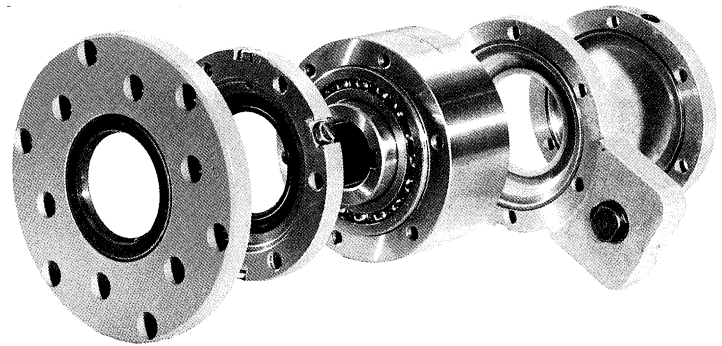


# Types AGF and AGFN Roller Ramp Clutches



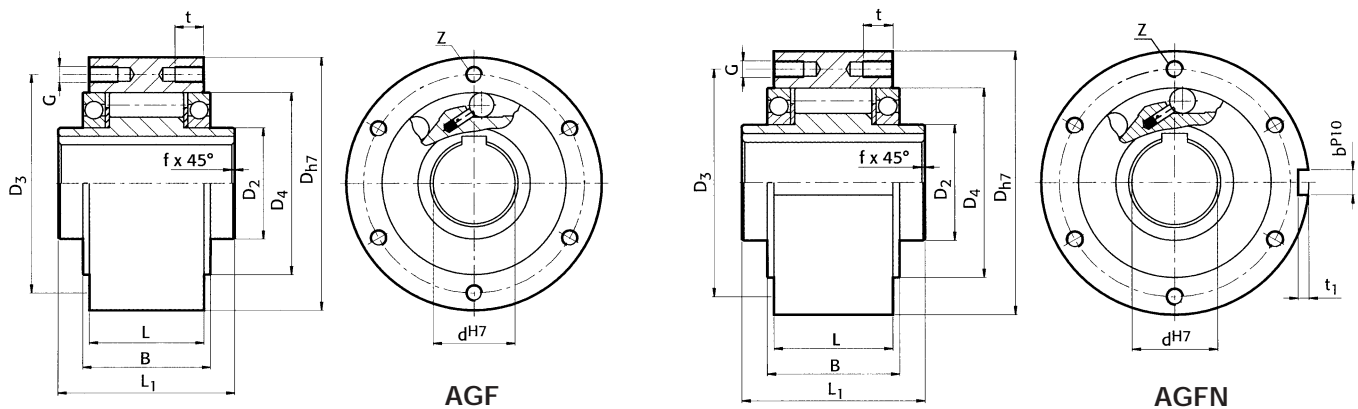
## Combined Roller Ramp Clutch with Ball Bearings and outer race tapped to accept End Flanges

AGF and AGFN freewheels contain their own bearings, to centre inner and outer races. The outer race is tapped to enable fitting of a range of standard end flanges, but can equally be adapted to fit gears, or other driven equipment to suit special applications. Combination with standard end flanges or flexible couplings provides complete unit, with its own lubrication, enabling easy fitting to drive equipment.



Type AGFN incorporates a keyway in the outer race for torque transmission, enabling simple connection of gears, sprockets and pulleys.

Clutches, with the outer races having through drilled holes instead of tapped holes, are available to order (types ALF & ALFN). These clutches use V ring face contact seals for reduced overrun drag torque, and also permits higher overrun speeds on outer race, and so are particularly suited to high speed indexing and continuous overrun applications.



