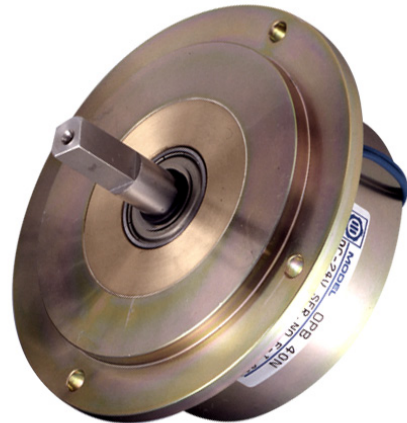


MAGNETIC PARTICLE

CLUTCHES & BRAKES



Features

Fast Response

The OP series has been designed to provide fast response. Response rates can be further quickened through overexcitation circuits.

Stable Torque

The OP series produces consistent and repeatable torque. Torque is independent of speed and proportional to voltage applied to the field.

Long Life

The OP series sturdy construction and precise formulation of the magnetic particles combine to provide extended life.

Slip Capacity

OP series clutches and brakes are designed to deliver high performance under constant slip conditions.

MAGNETIC PARTICLE

CLUTCH (SERIES 51-OPC)

Fig 1

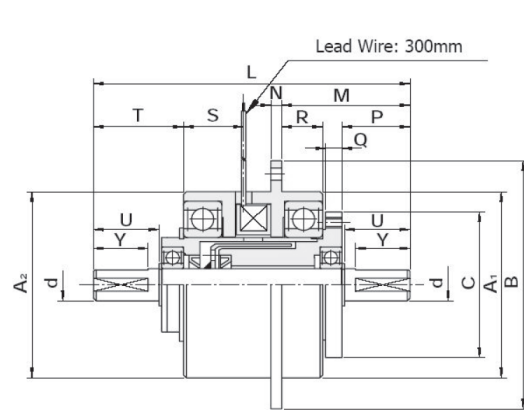
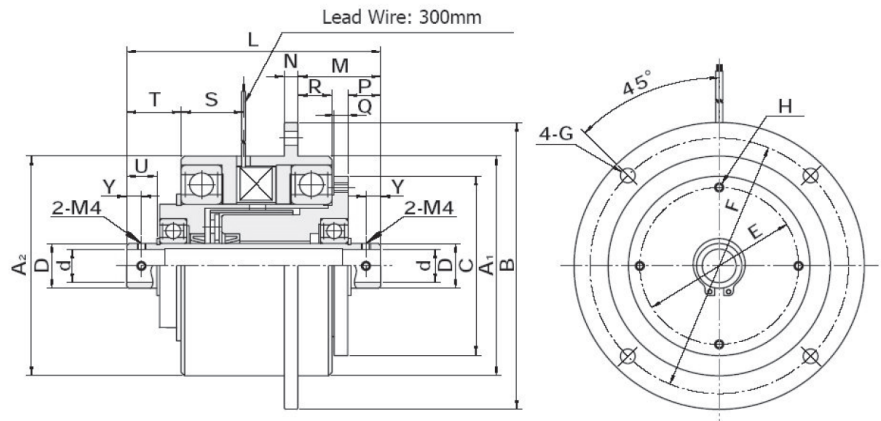


