



Dimensions

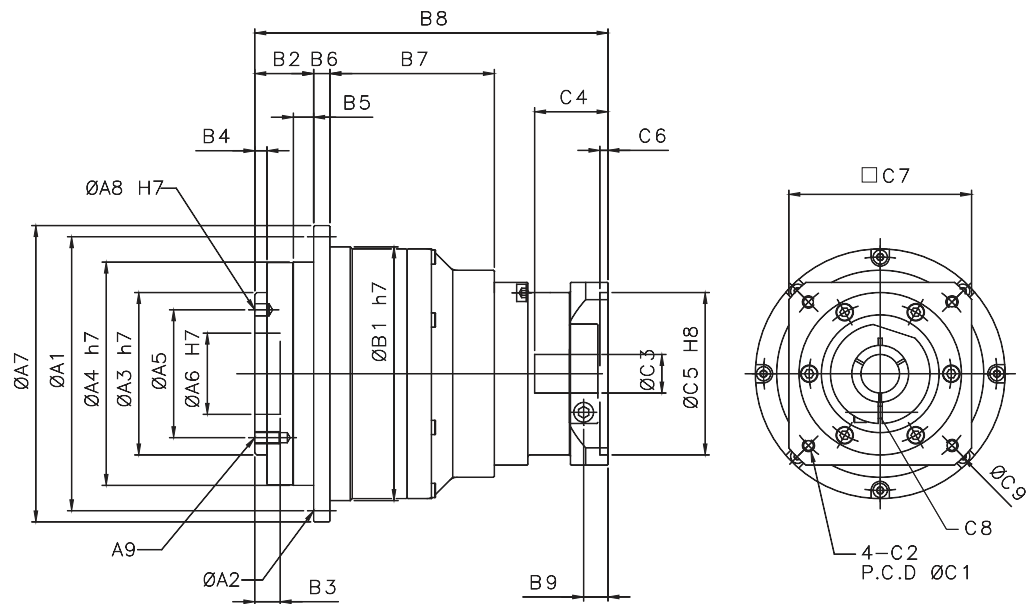


Dimensions



MODEL : NF Series

(2stage reducer, Reduction ratio I = 25,35,50,70,100)



