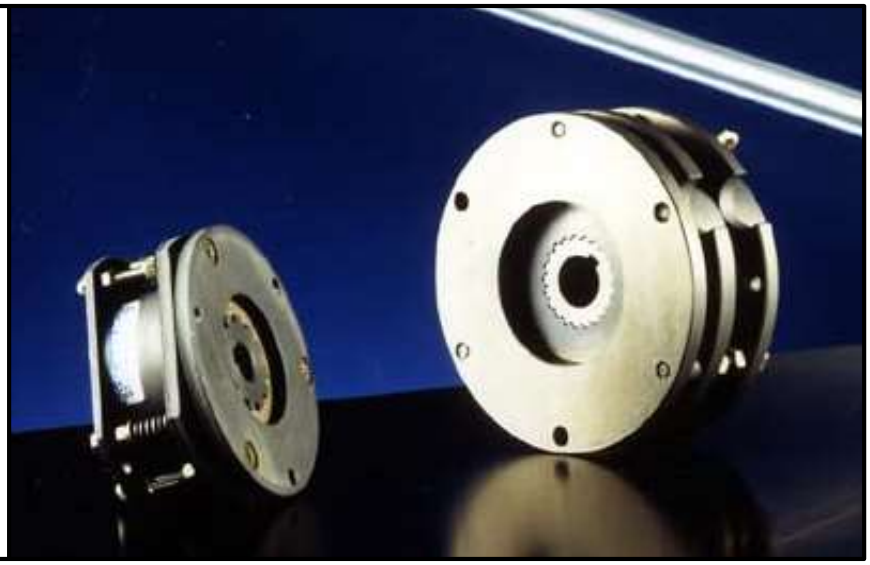
MNB

S E R I E S

ELECTROMAGNETIC
SPRING-APPLIED BRAKE
Torque Range: 1.5 ~ 590 ft-lbs
Torque Range: 2 ~ 800 N-m



F E A T U R E S

FAST RESPONSE TIME
The MNB series spring actuated brakes generate rapid toruqe buildup that gives rapid response.

CAN HANDLE REPEATED STOPS
The MNB series is designed to not only hold a load, but also stop it.

INSTALLATION ON SHORT SHAFTS
Short shaft designs can be accommodated because the mounting surface is on the inner drive side.

OPERATING VOLTAGE OPTIONS
RNB units come in two standard voltages, 90VDC and 24VDC. Other non-standard voltages are available.

EASILY ADJUSTABLE TORQUE
The torque can be adjusted over a wide range of settings via an adjusting bolt. This feature allows for controllable braking time.

MANUAL RELEASE AVAILABLE
Holes are provided so a bolt can be inserted to provide for a manual release. Other special designs are possible.

WIDE VARIETY OF CONTROLS AVAILABLE
Ogura has a wide selection of readily available controls to help control brakes for various applications.