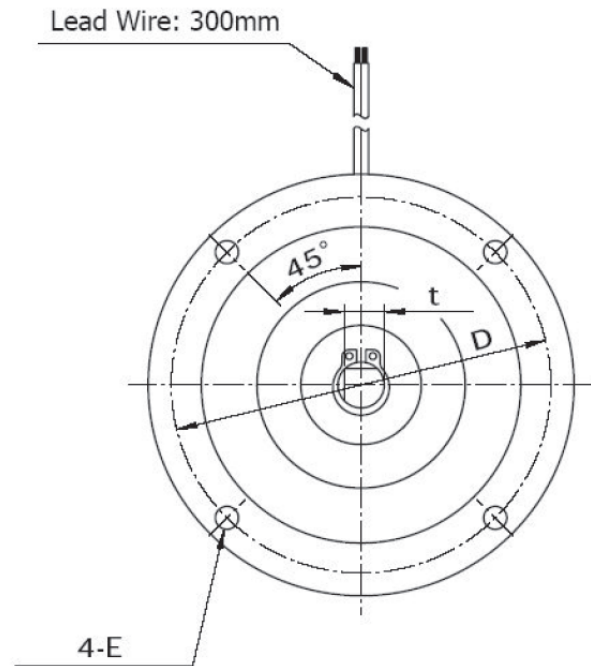
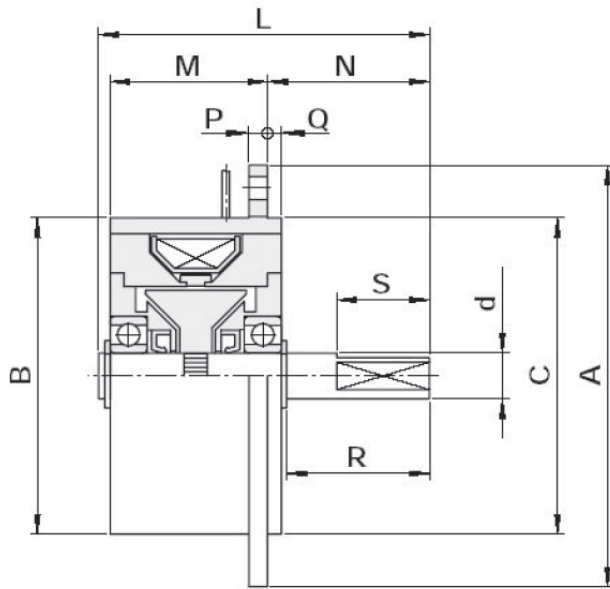
Fig 2



Model	Figure 1			Figure 2	
	51-OPC 5	51-OPC 10	51-OPC 20	51-OPC 40	51-OPC 80
Torque Range (Nm)	0.50	1.0	2.0	4.0	8.0
Wattage (DC24V) (W)	12	14	18	22	33
Moment of Inertia J (KGCM2)	Input	0.15	0.26	0.84	3.25
	Output	0.014	0.018	0.07	0.29
Radial Dimensions (mm)	D1H7	5	7	12	-
	t	4.5	6.5	11.5	-
	D2H7	-	-	-	12
	A1H7	50	54	69	86
	A2	50	54	69	86
	B	70	76	92	112
	CH7	40	42	54	70
	D	-	-	-	20
	E	30	34	46	60
	F	60	66	82	100
	G	4.5	4.5	4.5	5.5
	H	3 - M4	3 - M4	4 - M4	4 - M4
	L	77	83	116	97
	M	25	27	47	32
	N	4	4	4	5
	Axial Dimensions (mm)	P	11	13	25
Q		5	5	6	6
R		8.5	8.5	15	15
S		26	18	24	28
T		13.5	15.5	33	21
U		10.5	12.2	24	8.8
Y		9	10	20	4
Weight (lbs)		1.5	1.8	2.8	5.3

MAGNETIC PARTICLE

BRAKE (SERIES 52-OPB-N)

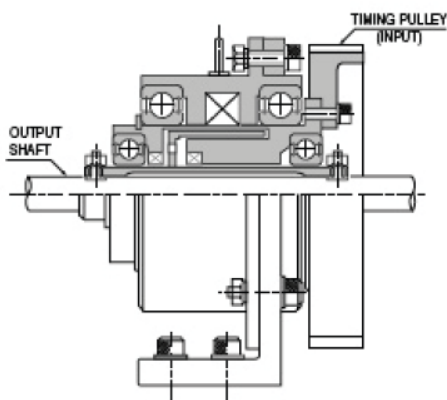


Model	52-OPB	52-OPB 10	52-OPB 20	52-OPB 40	52-OPB 80	
Torque Range (Nm)	0.5	1.0	2.0	4.0	8.0	
Wattage (DC24V) (W)	12	14	18	22	33	
Moment of Inertia J (KGC/M2)	0.15	0.26	0.84	3.25	5.25	
Radial Dimensions (mm)	DG7	6	7	10	12	15
	t	5.5	6.5	9	10	13
	A	65	75	92	112	128
	B	46	56	69	86	100
	CH9	43	54	69	86	98
	D	56	66	82	100	114
Axial Dimensions (mm)	E	4.5	4.5	4.5	5.5	6.5
	L	56	61	71.5	79	95
	M	27.5	33	34	36	42
	N	25.5	25.8	35	40	50
	P	3	4	4	5	6
	Q	2.5	3	3	5	6
	R	22.3	22	31	34	43
	S	12	12	20	20	20
Weight (lbs)	0.9	1.5	2.2	4.0	6.6	