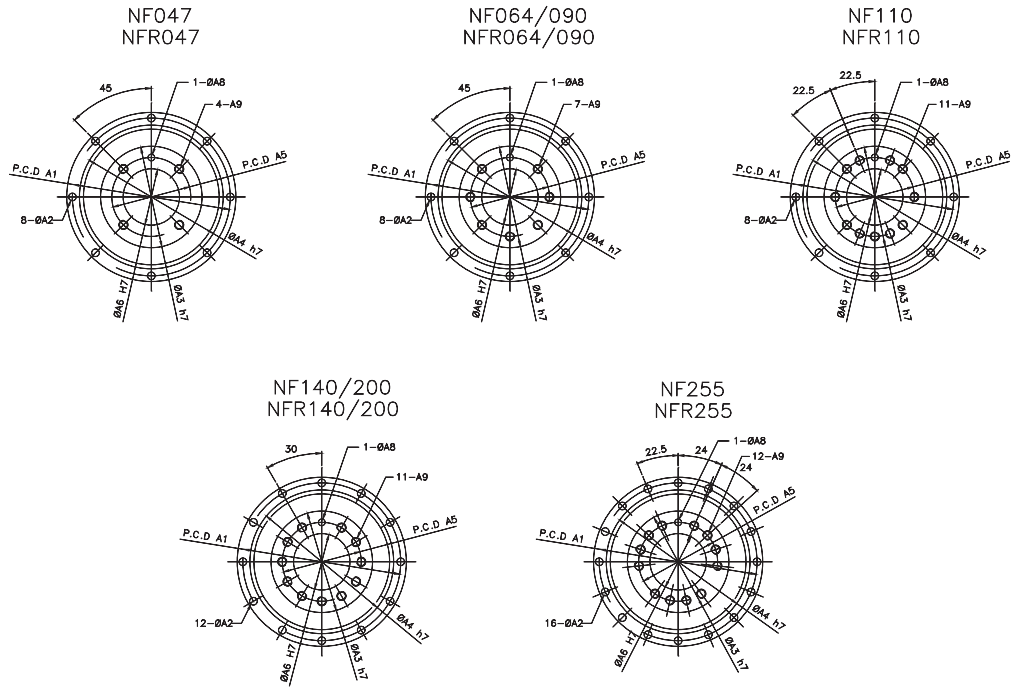
Unit : mm

CODE	MODEL	047	064	090	110	140	200	255
A	A1	67	79	109	135	168	233	280
	A2	8~3,4	8~4,5	8~5,5	8~5,5	12~6,6	12~9,0	16~13,5
	A3	28	40	63	80	100	160	180
	A4	47	64	90	110	140	200	255
	A5	20	31,5	50	63	80	125	140
	A6	12	20	31,5	40	50	80	100
	A7	72	86	118	146	179	247	300
	A8	Ø3xDP4	Ø5xDP6	Ø6xDP6	Ø6xDP7	Ø8xDP7	Ø10xDP10	Ø12xDP10
	A9	4-M3xP0,5xDP6,5	7-M5xP0,8xDP10	7-M6xDP12	11-M6xDP12	11-M8xDP16	11-M10xDP20	12-M16xDP28
B ²⁾	B1	60	70	98	125	156	212	255
	B2	19,5	19,5	30	29	38	50	66
	B3	4,5	8	12	12,5	12	16	20
	B4	3	3	6	6	6	8	12
	B5	7	7	10	10	16,5	18	20
	B6	4	4	7	8	10	12	18
	B7	42	47	62	81	97,5	110	130
	B8*	107	112	153	174	227,5	263	337
	B9*	9	9	14	12	15	17,5	22,5
C ²⁾	C1*	46	46	70	90	130	165	215
	C2*	M4xP0,5	M4xP0,5	M5xP0,8	M6	M8	M10	M12
	C3* ¹⁾	≤11(12)	≤11(12)	≤14(16)	≤19(22,24)	≤28(32)	≤38	≤48
	C4*	25	25	34	40	50	60	85
	C5*	30	30	50	80	110	130	180
	C6*	3,5	3,5	8	4	5	6	6
	C7*	42	42	60	90	115	142	190
	C8*	M3xP0,5	M3xP0,5	M5xP0,8	M6	M8	M10	M10
	C9*	56	56	80	116	152	186	242

1. () on request, 2. * : applied according to motor sizes
3. Dimensions are subject to be changed for improvement. Please contact NARA DRIVE for more information.

MODEL : NF Series

Output Dimensions



Unit : mm

Dimension	NF047	NF064	NF090	NF110	NF140	NF200	NF255
	NFR047	NFR064	NFR090	NFR110	NFR140	NFR200	NFR255
A1	67	79	109	135	168	233	280
A2	3,4	4,5	5,5	5,5	6,6	9,0	13,5
A3	28	40	63	80	100	160	180
A4	47	64	90	110	140	200	255
A5	20	31,5	50	63	80	125	140
A6	12	20	31,5	40	50	80	100
A8	3xDP4	5xDP6	6xDP6	6xDP7	8xDP7	10xDP10	12xDP10
A9	M3xP0,5xDP6,5	M5xP0,8xDP10	M6xDP12	M6xDP12	M8xDP16	M10xDP20	M16xDP28

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NARA DRIVE
MOTION & CONTROL

NF Series

For servo motor and stepping motor

PRECISION PLANETARY GEARHEADS

Backlash 3min / 5min / 10min



NARA DRIVE
www.naradr.com





Features



LOW NOISE

Low noise is performed by using helical planetary reduction gear for low noise and smooth operation.

HIGH STRENGTH

High strength is achieved with ring gear directly toothed at housing, and compact size also achieved.

HIGH PRECISION

5min or 3min high precision backlash makes precise position control and performs the best operation of servo motor.

LONG LIFE

More than 20,000 operating hours and maintenance free.

EASY MOUNTING

Easy mounting for all kinds of servo motors with using set collars and bushes.

HELICAL GEAR APPLIED

For servo motors, high torque and smooth, silent operation are achieved by helical gear with higher tooth contact ratio than spur gear.

NF Series

NF

110

025

P1

MOTOR

model

Frame size

Reduction ratio

Backlash

Motor applied



Specifications

Model No	Unit	Stage	Ratio	NF047	NF064	NF090	NF110	NF140	NF200	NF255
Nominal Output Torque T _{2N}	Nm	1	5	22	60	-	330	10	1200	2000
			7	19	50	140	300	550	1100	1800
			10	14	40	100	230	450	900	1500
	2		25	22	60	-	330	650	1200	2000
			35	19	50	140	300	550	1100	1800
			50	22	60	-	330	650	1200	2000
Emergency Stop Torque T _{2NOT} ⁴	Nm	1,2	5~100	3times of nominal output torque						
Nominal Input Speed n _{IN}	rpm	1,2	5~100	3,000	3,000	3,000	3,000	3,000	3,000	2,000
Max Input Speed n _{1max}	rpm	1,2	5~100	6,000	6,000	5,000	5,000	5,000	5,000	4,000
Precision Backlash P ₁	arcmin	1	5~10	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
		2	25~100	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
Low Backlash P ₂	arcmin	1	5~10	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
		2	25~100	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
Standard Backlash P ₃	arcmin	1	5~10	≤10	≤10	≤10	≤10	≤10	≤10	≤10
		2	25~100	≤12	≤12	≤12	≤12	≤12	≤12	≤12
Max. Axial Load F _A ²	N	1,2	5~100	1,040	1,120	3,470	5,110	6,880	13,180	17,050
Service Life	hr	1,2	5~100	20,000 ⁵						
Noise Level (n1=3000rpm, No Load)	dB(A)	1,2	5~100	≤56	≤58	≤60	≤63	≤65	≤67	≤70
Efficiency η	%	1	5~10	≤ 97						
		2	25~100	≤ 94						
Weight	kg	1	5~10	0,7	1,2	3	5,6	11,9	31,6	56,1
		2	25~100	1,0	1,6	3,7	7,3	15,9	36,9	70,4
Operating Temperature ³	℃	1,2	5~100	-10℃ ~ +90℃						
Lubrication		1,2	5~100	Grease						
Degree of Protection		1,2	5~100	IP65						
Mounting Position		1,2	5~100	All directions						

1. Ratio=Nin/Nout
2. Load at center of output shaft, output speed 100rpm
3. Ambient temperature 0~40℃
4. Max. Output Torque T_{2B} = 60% of T_{2NOT}
5. Service life 10,000hrs (S1: Continuous operating condition)

* Specifications are subject to be changed for improvement, Please contact NARADRIIVE for more information.

