

BXL Models

Specifications

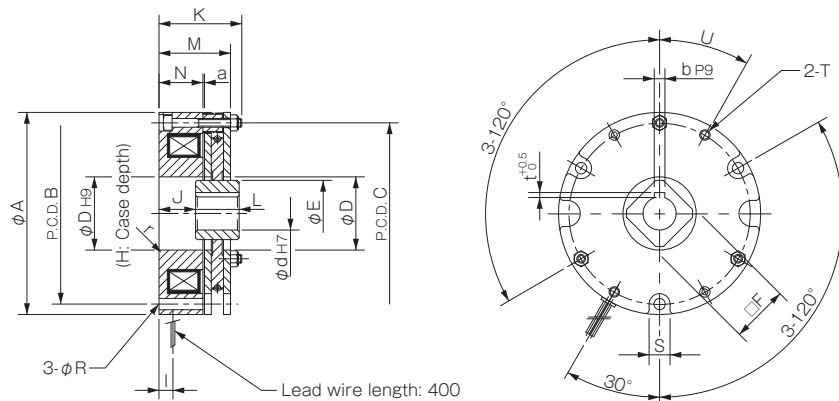
Model	Size	Static friction torque T _s [N·m]	Coil (at 20°C)				Heat resistance class	Lead wire		Max. rotation speed [min ⁻¹]	Rotating part moment of inertia J [kg·m ²]	Allowable braking energy rate P _{ba} [W]	Total braking energy E _t [J]	Armature pull-in time t _a [s]	Armature release time t _{ar} [s]	Mass [kg]
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size							
BXL-06-10	06	2	DC24	15	0.63	38.4	F	UL3398	AWG22	5000	3.75 × 10 ⁻⁵	58.3	2.0 × 10 ⁷	0.035	0.020	0.9
			DC45	12	0.27	169	F									
			DC90	12	0.13	677	F									
BXL-08-10	08	4	DC24	22.5	0.94	25.6	F	UL3398	AWG18	5000	6.25 × 10 ⁻⁵	91.7	3.5 × 10 ⁷	0.040	0.020	1.3
			DC45	19	0.41	110	F									
			DC90	19	0.21	440	F									
BXL-10-10	10	8	DC24	28	1.14	21.1	F	UL3398	AWG18	4000	13.75 × 10 ⁻⁵	108.3	6.2 × 10 ⁷	0.050	0.025	2.3
			DC45	25	0.54	83.0	F									
			DC90	25	0.27	331	F									
BXL-12-10	12	16	DC24	35	1.46	16.5	F	UL3398	AWG18	3600	33.75 × 10 ⁻⁵	133.3	9.0 × 10 ⁷	0.070	0.030	3.4
			DC90	30	0.33	271	F									
BXL-16-10	16	22	DC24	39	1.64	14.6	F	UL3398	AWG18	3000	7.35 × 10 ⁻⁴	183.3	11.4 × 10 ⁷	0.100	0.035	5.4
			DC90	39	0.43	207	F									

* Depending on the initial torque characteristics, break-in to condition the engaging surfaces may be required.

* The armature pull-in time and armature release time are taken during DC switching.

* See the operating characteristics page for the armature pull-in time and release time during AC-side switching (half-wave rectified).

Dimensions



Unit [mm]

Size	A	B	C	D	r	E	F	H	I	J	K	L	M	N	R	S	T	U	a	d	b	t
06	83	73	73	28	R1	26.5	22	3	10	20.5	39.5	14	33.6	20	4.5	9	2-M5	30°	0.15	11	4	1.5
08	96	86	86	35	R1	32	25	3	12	20	41	17	35	20.8	5.5	10.5	2-M5	30°	0.15	14	5	2
10	116	104	104	42	R1	38	30	3	9.5	21	47.5	25	41	25.3	6.5	12.5	2-M6	30°	0.2	19	6	2.5
12	138	124	124	50	R1	45	35	4	12	19	49.8	30	43.5	23.3	6.5	12.5	2-M6	30°	0.2	24	8	3
16	158	142	143	59	R1	55	45	4	14	22.5	57.5	35	51	27.7	9	15.5	2-M8	40°	0.25	28	8	3

How to Place an Order

BXL-06-10G 24V 11DIN

Size — Bore diameter (dimensional symbol d)
Option number — Voltage (Specifications table)
10: Standard

*Contact Miki Pulley for assistance with bore diameters, d, not listed in the Dimensions tables and voltages not listed in the Specifications table.