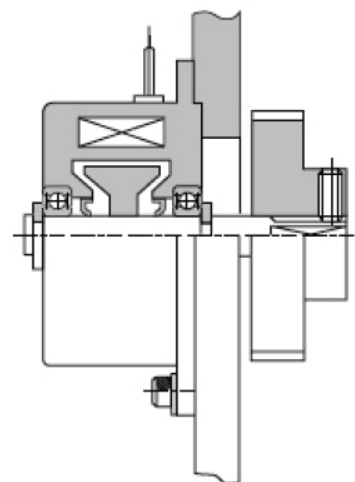
PERFORMANCE TABLE

Model	Rated Torque (Nm)	Coil Resistance (20dec C Ohm)	Drag Torque (Nm)	Allowable continuous heat Dissipation (W)	Max Speed (r/min)
51-OPC 5	0.5	50	Max 0.12	15	1800
51-OPC 10	1.0	41	Max 0.23	25	1800
51-OPC 20	2.0	32	Max 0.47	45	1800
51-OPC 40	4.0	26	Max 0.95	70	1800
51-OPC 80	8.0	17.6	Max 1.91	90	1800
52-OPB 5	0.5	90	Max 0.12	25	1800
52-OPB 10	1.0	65	Max 0.23	35	1800
52-OPB 20	2.0	65	Max 0.47	50	1800
52-OPB 40	4.0	65	Max 0.95	60	1800
52-OPB 80	8.0	65	Max 1.91	80	1800

Typical Installation



Model 51-OPC Clutch



Model 52-OPB Brake

PERMANENT MAGNET HYSTERESIS CLUTCHES & BRAKES

Features

Accurate & Dependable Torque

Since torque is transmitted via a hysteresis field, there is minimal difference between the static and the dynamic torque. These units are unaffected by friction and wear, therefore torque is substantially more accurate and repeatable than friction tensioners

Stable Torque

A Consistent torque is maintained regardless of allowable slip speed due to the hysteresis principle.

Long Life

There is virtually no wear because permanent magnets and hysteresis disks transmit the torque by magnetic flux without physical contact.

Simple Installation

Units are provided bearing mounted and pre-assembled.

No Contamination

Units are sealed which protect against contamination from equipment. There are also no wear particles from operation to contaminate equipment.

No Electrical Power Needed

The PHR Series clutches and brakes operate on a permanent magnet principle. External electrical connection is not required, therefore units function independantly from power fluctuation.

Constant Torque (Adjustable)

Units can deliver set torque regardless of speed range. Each Unit's torque settings may be manually adjusted over a wide rane providing great flexibility.

