

Motion control

Lexium 23 Plus

BCH servo motors



BCH servo motor range

Presentation

BCH servo motors are synchronous motors.

They are equipped as standard with a high resolution (20-bit) incremental encoder. They are therefore ideal for high performance applications such as material working, machine tools, etc.

The servo motors are available in six flange sizes: 40 mm, 60 mm, 80 mm, 100 mm, 130 mm and 180 mm.

They are available in a version with holding brake (see opposite page).

With the four types of motor inertia available, ranging from ultra low to high inertia, the servo motors can be used in a very wide variety of installations:

- Ultra low inertia:
power between 0.1 kW and 0.4 kW, suitable for electronic equipment and small printing machinery.
- Low inertia:
power between 0.4 kW and 2 kW, suitable for textile and packaging applications.
- Medium inertia:
power between 0.3 kW and 3 kW, suitable for material working and machine tool applications.
- High inertia:
power between 2 kW and 7.5 kW, suitable for metal working and printing applications.

Examples of applications according to motor inertia type:

Type of machine	Inertia			
	Ultra low	Low	Medium	High
Conveyors				
Packaging machines				
Printers				
Loaders/unloaders				
X - Y tables				
Presses				
PCB drilling machines				
Electronic card testers				
Labelling machines				
Knitting and embroidery machines				
Special machines				
Winders/unwinders				

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References													
Example:	B	C	H	0	4	0	1	O	0	2	A	1	C
Servo motor BCH = three-phase servo motor	B	C	H	0	4	0	1	O	0	2	A	1	C
Flange size 040 = 40 mm 060 = 60 mm 080 = 80 mm 100 = 100 mm 130 = 130 mm 180 = 180 mm	B	C	H	0	4	0	1	O	0	2	A	1	C
Number of motor stages 1 = 1 stage (all flange sizes) 2 = 2 stages (with 60, 80, 100, 130 and 180 mm flanges) 3 = 3 stages (with 130 and 180 mm flanges) 4 = 4 stages (with 130 and 180 mm flanges) 5 = 5 stages (with 180 mm flange)	B	C	H	0	4	0	1	O	0	2	A	1	C
Speed type M = slow (1000/1500 rpm), (with 130 and 180 mm flanges) N = medium (2500 rpm), (with 130 and 180 mm flanges) O = fast (3000 rpm), (with 40, 60, 80 and 100 mm flanges)	B	C	H	0	4	0	1	O	0	2	A	1	C
Shaft end 0 = smooth, IP 40 degree of protection 1 = keyed, IP 40 degree of protection 2 = smooth, IP 65 degree of protection 3 = keyed, IP 65 degree of protection	B	C	H	0	4	0	1	O	0	2	A	1	C
Integrated encoder 2 = 20-bit high resolution incremental encoder	B	C	H	0	4	0	1	O	0	2	A	1	C
Holding brake A = without brake F = with brake	B	C	H	0	4	0	1	O	0	2	A	1	C
Connection 1 = flying leads (for BCH040...080 servo motors) or round connector (for BCH100...180 servo motors)	B	C	H	0	4	0	1	O	0	2	A	1	C
Type of mounting C = mechanical	B	C	H	0	4	0	1	O	0	2	A	1	C
Characteristics													
Servo motors	Without holding brake		With holding brake										
	W x H x D (l)	Weight	W x H x D (l)	Weight									
	mm	kg	mm	kg									
BCH0401	40 x 40 x 100.6	0.500	40 x 40 x 136.6	0.800									
BCH0601	60 x 60 x 105.5	1.200	60 x 60 x 141.6	1.500									
BCH0602	60 x 60 x 130.7	1.600	60 x 60 x 166.8	2.000									
BCH0801	80 x 80 x 112.3	2.100	80 x 80 x 152.8	2.900									
BCH0802	80 x 80 x 138.3	3.000	80 x 80 x 178	3.800									
BCH1001	100 x 100 x 153.5	4.300	100 x 100 x 192.5	4.700									
BCH1002	100 x 100 x 199	6.200	100 x 100 x 226	7.200									
BCH1301	130 x 130 x 147.5	6.800	130 x 130 x 183.5	8.200									
BCH1302	130 x 130 x 147.5	7.000	130 x 130 x 183.5	8.400									
BCH1303M	130 x 130 x 163.5	7.500	130 x 130 x 198	8.900									
BCH1303N	130 x 130 x 167.5	7.500	130 x 130 x 202	8.900									
BCH1304	130 x 130 x 187.5	7.800	130 x 130 x 216	9.200									
BCH1801	180 x 180 x 169	13.500	180 x 180 x 203.1	17.500									
BCH1802	180 x 180 x 202.1	18.500	180 x 180 x 235.3	22.500									
BCH1803N	180 x 180 x 202.1	18.500	180 x 180 x 235.3	22.500									
BCH1803M	180 x 180 x 235.3	23.500	180 x 180 x 279.3	29.000									
BCH1804M	180 x 180 x 279.7	30.500	180 x 180 x 311.7	36.000									
BCH1805M	180 x 180 x 342	37.000	180 x 180 x 376.1	53.000									