MNB 0.2 ~ 0.8

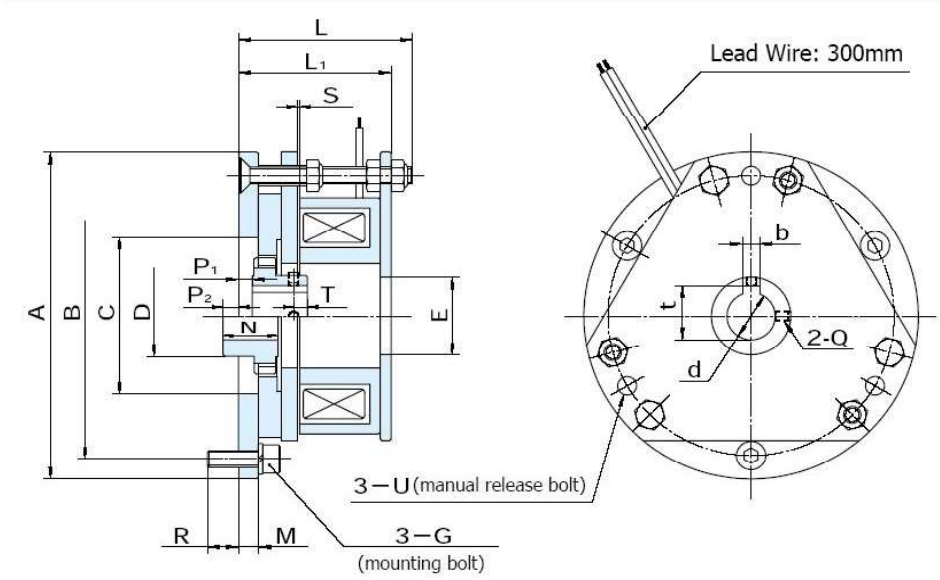

MNB 1.2 ~ 80

MNB

EM Spring-Applied Brake

Types: 0.2, 0.4, 0.8

[EM: Electromagnet]



MNB		0.2G	0.2K	0.4G	0.4K	0.8G	0.8K
Static Torque [ft-lbs / N-m]		1.5 / 2		3 / 4		5.9 / 8	
Coil (20°C)	Voltage [DC-V]	24	90	24	90	24	90
	Current [A]	0.56	0.15	0.65	0.17	0.8	0.22
	Resistance [Ω]	43	600	37	520	30	410
	Wattage [W]	13.5	13.5	15.5	15.5	19	20
Armature	Pull-In Time [ms]	35	35	40	40	60	25[1]
	Release Time [ms]	30	30	30	30	30	30[1]
Max Allowable Speed [rpm]		4000		4000		3500	
Moment of Inertia (J) [kg-cm²]		0.3		0.4		1.3	
Max Air Gap Until Adjustment [mm]		0.6		0.6		0.6	
Max Energy Until Adjustment [J]		1.7×10^7		2.7×10^7		4.0×10^7	
Max Energy Until Life [J]		4.0×10^7		6.0×10^7		9.0×10^7	
Max Work Rate [W]		41		57		98	
Bore [mm]	d_{H7}	12		14		19	
Key Way [mm]	b_{E9}	4		5		5	
	$t_{+0.15/-0}$	13.5		16		21	
Dimensions [mm]	A	85		97		120	
	B	74		85		108	
	C	44		46.5		68	
	D	24		24		32	
	E	20		23		40	
	G	M5		M5		M5	
	L	50.5		50.5		55.5	
	L_1	43.5		44.3		49.1	
	M	4.7		5.7		5.7	
	N	16		16		25	
	P_1	2.8		4		4	
	P_2	5.7		4.5		11	
	Q	M3		M3		M4	
	R	7.8		8.8		8.8	
	S	0.1~0.35		0.1~0.35		0.1~0.35	
	T	4		4		7	
	U	M4-35		M5-35		M5-40	
Weight [lbs / kg]		1.8 / 0.8		2.2 / 1.0		3.3 / 1.5	

[Included parts & accessories : bolts, washers, surge protector]

[1" = 25.4mm]

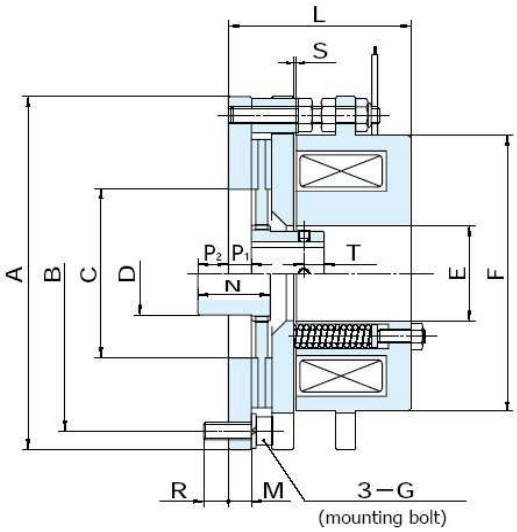
[Note 1 : OFS 220 power supply]