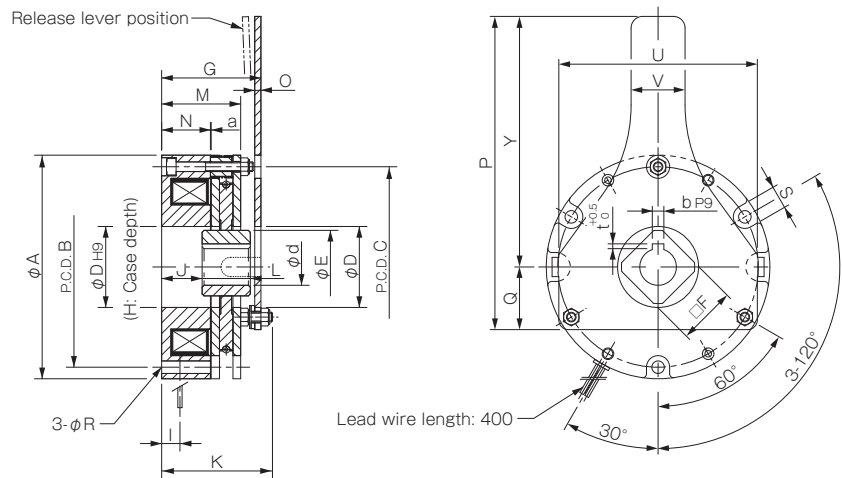
Options

Made to Order

Release Lever

Option No.: 12

In addition to the manual release tap of the standard product, we also offer an optional manual release lever. See the dimensions table below for the dimensions of brakes with release levers. Please contact Miki Pulley for other specification values.



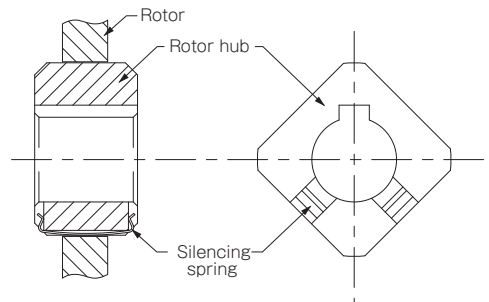
Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Y	U	V	S	a	d	b	t
BXL-06-12	83	73	73	28	26.5	22	42.4	3	10	20.5	49.5	14	33.7	20	2.6	88	24	4.5	64	73	16	9	0.15	11	4	1.5
BXL-08-12	96	86	86	35	32	25	44	3	12	20	51	17	35	20.8	2.9	122	27	5.5	95	85	20	10.5	0.15	14	5	2
BXL-10-12	116	104	104	42	38	30	51.2	3	9.5	21	57.5	25	41	25.3	3.2	162.5	32.5	6.5	130	103	28	12.5	0.2	19	6	2.5
BXL-12-12	138	124	124	50	45	35	56.4	4	12	19	64.8	30	43.5	23.3	5	200	40	6.5	160	121	36	12.5	0.2	24	8	3
BXL-16-12	158	142	143	59	55	45	64.9	4	14	22.5	72.5	35	51	27.7	6	230	44	9	186	140	36	15.5	0.25	28	8	3

Unit [mm]

Quiet Mechanism (Silencing Spring)

Option No.: S1

There is a extremely small structural backlash (see figure on the right) between the rotor and the rotor hub. In applications that are prone to microvibrations of the drive shaft such as single-phase motors, this backlash may produce rattling (banging). The silencing spring for the rotor hub reduces this rattling.



Quiet Mechanism (Pull-in Noise Reduction Mechanism)

Option No.: S2

When the brake is energized, a magnetic circuit is formed, and the armature is pulled to the stator by that magnetic force. At that time, the armature touches the magnetic pole of the stator and a noise is produced. This sound (pull-in noise) is reduced by putting shock absorbing material in the stator's magnetic pole part.

In option S2, in addition to the pull-in noise reduction mechanism, the silencing spring (option S1) is also supplemented.

List of Option Numbers

Description of options	No quiet mechanism	Silencing spring	Silencing spring + Pull-in noise reduction mechanism
No release lever	10	10S1	10S2
Has release lever	12	12S1	12S2

* Option 10 uses standard specifications.

BXL-06-12S1G 24V 11DIN

Option no.

COUPLINGS

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INVERTERS

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TORQUE LIMITERS

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SERIES

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CLUTCHES & BRAKES

ELECTROMAGNETIC-
ACTUATED
CLUTCHES & BRAKES

ELECTROMAGNETIC
CLUTCH & BRAKE
UNITS

SPRING-ACTUATED
BRAKEELECTROMAGNETIC
TOOTH CLUTCHES

BRAKE MOTORS

POWER SUPPLIES

MODELS

BXW

BXR

BXL

BXH

BXL(N)

BXL Models

Items Checked for Design Purposes

Precautions for Handling

Brakes

Most electromagnetic braking systems are made using flexible materials. Be careful when handling such parts and materials as striking or dropping them or applying excessive force could cause them to become damaged or deformed.

Lead Wires

Be careful not to pull excessively on the brake lead wires, bend them at sharp angles, or allow them to hang too low.

Precautions for Mounting

Affixing the Rotor Hub

Affix the rotor hub to the shaft with bolts, snap rings, or the like such that the rotor hub does not touch the armature or stator.