(1) D: dimensions of the casing (excluding shaft end)

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Connection accessories

Connection accessories

Designation	Description	Reference	Weight kg
Set of 3 terminal blocks	1 terminal block for power supply 1 terminal block for motor power supply 1 terminal block for braking resistor For mounting on drive side	VW3 M4 121	0.500
Connector for I/O interface	For mounting on drive side	VW3 M4 112	0.050
Screw terminal block	For I/O interface For mounting on drive side	VW3 M4 113	0.020
RS 232/USB converter	Equipped with: ■ One USB connector ■ One RJ 45 connector	VW3 M8 131	0.300

Connection cable

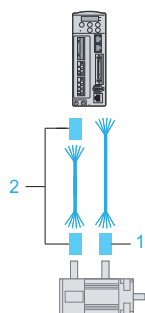
Designation	Description	Cable length m	Reference	Weight kg
Connection cable for VW3 M8 131 converter	Equipped with an RJ 45 connector at each end. To connect the VW3 M8 131 converter to the servo drive.	2	490 NTW 00002	—

Connectors for power cable

Description	For servo motor	Item no.	Reference	Weight kg
Connector for motor without holding brake	BCH 0401O●2A1C BCH 0601O●2A1C BCH 0602O●2A1C BCH 0801O●2A1C BCH 0802O●2A1C	1	VW3 M5 111	0.030
Connector for motor with holding brake	BCH 0601O●2F1C BCH 0602O●2F1C BCH 0801O●2F1C BCH 0802O●2F1C	1	VW3 M5 112	0.030
Round connectors for motor with or without holding brake	BCH 1001O●2●1C BCH 1002O●2●1C BCH 1301M●2●1C BCH 1301N●2●1C BCH 1302M●2●1C BCH 1302N●2●1C BCH 1303M●2●1C BCH 1304N●2●1C BCH 1801N●2●1C BCH 1802M●2●1C BCH 1802N●2●1C BCH 1803M●2●1C BCH 1803N●2●1C	1	VW3 M5 121	0.180
	BCH 1804M●2●1C BCH 1805M●2●1C	1	VW3 M5 131	0.180
Connector for holding brake	BCH 1804M●2F1C BCH 1805M●2F1C	1	VW3 M5 141	0.300
		1	VW3 M7 151	0.500

Connectors for encoder cable

Description	For servo motor	Item no.	Reference	Weight kg
Connector for motor with connection via stripped cable	BCH 0401O●2●1C BCH 0601O●2●1C BCH 0602O●2●1C BCH 0801O●2●1C BCH 0802O●2●1C	2	VW3 M8 121	0.800
Connector for motor equipped with a round connector	BCH 1001O●2●1C BCH 1002O●2●1C BCH 1301M●2●1C BCH 1301N●2●1C BCH 1302M●2●1C BCH 1302N●2●1C BCH 1303M●2●1C BCH 1303N●2●1C BCH 1304N●2●1C BCH 1801N●2●1C BCH 1802M●2●1C BCH 1802N●2●1C BCH 1803M●2●1C BCH 1803N●2●1C BCH 1804M●2●1C BCH 1805M●2●1C	2	VW3 M8 122	0.800



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Connection accessories



Connection components (continued)