NF Series Inertia

Model No	Unit	Stage	Ratio	NF047	NF064	NF090	NF110	NF140	NF200	NF255
Mass Moments of Inertia J	kg·cm ²	1	5	0,03	0,13	-	2,71	7,42	23,29	53,27
			7	0,03	0,13	0,45	2,64	7,14	22,48	50,97
			10	0,03	0,13	0,44	2,57	1,03	22,51	50,56
		2	25	0,03	0,03	-	0,47	2,71	7,42	23,29
			35	0,03	0,03	0,15	0,47	2,71	7,42	23,29
			50	0,03	0,03	-	0,44	2,60	7,03	22,51
			70	0,03	0,03	0,14	0,44	2,60	7,03	22,51
			100	0,03	0,03	0,14	0,44	2,60	7,03	22,51

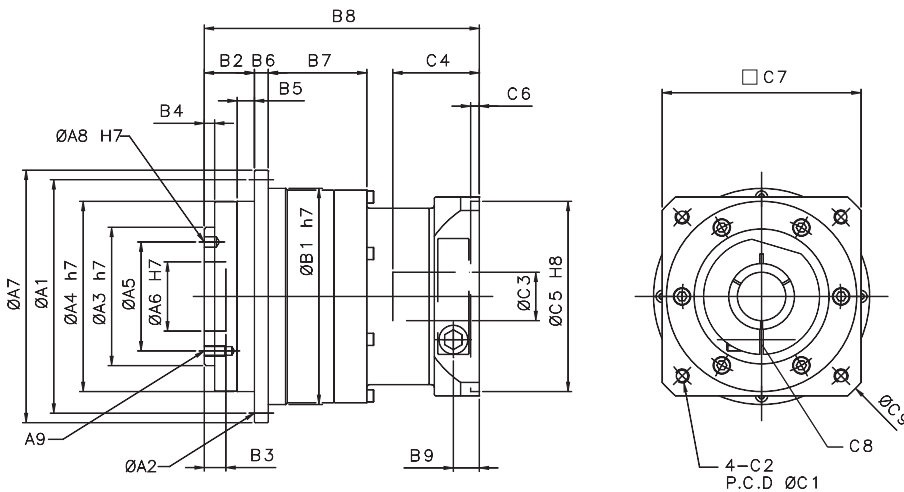
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Dimensions

MODEL : NF Series

(1stage reducer, Reduction ratio I = 5,7,10)



Unit : mm

CODE	MODEL	047	064	090	110	140	200	255
A	A1	67	79	109	135	168	233	280
	A2	8~3,4	8~4,5	8~5,5	8~5,5	12~6,6	12~9,0	16~13,5
	A3	28	40	63	80	100	160	180
	A4	47	64	90	110	140	200	255
	A5	20	31,5	50	63	80	125	140
	A6	12	20	31,5	40	50	80	100
	A7	72	86	118	146	179	247	300
	A8	Ø3xDP4	Ø5xDP6	Ø6xDP6	Ø6xDP7	Ø8xDP7	Ø10xDP10	Ø12xDP10
	A9	4-M3xP0,5xDP6,5	7-M5xP0,8xDP10	7-M6xDP12	11-M6xDP12	11-M8xDP16	11-M10xDP20	12-M16xDP28
B ²⁾	B1	60	70	98	125	156	212	255
	B2	19,5	19,5	30	29	38	50	66
	B3	4,5	8	12	12,5	12	16	20
	B4	3	3	6	6	6	8	12
	B5	7	7	10	10	16,5	18	20
	B6	4	4	7	8	10	12	18
	B7	20	32,5	42,5	57	56	80	77
	B8*	77	98	120	159	177,5	230	297
	B9*	9	14	12	15	17,5	22,5	53,5
C ²⁾	C1*	46	70	90	130	165	215	235
	C2*	M4xP0,7	M5xP0,8	M6	M8	M10	M12	M12
	C3* ¹⁾	≤ 11(12)	≤ 14(16)	≤ 19(22,24)	≤ 28(32)	≤ 38	≤ 48	≤ 55
	C4*	25	34	40	50	60	85	116
	C5*	30	50	80	110	130	180	200
	C6*	3,5	8	4	5	6	6	6
	C7*	42	60	90	115	142	190	220
	C8*	M3xP0,5	M5xP0,8	M6	M8	M10	M10	M10
	C9*	56	80	116	152	186	242	262

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