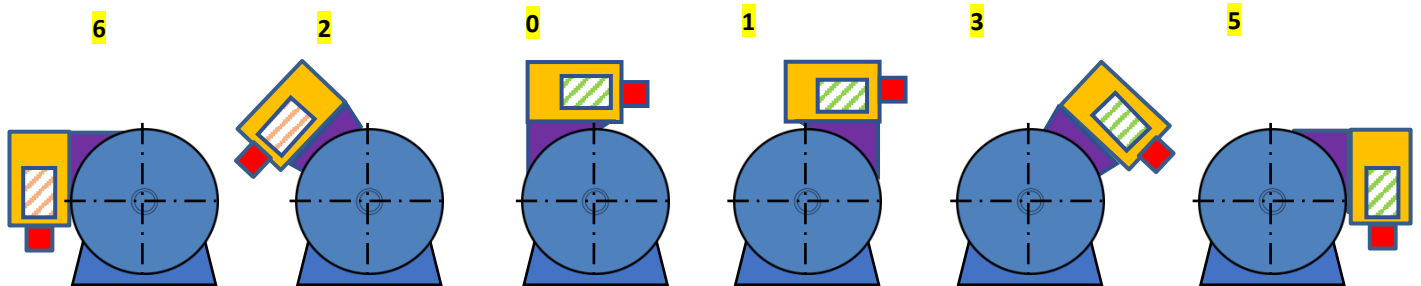


Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

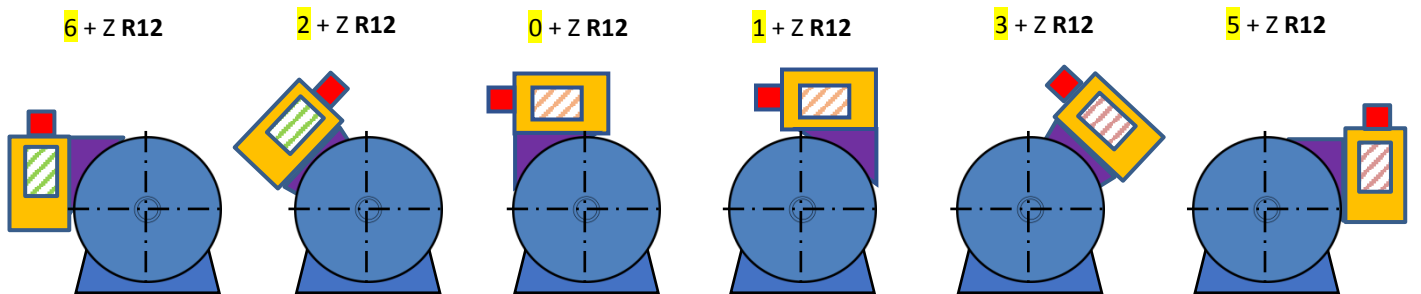
SIMOTICS XP 1MB5 explosion-proof motors

Terminal box concept

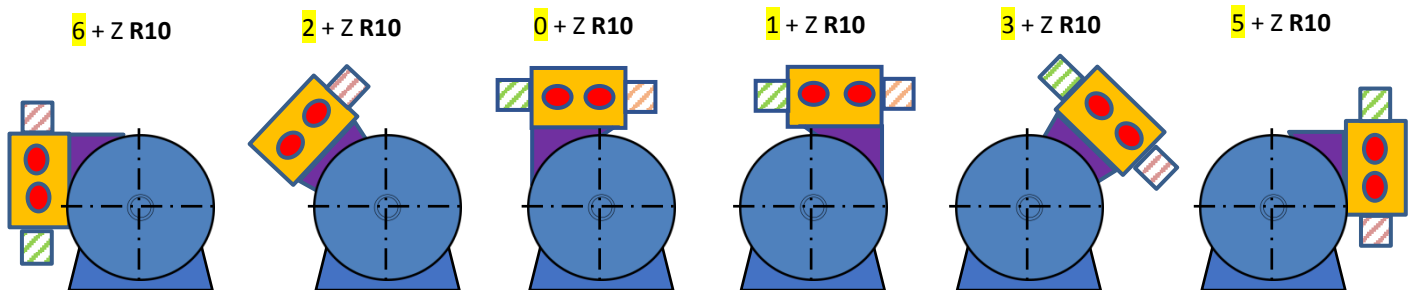
BASIC POSITIONS



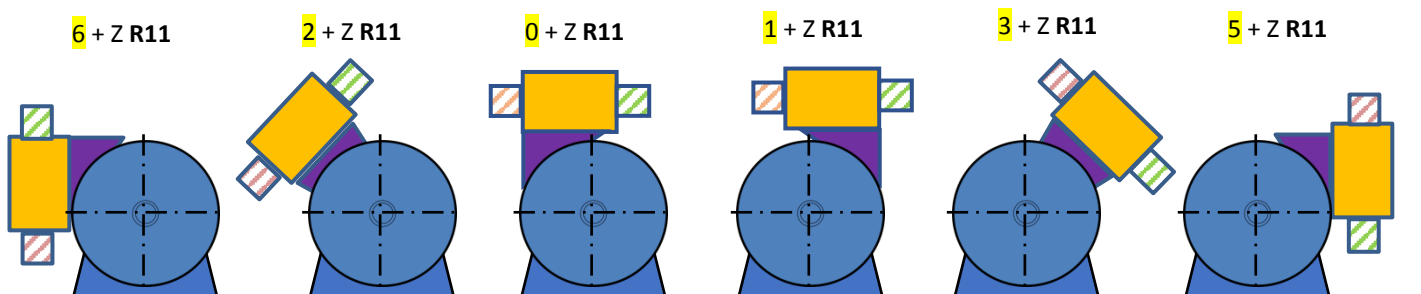
ROTATION OF THE CONNECTION BOX THROUGH 180°



ROTATION OF THE CONNECTION BOX THROUGH 90°, ENTRY FROM DE



ROTATION OF THE CONNECTION BOX THROUGH 90°, ENTRY FROM NDE



Motors in type of protection Ex ec, Ex tb and Ex tc for use in Zones 2, 21 and 22

SIMOTICS XP 1MB5 explosion-proof motors

Terminal box concept

ONLY FOR FLANGE MOUNTING