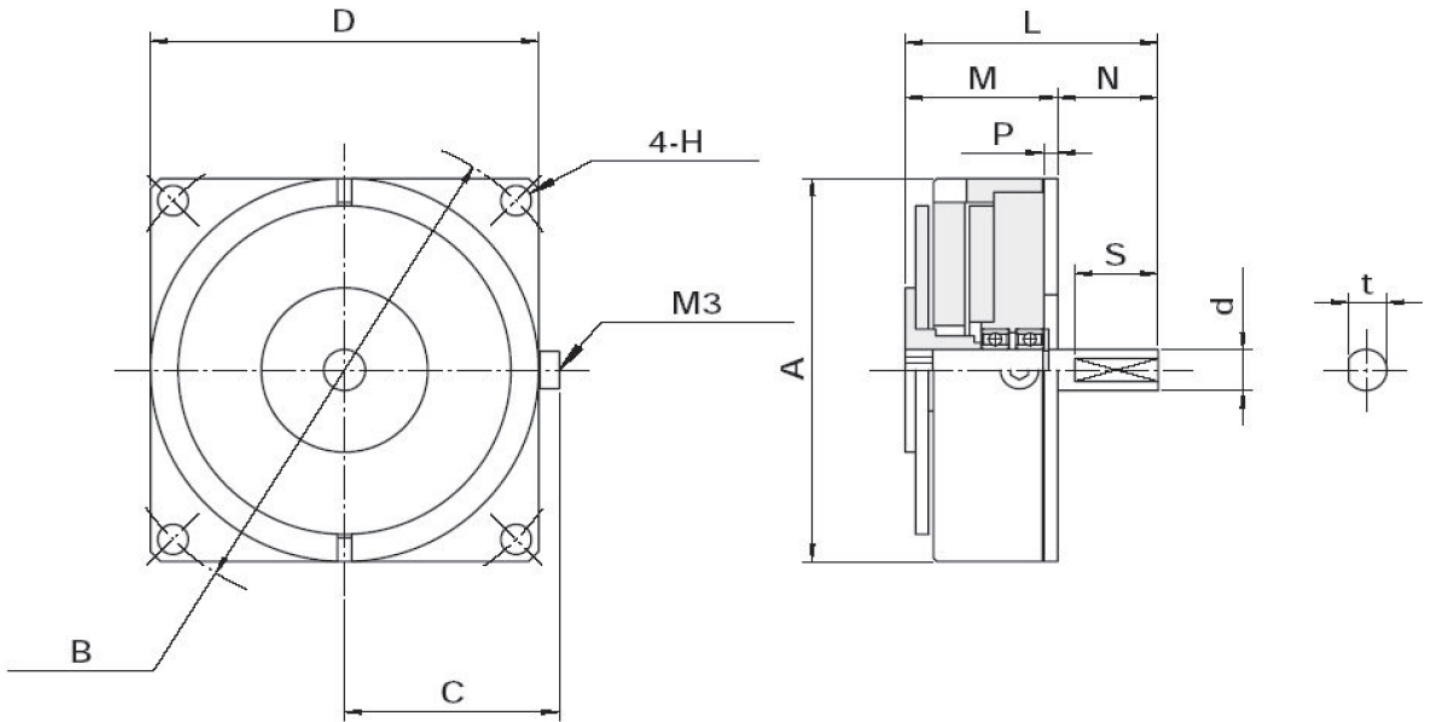
Vertical and Horizontal Operation Possible

Units can be mounted in any axis and can be run either clockwise or counter-clockwise without affecting performance.



LIGHT TORQUE

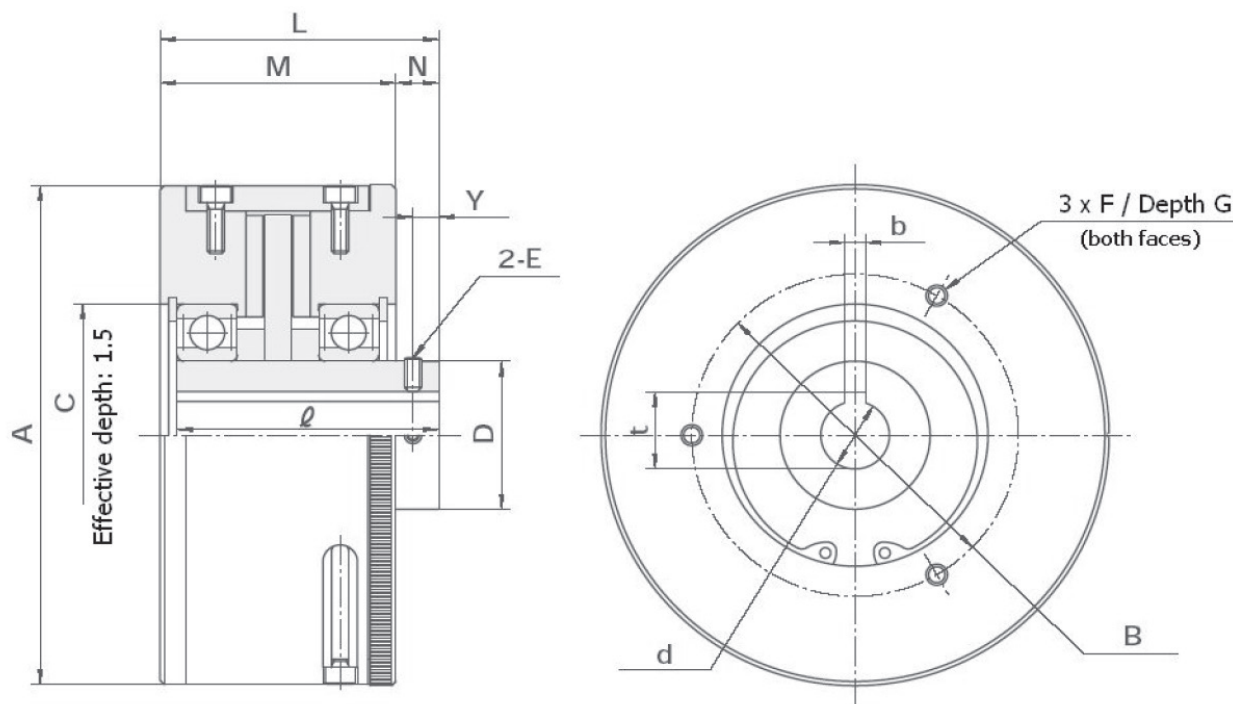
HYSTERESIS BRAKE (SERIES 52-PHT-S)