### Dimensions

Clutch Size		Bore mm dH7	Nom Torque Nm	Max Overrun Speed (2)		Dimensions mm											Approx. Weight kg	
Type AGF	Type AGFN			Inner	Outer	Dh7	D2	D4	D3	L1	L	B	t1	bp10	G	t		Z
AGF 12*	AGFN 12*	12	44	4000	5600	62	20	42	51	42	20	27	2.5	4	ø5.5	-	3	0.5
AGF 15	AGFN 15	15	100	3600	5200	68	25	47	56	52	28	32	3	5	M5	8	3	0.8
AGF 20	AGFN 20	20	145	2700	4600	75	30	55	64	57	34	39	3.5	6	M5	8	4	1.0
AGF 25	AGFN 25	25	230 <sup>+</sup>	2100	3600	90	40	68	78	60	35	40	4	8	M6	10	4	1.5
AGF 30	AGFN 30	30	400 <sup>+</sup>	1700	3200	100	45	75	87	68	43	48	4	8	M6	10	6	2.2
AGF 35	AGFN 35	35	580 <sup>+</sup>	1550	3000	110	50	80	96	74	45	51	5	10	M6	12	6	3.0
AGF 40	AGFN 40	40	820	1150	2600	125	55	90	108	86	53	59	5	12	M8	14	6	4.6
AGF 45	AGFN 45	45	900	1000	2400	130	60	95	112	86	53	59	5.5	14	M8	14	8	4.7
AGF 50	AGFN 50	50	1700	800	2150	150	70	110	132	94	64	72	5.5	14	M8	14	8	7.2
AGF 55	AGFN 55	55	2100	750	2000	160	75	115	138	104	66	72	6	16	M10	16	8	8.6
AGF 60	AGFN 60	60	2800	650	1900	170	80	125	150	114	78	89	7	18	M10	16	10	10.5
AGF 70	AGFN 70	70	4600	550	1750	190	90	140	165	134	95	108	7.5	20	M10	16	10	13.5
AGF 80	AGFN 80	80	6800	500	1600	210	105	160	185	144	100	108	9	22	M10	16	10	18.2
AGF 90	AGFN 90	90	11600	450	1450	230	120	180	206	158	115	125	9	25	M12	20	10	28.5
AGF 100	AGFN 100	100	16000	350	1250	270	140	210	240	182	120	131	10	28	M16	24	10	42.5
AGF 130	AGFN 130	130	25000	250	1000	310	160	240	278	212	152	168	11	32	M16	24	12	65.0
AGF 150	AGFN 150	150	56000	200	800	400	200	310	360	246	180	194	12	36	M20	32	12	138.0

(1) Max. Torque = 2.5 Nom. Torque for brief periods only.

(2) For oil lubrication.  
For grease lubrication x0.5.

Shaft keyways to DIN 6885 Sht. 1.

\* Clutch sizes AGF 12 & AGFN 12 have through holes in outer race.

+ Clutch sizes 25, 30 & 35 can be supplied with increased torque design type AGFM for high load indexing applications.

Clutches are supplied with two paper gaskets to fit between the outer race and selected cover plates, to ensure sealing of end covers.

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# Types AGF and AGFN Clutches assembled with End Flanges



Combination of AGF Series roller ramp clutches with a selection of end flanges provides a versatile range of clutches complete with own bearing support and integral lubrication system. Flanges can be combined as required to suit most applications, the following combinations being most common.

## AGF-F1-F2

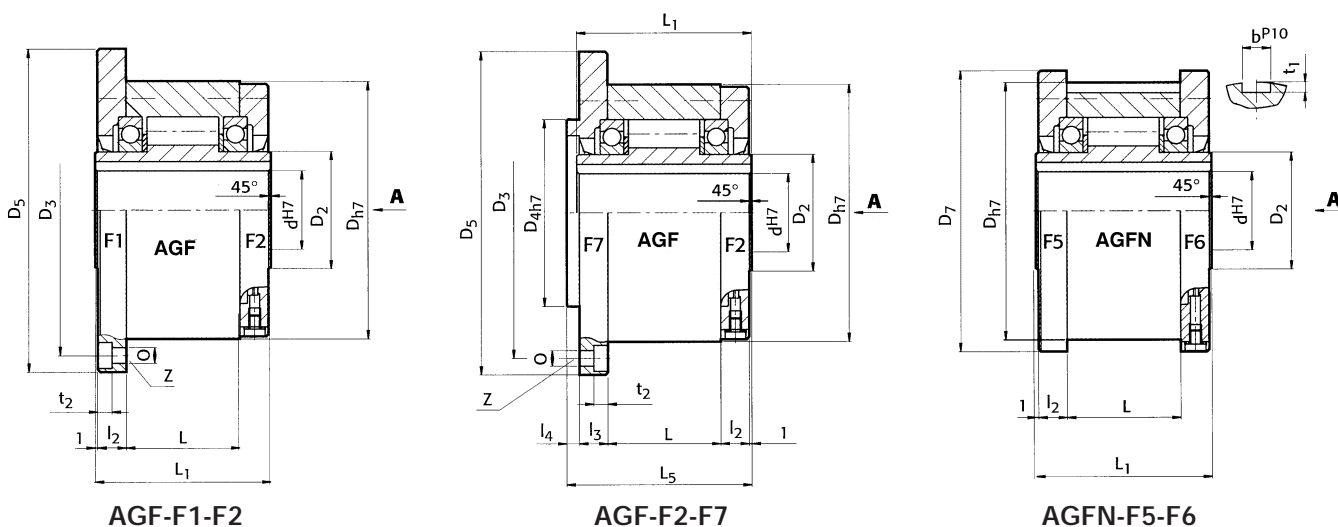
is most popular combination, enabling easy mounting of pulley, sprocket or gear on outer race. F2 flange enables re-lubrication.