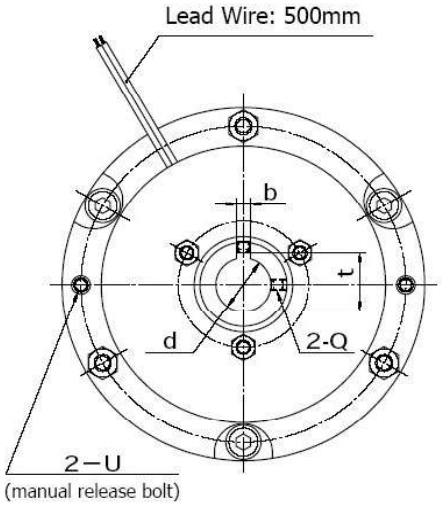
MNB

EM Spring-Applied Brake

Types: 1.2, 2.5, 5, 10, 20, 40, 80

[EM: Electromagnet]





MNB		1.2G	1.2K	2.5G	2.5K	5G	5K	10G	10K	20J	20K	40J	40K	80J	80K
Static Torque [ft-lbs / N-m]		8.9 / 12		18 / 25		37 / 50		74 / 100		148 / 200		295 / 400		590 / 800	
Coil (20°C)	Voltage [DC-V]	24	90	24	90	24	90	24	90	72	90	72	90	72	90
	Current [A]	1	0.26	1.6	0.39	1.74	0.47	2.2	0.58	0.58	0.97	1.1	1.3	1.4	1.8
	Resistance [Ω]	24	350	15	230	14	190	11	150	150	74	82	55	62	40
	Wattage [W]	24	23	39	35	42	42	53	53	53	70	98	94	130	130
Armature	Pull-In Time [ms]	80	40[1]	100	45[1]	120	60[1]	180	90[1]	120[1]	90[2]	160	120[2]	200	160[2]
	Release Time [ms]	70	70[1]	100	100[1]	120	120[1]	160	160[1]	180[1]	100[2]	220	140[2]	230	150[2]
Max Allowable Speed [rpm]		3500		3000		3000		2500		2500		2000		2000	
Moment of Inertia (J) [kg-cm²]		3		6		14.5		25		60		170		503	
Max Air Gap Until Adjustment [mm]		0.8		0.8		0.8		0.8		1		1.2		1.2	
Max Energy Until Adjustment [J]		7.2×10^7		1.0×10^8		1.4×10^8		1.6×10^8		3.0×10^8		5.6×10^8		7.0×10^8	
Max Energy Until Life [J]		2.0×10^8		3.4×10^8		4.8×10^8		7.9×10^8		1.2×10^9		2.2×10^9		3.2×10^9	
Max Work Rate [W]		123		147		245		327		490		590		700	
Bore [mm]	d_{H7}	19		24		28		32		42		55		65	
Key Way [mm]	b_{E9}	5		7		7		10		12		16		18	
	$t_{+0.15/-0}$	21		27		31		35.5		45.5		60		71	
Dimensions [mm]	A_{h9}	125		145		165		190		230		275		340	
	B	112		130		150		170		210		250		305	
	C_{H9}	60		75		85		95		125		150		180	
	D	30		38		45		52		65		80		95	
	E	34		44		54		60		70		90		105	
	F	98		116		134		152		186		220		270	
	G	M6		M6		M6		M8		M8		M12		M16	
	L	63		72		78		88		98		125		145	
	L[3]	63		72		78		88		98		143		167	
	M	8		9		10		11		12		15		18	
	N	25		30		35		40		50		60		70	
	P_1	8		9		10		11		12		15		18	
	P_2	10.5		13		16		18		27		31		33	
	Q	M4		M5		M6		M6		M8		M8		M8	
	R	8.5		9.5		8.5		12		11		17		23	
	S	0.1~0.35		0.1~0.35		0.1~0.35		0.2~0.45		0.2~0.45		0.2~0.45		0.3~0.55	
	T	7		10		10		15		15		28		30	
	U	M5-28		M6-30		M6-35		M8-40		M10-45		M12-85		M12-95	
Weight [lbs / kg]		7.3 / 3.3		11 / 5		16 / 7		24 / 11		41 / 19		77 / 35		137 / 62	