Mounting the Brake

Implement screw-locking measures such as use of an adhesive thread-locking compound to bolts and screws used to install brakes. If using a spring washer to prevent loosening, use a conical spring washer, and ensure that it does not contact the armature.

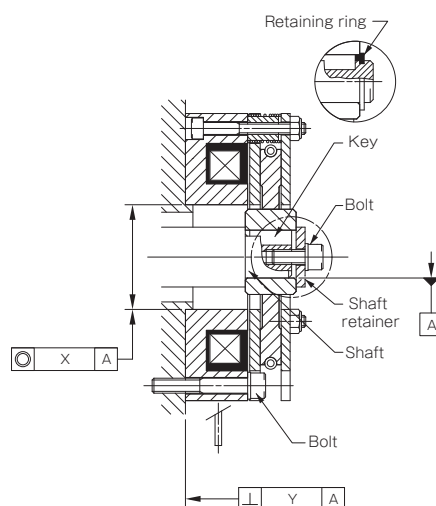
Shafts

The shaft tolerance should be h6 or js6 class (JIS B 0401).

Accuracy of Brake Attachment Surfaces

Ensure that the concentricity (X) of the centering mark and shaft and the perpendicularity (Y) of the brake mounting surface and shaft do not exceed the following allowable values.

Size	Concentricity (X) T.I.R. [mm]	Perpendicularity (Y) T.I.R. [mm]
06	0.4	0.04
08	0.4	0.05
10	0.4	0.05
12	0.6	0.06
16	0.6	0.07



■ Precautions for Use

■ Environment

These brake units are dry braking systems, meaning that the torque will drop if oil residue, moisture, or other liquids get onto friction surfaces. Lead wires are not oil resistant. Consider using a cover or other protection when using in an environment exposed to oil, cutting oil, etc.

■ Power Supply Voltage Fluctuations

Full braking performance may not be guaranteed with extreme changes in power supply voltage. Make sure to keep power supply voltage to within $\pm 10\%$ of the rated voltage value.

■ Operating Temperature

The operating temperature is -10°C to 40°C (no freezing or condensation). If you will use the product at other temperatures, consult Miki Pulley.

■ Manual Release

BXL models can be released manually.

Alternately tighten screws in two or three of the tap holes on the plate to press the armature.

The screw tips will push against the armature and release it with about a 90° rotation. Do not force the screws in more than that. The plate may become deformed and the brake may become unreleasable.

■ Release Lever (Optional)

The brake can be released even when not energized using an optional release lever.

However, using a lever does not result in drag torque becoming zero.

Avoid applying more force than necessary to a release lever.

During operation, always check that a release lever is disengaged.

■ Air Gap Adjustment

BXL models do not require air gap adjustment. The brake air gap is adjusted when the braking system is shipped from the factory. When first used, no gap adjustment is needed, so do not rotate the nut.

■ Initial Torque

The torque may be lower than the indicated value at initial use. In such cases, run it to break in the frictional surface before use.

■ Circuit Protectors

If using a power supply that is not equipped with a circuit protector for DC switching, make sure to connect the recommended circuit protector device in parallel with the brake.

■ Recommended Power Supplies and Circuit Protectors

Recommended power supplies

Input AC power	Brake voltage	Rectification method	Brake size	Recommended power supply model
AC100V 50/60Hz	DC24V	Single-phase, full-wave	06,08,10	BES-20-71-1
AC100V 50/60Hz	DC24V	Single-phase, full-wave	12,16	BES-20-72-1
AC100V 50/60Hz	DC45V	Single-phase, half-wave	06,08,10	BEW-1R
AC100V 50/60Hz	DC90V	Single-phase, full-wave	06,08,10,12,16	BEW-1R
AC200V 50/60Hz	DC24V	Single-phase, full-wave	06,08,10	BES-20-71
AC200V 50/60Hz	DC24V	Single-phase, full-wave	12,16	BES-20-72
AC200V 50/60Hz	DC90V	Single-phase, half-wave	06,08,10,12,16	BEW-2R

* A DC power supply such as a battery can also be used to supply the 24 V DC required for the brake voltage.

Recommended circuit protectors

Input voltage	Brake voltage	Rectification method	Recommended circuit protector (varistor)
DC24V	DC24V	—	TND07V-820KB00AAA0 or an equivalent
AC100V 50/60Hz	DC45V	Single-phase, half-wave	TND07V-221KB00AAA0 or an equivalent
AC100V 50/60Hz	DC90V	Single-phase, full-wave	TND07V-221KB00AAA0 or an equivalent
AC200V 50/60Hz	DC90V	Single-phase, half-wave	TND07V-471KB00AAA0 or an equivalent

* The above-model varistors are manufactured by Nippon Chemi-Con Corporation.

* DC24V indicates a product recommended with a stepdown transformer or the like.

Included varistors

Brake voltage	Included varistors
DC24V	TND07V-820KB00AAA0 or an equivalent
DC45V	No varistor provided
DC90V	No varistor provided

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