## AGF-F2-F7

is designed to enable connection of flexible couplings and universal joints. Can also be used to locate on m/c frame as backstop. In this application F4 cover could be used instead of F2 plate-ref. p. 12.

## AGFN-F5-F6

enables simple fitting of gears, sprockets, pulleys, etc. with positive drive through key on outer race.



Dimensions (for dimensions D2 refer page 10).

Clutch Sizes AGF or AGFN	Bore mm dh7	Nom <sup>(1)</sup> Torque Nm	Max Overrun Speed <sup>(2)</sup>		Dimensions mm																Approx. Wt kg
			inner	outer	Dh7	D5	D7	D3	D4h7	O	t2	Z	L1	L5	L	l2	l3	l4	t1	bp10	
AGF/AGFN 12	12*	44	3100	4700	62	85	70	72	42	5.5	5.7	3	42	44	20	10	10	3	2.5	4	1.2
AGF/AGFN 15	15	100	2800	4400	68	92	76	78	47	5.5	5.7	3	52	54	28	11	11	3	3	5	1.6
AGF/AGFN 20	20	145	2400	4100	75	98	84	85	55	5.5	5.7	4	57	59	34	10.5	10.5	3	3.5	6	1.9
AGF/AGFN 25	25	230	1600	3800	90	118	99	104	68	6.6	6.8	4	60	62	35	11.5	11.5	3	4	8	2.9
AGF/AGFN 30	30	400	1300	2800	100	128	109	114	75	6.6	6.8	6	68	70	43	11.5	11.5	3	4	8	3.9
AGF/AGFN 35	35	580	1200	2600	110	140	119	124	80	6.6	6.8	6	74	76	45	13.5	13	3.5	5	10	4.9
AGF/AGFN 40	40	820	850	2300	125	160	135	142	90	9	9	6	86	88	53	15.5	15	3.5	5	12	7.5
AGF/AGFN 45	45	900	740	2200	130	165	140	146	95	9	9	8	86	88	53	15.5	15	3.5	5.5	14	7.8
AGF/AGFN 50	50	1700	580	1950	150	185	160	166	110	9	9	8	94	96	64	14	13	4	5.5	14	10.8
AGF/AGFN 55	55	2100	550	1800	160	204	170	182	115	11	11	8	104	106	66	18	17	4	6	16	14.0
AGF/AGFN 60	60	2800	530	1700	170	214	182	192	125	11	11	10	114	116	78	17	16	4	7	18	16.8
AGF/AGFN 70	70	4600	500	1600	190	234	202	212	140	11	11	10	134	136	95	18.5	17.5	4	7.5	20	20.8
AGF/AGFN 80	80	6800	480	1500	210	254	222	232	160	11	11	10	144	146	100	21	20	4	9	22	27.0
AGF/AGFN 90	90	11600	450	1300	230	278	242	254	180	14	13	10	158	160	115	20.5	19	4.5	9	25	40.0
AGF/AGFN 100	100	16000	350	1100	270	335	282	305	210	18	17.5	10	182	184	120	30	28	5	10	28	67.0
AGF/AGFN 130	130	25000	250	900	310	380	322	345	240	18	17.5	12	212	214	150	29	27	5	11	32	94.0
AGF/AGFN 150	150	56000	200	700	400	485	412	445	310	22	21.5	12	246	248	180	32	30	5	12	36	187.0

(1) Max. Torque = 2.5 Nom. Torque for brief periods only.  
Shaft keyways all to DIN 6885 Sht. 1.

(2) Speeds for oil lubrication.  
For grease lubrication x0.55.

Clutches and flanges normally supplied unassembled. If a clutch is required to be supplied assembled, please indicate direction of rotation viewed direction "A".

"R" - inner race overruns clockwise direction.  
"L" - inner race overruns anticlockwise direction.

### Note:

All clutches are supplied without lubrication, and must be suitably filled prior to operation.

If required, flanges can be supplied separately - Please stipulate flange, clutch size and flange reference:- eg "AGF20F2 flange".