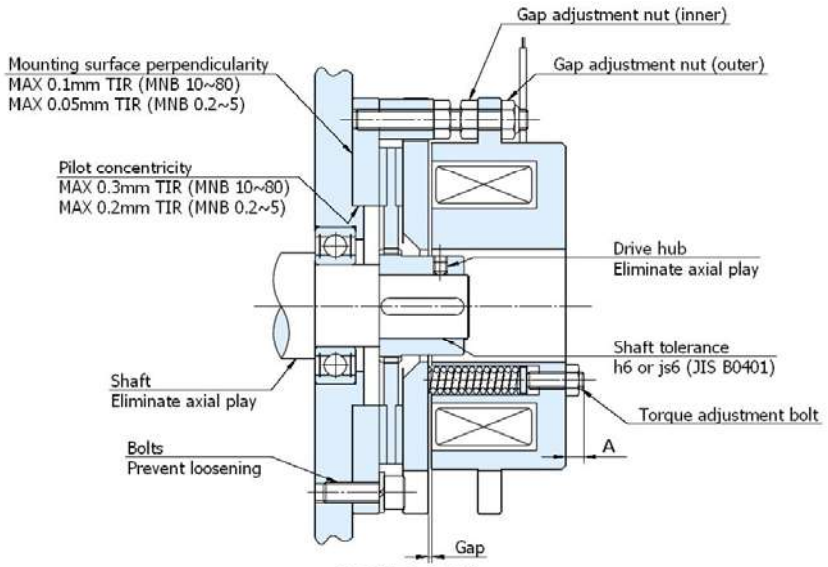
[Note 1 : OFS 220 power supply]

[Note 2 : OHP 18H power supply]

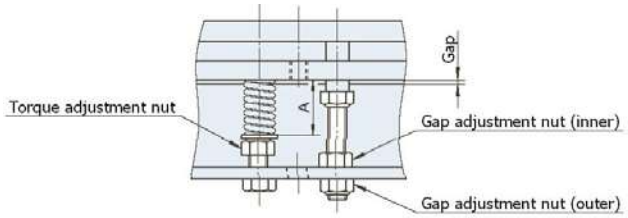
[Note 3 : Total height including gap adjustment bolt]

[1 inch = 25.4 mm]

MNB: TYPICAL INSTALLATION



MNB 1.2~80



MNB 0.2~0.8

MNB	**0.2**	**0.4**	**0.8**	**1.2**	**2.5**	**5**	**10**	**20**	**40**	**80**
Normal Air Gap [mm]	0.1~0.35						0.2~0.45			0.3~0.55
Max Air Gap [mm]	0.6			0.8				1	1.2	
Dimension A	**Torque [ft-lbs / Nm]**									
15.5	1.5 / 2	3 / 4								
16	1.2 / 1.6	2.4 / 3.2								
16.5	0.9 / 1.2	1.8 / 2.4								
20.5			5.9 / 8							
20.9			4.7 / 6.4							
21.3			3.5 / 4.8							
5				8.9 / 12						
6				7.0 / 9.5	18 / 25	37 / 50	74 / 100			
7										
8					15 / 20	30 / 40	59 / 80	148 / 200		
10					11 / 15	22 / 30	44 / 60	118 / 160		
12								89 / 120		
14									295 / 400	590 / 800
16									258 / 350	
17										516 / 700
18									221 / 300	
20										443 / 600

MNB: TORQUE CHARACTERISTIC