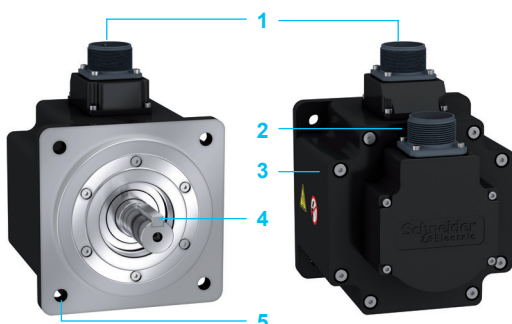




BCH2 with free leads connection



BCH2 servo motor with MIL connectors



BCH2 servo motors

Presentation

BCH2 motors are synchronous AC servo motors, designed for high performance applications such as material working, machine tools, etc

- BCH2 motors are available in six flange sizes: 40 mm (1.58 in.), 60 mm (2.36 in.), 80 mm (3.15 in.), 100 mm (3.94 in.), 130 mm (5.12 in.), and 180 mm (7.08 in.).
- Depending on flange size, the BCH2 motors are supplied with:
 - free leads with connectors
 - or MIL connectors
- With the three available types of motor inertia, ranging from low to high inertia, the servo motors can be used in a very wide variety of installations:
 - low inertia: power between 0.2 kW and 1 kW (0.26 hp and 1.34 hp), suitable for textile and packaging applications.
 - medium inertia: power between 0.05 kW and 7.5 kW (0.067 hp and 10.06 hp), suitable for material working and machine tool applications.
 - high inertia: 0.75 kW (1.00 hp) power, suitable for metal working and printing applications.
- BCH2 motors are available with holding brake, and equipped as standard with a high-resolution (20-bit) single-turn absolute encoder.

Examples of applications according to motor inertia type:

Type of machine	Inertia		
	Low	Medium	High
Conveyors		✓	✓
Packaging machines	✓	✓	
Printers		✓	✓
Loaders/unloaders			✓
Presses			✓
PCB drilling machines	✓		
Electronic card testers	✓		
Labelling machines	✓		
Knitting and embroidery machines		✓	✓
Special machines		✓	✓
Winders/unwinders		✓	

Holding brake

BCH2 servo motors can be equipped with an electromagnetic holding brake.

Recommendation: Do not use the holding brake as a dynamic brake for deceleration, as this will quickly damage the brake.

Integrated encoder

BCH2 servo motors are equipped with a 20-bit single-turn absolute encoder.

- measuring the motor angular position with a precision of ± 2.6 arc minutes so that flows can be synchronized
- measuring the servo motor speed via the associated Lexium 28 servo drive (this information is used by the servo drive's position and speed controller)
- sending data from the servo motor to the servo drive, providing automatic identification of the motor when the servo drive starts.

Description

BCH2 servo motors, with a 3-phase stator and a rotor with rare earth based permanent magnets, consist of:

- 1 Connector for the power cable
- 2 Connector for the encoder cable
- 3 Casing with RAL 9005 opaque black paint coating
- 4 Smooth or keyed shaft end (depending on the model)
- 5 4-point axial mounting flange (Flange is mechanically compatible for mounting with Asian style servo motors).

Lexium 28 & Motors

BCH2 servo motors

BCH2 servo motors													
To order a BCH2 servo motor, make up the reference as follows:													
Brushless servo motor		B	C	H	2	•	•	••	•	•	•	•	C
Inertia	Low inertia					L							
	Medium inertia					M							
	High inertia					H							
Flange size	40 mm (1.58 in.)						B						
	60 mm (2.36 in.)						D						
	80 mm (3.15 in.)						F						
	100 mm (3.94 in.)						H						
	130 mm (5.12 in.)						M						
	180 mm (7.08 in.)						R						
Rated output	50 W (0.067 hp)							A5					
	100 W (0.13 hp)							01					
	200 W (0.26 hp)							02					
	300 W (0.41 hp)							03					
	400 W (0.53 hp)							04					
	500 W (0.67 hp)							05					
	600 W (0.80 hp)							06					
	750 W (1.00 hp)							07					
	850 W (1.13 hp)							08					
	1 kW (1.34 hp)							10					
	1.5 kW (2.01 hp)							15					
	2 kW (2.68 hp)							20					
	3 kW (4.02 hp)							30					
	3.5 kW (4.69 hp)							35					
	4.5 kW (6.03 hp)							45					
Nominal speed	1000/1500 rpm								1				
	2000 rpm								2				
	3000 rpm								3				
Shaft end	Smooth shaft (shaft IP 54; housing IP 65) (1)									0			
	Keyed shaft (shaft IP 54; housing IP 65) (1)									1			
	Smooth shaft (shaft & housing IP 65)									2			
	Keyed shaft (shaft & housing IP 65)									3			
Encoder	High resolution single-turn absolute encoder, 20-bit resolution										C		
Holding brake	Without brake											A	
	With brake (option)											F	
Connections	Free leads with connectors (BCH2•B/•D/•F motors only)												5
	MIL connectors (BCH2•H/•M/•R motors only)												6
Mechanical motor design	Motor compatible with Asian style mounting standards												C

Connection components for BCH2 motors

Cables and connectors to be ordered separately, for connection to Lexium 28 servo drives.