Model 52-PHT		0.02S	0.05S	0.5S
Torque Range (Nm)		*0-0.003	*0-0.0075	0.001 - 0.060
Max Slip Speed (r/min.)		1800	1800	1800
Max Heat Dissipation (W)		2.5	3	10
Moment of Inertia	(Kgm ²)	0.0011	0.0048	0.103
	(Kgfc ^m 2)	0.0045	0.0190	0.410
Shaft DIA (mm)	dg6	3	3	-
	t	2.6	2.6	5.5
Radial Dimensions (mm)	A	26	32	56
	B	34 +/- 0.2	40 +/- 0.2	70 +/- 0.2
	C	16.5	19.5	31.5
	D	30	35	56
	H	3.4	3.4	4.4
	L	28	28	36.5
Axial Dimensions (mm)	M	16.7	18	22
	N	11.3	10	14.5
	P	2	2	2
	S	8	8	8
Weight (Kg)		0.06	0.09	0.35

HYSTERESIS BRAKE OR CLUTCH

(SERIES 52-PHT-D)



Model 52-PHT			1.2D	2.5D	5D
Torque Range (Nm)			0.01 - 0.17	0.01 - 0.37	0.02 - 0.5
Max Slip Speed (r/min.)			1800	1800	1800
Max Heat Dissipation (W)			15	20	30
Moment of Inertia	JX 10-4	Body side	1.3	4.5	7.5
	(Kgfc ²)	Shaft side	0.078	0.243	0.4
Bore DIA & Length (mm) dH7 x 1			6 x 37.5	6 x 40	8 x 43
KEYWAY bjs9 x t + 0.1/-0			-	-	3 x 9.4
Radial Dimensions (mm)	A		47	60	70
	B		32 +/- 0.2	40 +/- 0.2	46 +/- 0.2
	CH7		22	28	28
	D		18	12	15
	E		M3	M3	M3
	F		M3	M3	M3
	T		6	6	6
Axial Dimensions (mm)	L		39.5	42	45
	M		32.5	35	37
	N		7	7	8
	Y		3	3	4
Weight (Kg)			0.3	0.57	0.84

MODEL 52-PHT

MODEL		10D	30D	70D
Torque Range (Nm)		0.5 - 0.99	0.2 - 2.99	2.99 - 7.0
Max Slip Speed (r/min.)		1800	1000	700
Max Heat Dissipation (W)		45	70	150
Moment of Inertia	JX 10-4	11.5	55	230
	Body side			
	(Kgfc ²)	1.075	6.25	27.5
	Shaft side			
Bore DIA & Length (mm) dH7 x 1		15 x 53.7	16 x 61	16 x 64
KEYWAY bjs9 x t + 0.1/-0		5 x 17.3	5 x 18.3	5 x 18.3
Radial Dimensions (mm)	A	82	118	166
	B	60 +/- 0.2	76.2 +/- 0.2	105 +/- 0.2
	CH7	47	62	62
	D	25	35	35
	E	M4	M4	M4
	F	M4	M5	M5
	T	10	12	12
Axial Dimensions (mm)	L	57.2	65	68
	M	50.1	55	59
	N	7.1	10	9
	Y	3.5	6	6
Weight (Kg)		1.6	3.6	7.9

* No torque except miniscule bearing contact and seal drag.