

# Types AA, AE, ANF and ANR Roller Ramp Clutches



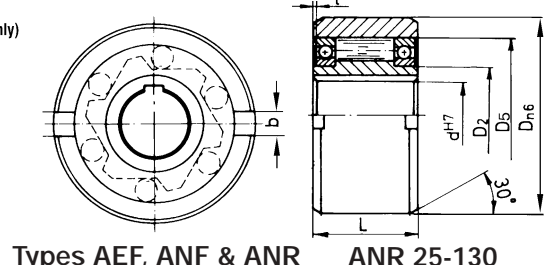
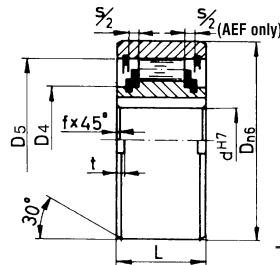
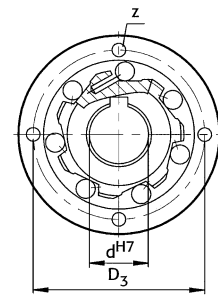
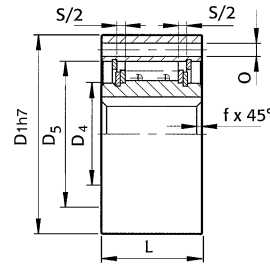
These freewheels are high torque roller ramp clutches for applications within an encased lubrication system. Torque is transmitted by keyway in bore and 2 keyseats on end faces of outer race (except AA series).

Type AA has drilled outer race to bolt to gears, or to machine housing if used as backstop when cover F4 from AGF series can be used to provide fully sealed unit.

Types AA and AEF incorporate axial clearance "S" to avoid need for precise axial positioning of inner and outer races. This can also accommodate shaft temperature expansion.

Type ANR incorporates its own bearings to centre inner and outer races. Size ANR 8-20 have steel on steel plain bearing, whilst larger units use two series 160 ball-bearings.

Type AA Drilled Outer Race



Types AEF, ANF & ANR ANR 25-130

## Dimensions ANF & ANR Series

Clutch Size		Nom <sup>(1)</sup> Torque Nm	Max Overrun rpm		Dimensions mm										Bearing Size	App. Wt. kg	
ANF	ANR		Inner	Outer	dh7	Dn6	D2	D4	D5	L	1	BH11	t	ANF		ANR	
ANF 8		16	4000	6000	8	37		20	30	20	-	6	3.0	-	0.1	-	
ANF 12		16	4000	6000	12	37		20	30	20	-	6	3.0	-	0.1	-	
ANF 15		62	3600	5400	15	47		26	37	30	-	7	3.5	-	0.3	-	
ANF 20		150	2700	4600	20	62		37	52	36	-	8	3.5	-	0.6	-	
ANF 25	ANR 25	200	2100	3600	25	80	40	49	68	40	0.2	9	4.0	16008	1.1	1.2	
ANF 30	ANR 30	400	1700	3200	30	90	45	52.5	75	48	0.2	12	5.0	16009	1.6	1.8	
ANF 35	ANR 35	530	1550	3000	35	100	50	58	80	53	1.2	13	6.0	16010	2.3	2.4	
ANF 40	ANR 40	880	1150	2600	40	110	55	62	90	63	2.2	15	7.0	16011	3.1	3.3	
ANF 45	ANR 45	1200	1000	2400	45	120	60	69	95	63	2.2	16	7.0	16012	3.7	4.0	
ANF 50	ANR 50	1900	800	2150	50	130	70	82	110	80	2.7	17	8.5	16014	5.4	5.7	
ANF 55	ANR 55	2000	750	2000	55	140	75	83	115	80	4.2	18	9.0	16015	6.1	6.5	
ANF 60	ANR 60	3400	650	1900	60	150	80	93.5	125	95	3.2	18	9.0	16016	8.5	8.9	
ANF 70	ANR 60	4700	550	1750	70	170	90	106	140	110	1.1	20	9.0	16018	13.0	13.5	
ANF 80	ANR 80	8000	500	1600	80	190	105	122	160	125	0.0	20	9.0	16021	18.0	19.0	
ANF 90	ANR 90	13800	450	1450	90	215	120	133	180	140	0.6	24	11.5	16024	25.3	27.2	
ANF 100	ANR 100	15700	350	1250	100	260	140	157	210	150	2.6	28	14.5	16028	42.1	44.5	
ANF 130	ANR 130	27800	250	1000	130	300	160	188	240	180	2.0	32	17.5	16032	65.0	68.0	
ANF 150	ANR 150	35500	200	800	150	320	160	205	260	180		32	17.5		95.0		
	ANR 8	16	1000	1000	8	37	20	-	30	20	-	6	3.0	-	-	0.1	
	ANR 12	16	1000	1000	12	37	20	-	30	20	-	6	3.0	-	-	0.1	
	ANR 15	62	850	850	15	47	26	-	37	30	-	7	3.5	-	-	0.3	
	ANR 20	150	650	650	20	62	37	-	52	36	-	8	3.5	-	-	0.6	

## Dimensions AEF & AA Series (for b & t on AEF series refer same bore size ANF clutch)

Clutch Size		Nom <sup>(1)</sup> Torque Nm	Max Overrun rpm		Dimensions mm										App. Wt. kg	
AEF	AA		Inner	Outer	dh7	Dn6	D1h7	D4	D3	D5	Z	O	L	S	AEF	AA
AEF 12	AA 12	13	3100	6200	12	37	47	20	38	28	3	5.5	20	4.5	0.11	0.21
AEF 15	AA 15	44	2300	5600	15	47	55	26	45	37	3	5.5	30	4.5	0.30	0.44
AEF 20	AA 20	117	2000	4800	20	62	68	35	58	50	4	5.5	34	5.5	0.55	0.70
AEF 25	AA 25	228	1700	4000	25	80	90	45	78	65	6	5.5	37	6.5	0.98	1.30
AEF 30	AA 30	400	1500	3400	30	90	100	50	87	75	6	6.6	44	6.2	1.50	2.00
AEF 35	AA 35	576	1300	2800	35	100	110	55	96	80	6	6.6	48	3.8	2.00	2.60
AEF 40	AA 40	824	1200	2500	40	110	125	60	108	90	6	9.0	56	3.8	2.80	3.90
AEF 45	AA 45	900	1050	2200	45	120	130	65	112	95	8	9.0	56	3.8	3.30	4.00
AEF 50	AA 50	1720	950	2050	50	130	150	78	132	110	8	9.0	63	5.8	4.20	6.00
AEF 55	AA 55	2140	850	1950	55	140	160	82	138	115	8	11.0	67	3.8	5.20	7.20
AEF 60	AA 60	2800	800	1800	60	150	170	90	150	125	10	11.0	78	7.6	6.80	9.20
AEF 70	AA 70	4650	650	1700	70	170	190	100	165	140	10	11.0	95	7.6	10.50	11.80

Keyways to DIN 6885 sht. 1.

(1) Nominal torque can be exceeded by up to 2.5x for brief periods.

### Installation

Torque from outer race is transmitted by 2 face mounted keys offset by 180°. The mating bore should be to H7 or F7 tolerance (K7 or or H7 for AEF). If keys are not used outer race must be press-fit with housing tolerance K6 (R6 for AEF). Shaft tolerance should be h6 or j6.

(2) Speeds quoted for oil lubrication.

For grease lubrication x0.5.

### Note

Except ANR Series, these freewheels have no integral bearings. Inner and outer races must be centred and aligned by external bearing support.