Schneider Electric has taken particular care over the compatibility of BCH2 servo motors and Lexium 28 servo drives. See [pages 22 and 23](#)

BCH2 servo motors											
Dimensions and weight											
				Dimensions (overall)				Weight			
Servo motor	Pn	Flange		Servo motor without brake		Servo motor with brake		without brake		with brake	
				Width x Height x Depth (W x H x D)		Width x Height x Depth (W x H x D)					
	W	mm	in.	mm	in.	mm	in.	kg	lb	kg	lb
BCH2MBA53●●●5C	50	40	1.57	40 x 58.5 x 82	1.57 x 2.30 x 3.23	40 x 58.5 x 112	1.57 x 2.30 x 4.41	0.400	0.88	0.600	1.32
BCH2MB013●●●5C	100	40	1.57	40 x 58.5 x 100	1.57 x 2.30 x 3.94	40 x 58.5 x 130	1.57 x 2.30 x 5.12	0.560	1.23	0.770	1.70
BCH2LD023●●●5C	200	60	2.36	60 x 78.5 x 104	2.36 x 3.09 x 4.09	60 x 78.5 x 140	2.36 x 3.09 x 5.51	1.020	2.25	1.500	3.31
BCH2LD043●●●5C	400	60	2.36	60 x 78.5 x 129	2.36 x 3.09 x 5.08	60 x 78.5 x 165	2.36 x 3.09 x 6.50	1.450	3.20	2.000	4.41
BCH2LF043●●●5C	400	80	3.15	80 x 98.5 x 112	3.15 x 3.88 x 4.41	80 x 98.5 x 152	3.15 x 3.88 x 4.41	2.000	4.41	2.800	6.17
BCH2HF073●●●5C	750	80	3.15	80 x 98.5 x 138	3.15 x 3.88 x 5.43	80 x 98.5 x 178	3.15 x 3.88 x 7.01	2.900	6.39	3.700	8.16
BCH2LF073●●●5C	750	80	3.15	80 x 98.5 x 138	3.15 x 3.88 x 5.43	80 x 98.5 x 178	3.15 x 3.88 x 7.01	2.800	6.17	3.600	7.94
BCH2LH103●●●6C	1000	100	3.94	100 x 145.6 x 153.5	3.94 x 5.73 x 6.04	100 x 145.6 x 180.5	3.94 x 5.73 x 7.11	4.600	10.14	5.100	11.24
BCH2LH203●●●6C	2000	100	3.94	100 x 145.6 x 198.5	3.94 x 5.73 x 7.81	100 x 145.6 x 225.5	3.94 x 5.73 x 8.88	6.700	14.77	7.200	15.87
BCH2MM031●●●6C	300	130	5.12	130 x 176 x 147	5.12 x 6.92 x 5.79	130 x 176 x 183	5.12 x 6.92 x 7.20	7.000	15.43	8.200	18.08
BCH2MM052●●●6C	500	130	5.12	130 x 176 x 147	5.12 x 6.92 x 5.79	130 x 176 x 183	5.12 x 6.92 x 7.20	7.000	15.43	8.200	18.08
BCH2MM061●●●6C	600	130	5.12	130 x 176 x 147	5.12 x 6.92 x 5.79	130 x 176 x 183	5.12 x 6.92 x 7.20	7.000	15.43	8.200	18.08
BCH2MM081●●●6C	850	130	5.12	130 x 176 x 187	5.12 x 6.92 x 7.36	130 x 176 x 216	5.12 x 6.92 x 8.50	9.600	21.16	10.900	24.03
BCH2MM091●●●6C	900	130	5.12	130 x 176 x 163	5.12 x 6.92 x 6.42	130 x 176 x 198	5.12 x 6.92 x 7.80	7.600	16.76	8.800	19.40
BCH2MM102●●●6C	1000	130	5.12	130 x 176 x 147	5.12 x 6.92 x 5.79	130 x 176 x 183	5.12 x 6.92 x 7.20	7.000	15.43	8.200	18.08
BCH2HM102●●●6C	1000	130	5.12	130 x 176 x 147	5.12 x 6.92 x 5.79	130 x 176 x 176	5.12 x 6.92 x 6.92	7.000	15.43	8.200	18.08
BCH2MM152●●●6C	1500	130	5.12	130 x 176 x 167	5.12 x 6.92 x 6.57	130 x 176 x 202	5.12 x 6.92 x 7.95	7.600	16.76	8.800	19.40
BCH2MM202●●●6C	2000	130	5.12	130 x 176 x 187	5.12 x 6.92 x 7.36	130 x 176 x 216	5.12 x 6.92 x 8.50	9.700	21.38	11.000	24.25
BCH2MR202●●●6C	2000	180	7.09	180 x 245 x 169	7.09 x 9.65 x 6.65	180 x 245 x 203	7.09 x 9.65 x 7.99	13.000	28.66	18.000	39.68
BCH2HR202●●●6C	2000	180	7.09	180 x 245 x 168	7.09 x 9.65 x 6.61	180 x 245 x 203	7.09 x 9.65 x 7.99	13.000	28.66	18.000	39.68
BCH2MR301●●●6C	3000	180	7.09	180 x 245 x 202	7.09 x 9.65 x 7.95	180 x 245 x 235	7.09 x 9.65 x 9.25	18.500	40.79	23.000	50.71
BCH2MR302●●●6C	3000	180	7.09	180 x 245 x 202	7.09 x 9.65 x 7.95	180 x 245 x 235	7.09 x 9.65 x 9.25	18.500	40.79	23.000	50.71
BCH2MR352●●●6C	3500	180	7.09	180 x 245 x 202	7.09 x 9.65 x 7.95	180 x 245 x 235	7.09 x 9.65 x 9.25	18.500	40.79	23.000	50.71
BCH2MR451●●●6C	4500	180	7.09	180 x 245 x 235	7.09 x 9.65 x 9.25	180 x 245 x 279	7.09 x 9.65 x 10.98	23.640	52.12	28.000	61.73

●●●: Please refer to the type code table on [page 19](#)