Power cordsets

Description	From servo motor	To servo drive	Composition	Length of cable	Reference	Weight
				m		kg
Cordsets equipped with a plastic connector (servo motor end) and one end with flying leads (servo drive end). Without holding brake	BCH0401O●2A1C	LXM23●U01M3X	4 x 0.82 mm ²	3	VW3 M5 111R30	0.200
	BCH0601O●2A1C	LXM23●U02M3X		5	VW3 M5 111R50	0.350
	BCH0602O●2A1C	LXM23●U04M3X				
	BCH0801O●2A1C	LXM23●U04M3X				
	BCH0802O●2A1C	LXM23●U07M3X				
Cordsets equipped with a plastic connector (servo motor end) and one end with flying leads (servo drive end). With holding brake	BCH0401O●2F1C	LXM23●U01M3X	6 x 0.82 mm ²	3	VW3 M5 112R30	0.200
	BCH0601O●2F1C	LXM23●U02M3X		5	VW3 M5 112R50	0.350
	BCH0602O●2F1C	LXM23●U04M3X				
	BCH0801O●2F1C	LXM23●U04M3X				
	BCH0802O●2F1C	LXM23●U07M3X				
Cordsets equipped with a round connector (servo motor end) and one end with flying leads (servo drive end). Without holding brake	BCH1001O●2A1C	LXM23●U10M3X	4 x 1.3 mm ²	3	VW3 M5 121R30	0.350
	BCH1301M●2A1C	LXM23●U04M3X		5	VW3 M5 121R50	0.600
	BCH1301N●2A1C	LXM23●U04M3X				
	BCH1302M●2A1C	LXM23●U07M3X				
	BCH1302N●2A1C	LXM23●U10M3X				
	BCH1303M●2A1C	LXM23●U10M3X				
	BCH1303N●2A1C	LXM23●U15M3X				
	BCH1002O●2A1C	LXM23●U20M3X	4 x 2.1 mm ²	3	VW3 M5 122R30	0.450
	BCH1304N●2A1C	LXM23●U20M3X		5	VW3 M5 122R50	0.750
	BCH1801N●2A1C	LXM23●U20M3X	4 x 3.3 mm ²	3	VW3 M5 123R30	0.760
Cordsets equipped with a round connector (servo motor end) and one end with flying leads (servo drive end). With holding brake	BCH1802N●2A1C	LXM23●U30M3X		5	VW3 M5 123R50	1.750
	BCH1802M●2A1C	LXM23●U30M3X				
	BCH1803M●2A1C	LXM23●U45M3X				
	BCH1803N●2A1C	LXM23●U45M3X	4 x 8.4 mm ²	3	VW3 M5 124R30	1.000
				5	VW3 M5 124R50	1.200
	BCH1001O●2F1C	LXM23●U10M3X	6 x 1.3 mm ²	3	VW3 M5 131R30	0.350
	BCH1301M●2F1C	LXM23●U04M3X		5	VW3 M5 131R50	0.600
	BCH1301N●2F1C	LXM23●U04M3X				
	BCH1302M●2F1C	LXM23●U07M3X				
	BCH1302N●2F1C	LXM23●U10M3X				
Cordsets equipped with a round connector (servo motor end) and one end with flying leads (servo drive end). With holding brake	BCH1303M●2F1C	LXM23●U10M3X				
	BCH1303N●2F1C	LXM23●U15M3X				
	BCH1002O●2F1C	LXM23●U20M3X	6 x 2.1 mm ²	3	VW3 M5 132R30	0.750
	BCH1304N●2F1C	LXM23●U20M3X		5	VW3 M5 132R50	1.250
	BCH1801N●2F1C	LXM23●U20M3X	6 x 3.3 mm ²	3	VW3 M5 133R30	0.760
	BCH1802M●2F1C	LXM23●U30M3X		5	VW3 M5 133R50	1.950
	BCH1802N●2F1C	LXM23●U30M3X				
	BCH1803N●2F1C	LXM23●U45M3X				
	BCH1803M●2F1C	LXM23●U45M3X	6 x 8.4 mm ²	3	VW3 M5 134R30	—
				5	VW3 M5 134R50	—

Encoder cordsets

Cordsets equipped with a plastic connector at each end	BCH0401O●2●1C	LXM23●U01M3X	10 x 0.13 mm ²	3	VW3 M8 121R30	1.000
	BCH0601O●2●1C	LXM23●U01M3X		5	VW3 M8 121R50	1.200
	BCH0602O●2●1C	LXM23●U04M3X				
	BCH0801O●2●1C	LXM23●U04M3X				
	BCH0802O●2●1C	LXM23●U07M3X				
Cordsets equipped with a round connector (servo motor end) and a plastic connector (servo drive end)	BCH1001O●2●1C	LXM23●U10M3X	10 x 0.13 mm ²	3	VW3 M8 122R30	1.000
	BCH1002O●2●1C	LXM23●U20M3X		5	VW3 M8 122R50	1.200
	BCH1301M●2●1C	LXM23●U04M3X				
	BCH1301N●2●1C	LXM23●U04M3X				
	BCH1302M●2●1C	LXM23●U07M3X				
	BCH1302N●2●1C	LXM23●U10M3X				
	BCH1303M●2●1C	LXM23●U10M3X				
	BCH1303N●2●1C	LXM23●U15M3X				
	BCH1304N●2●1C	LXM23●U20M3X				
	BCH1801N●2●1C	LXM23●U20M3X				
	BCH1802M●2●1C	LXM23●U30M3X				
	BCH1802N●2●1C	LXM23●U30M3X				
	BCH1803M●2●1C	LXM23●U45M3X				
	BCH1803N●2●1C	LXM23●U45M3X				
	BCH1804M●2●1C	LXM23●U75M3X				
	BCH1805M●2●1C	LXM23●U75M3X				