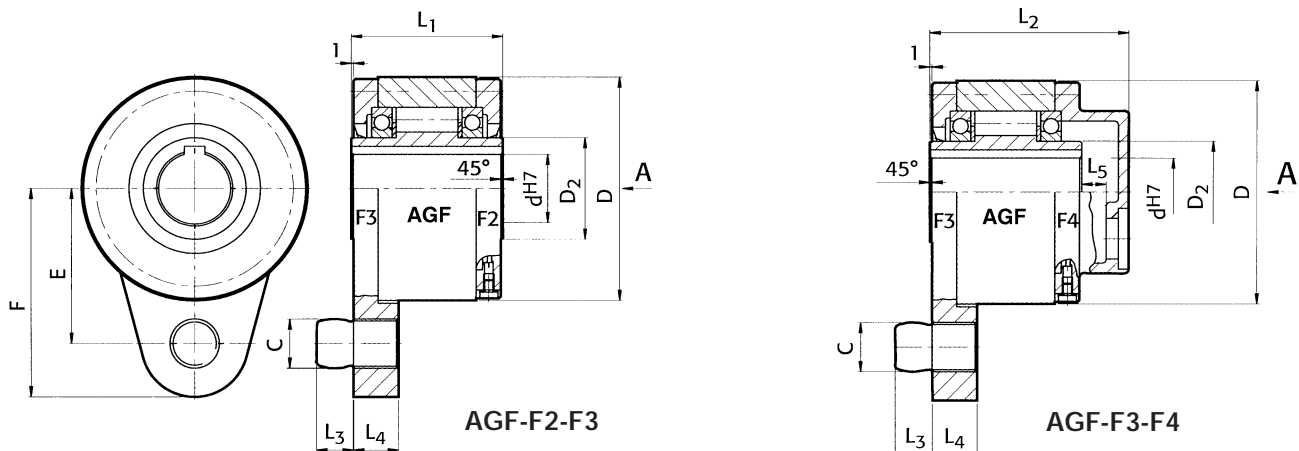
# Type AGF Clutch assembled with Torque Arm End Flange



The combination of an AGF series roller ramp clutch with F3 and F2/F4 flanges provide a unit complete with support bearing and its own integral lubrication system. The units are primarily intended for backstop applications, but can also be used as reciprocating arm on indexing applications.

When used as a backstop, outer race rotation is prevented by cam bolt, which by its shape compensates for misalignment. The bolt must be radially free in its location to avoid loading the bearings, so preferred location is with a slot of width 0.5mm above bolt dia. "C".

Higher torque clutches for 25-35mm shafts can be supplied to special order.



## Dimensions

Clutch Size	Bore mm dh7	Nom Torque Nm <sup>(1)</sup>	Maximum Overrun Speed <sup>(2)</sup>	Dimensions mm											Approx. Weight kg
				D	D <sub>2</sub>	C	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	F	E	L <sub>5</sub>	f	
AGF 12	12	44	3100	62	20	10	42	64	10	13	59	44	6	0.5	1.4
AGF 15	15	100	2800	68	25	10	52	78	10	13	62	47	10	0.8	1.8
AGF 20	20	145	2400	75	30	12	57	82	11	15	72	54	10	0.8	2.3
AGF 25	25	230	1600	90	40	16	60	85	14	18	84	62	10	1.0	3.4
AGF 30	30	400	1300	100	45	16	68	95	14	18	92	68	10	1.0	4.5
AGF 35	35	580	1200	110	50	20	74	102	18	22	102	76	12	1.0	5.6
AGF 40	40	820	850	125	55	20	86	115	18	22	112	85	12	1.5	8.5
AGF 45	45	900	740	130	60	25	86	115	22	26	120	90	12	1.5	8.9
AGF 50	50	1700	580	150	70	25	94	123	22	26	135	102	12	1.5	12.8
AGF 55	55	2100	550	160	75	32	104	138	25	30	142	108	15	2.0	16.2
AGF 60	60	2800	530	170	80	32	114	147	25	30	145	112	15	2.0	19.3
AGF 70	70	4600	500	190	90	38	134	168	30	35	175	135	16	2.5	23.5
AGF 80	80	6800	480	210	105	38	144	178	30	35	185	145	16	2.5	32
AGF 90	90	11600	450	230	120	50	158	192	40	45	205	155	16	3.0	47.2
AGF 100	100	16000	350	270	140	50	182	217	40	45	230	180	16	3.0	76
AGF 130	130	25000	250	310	160	68	212	250	55	60	268	205	18	3.0	110
AGF 150	150	56000	200	400	200	68	246	286	55	60	325	255	20	4.0	214

(1) Max. Torque = 2.5 Nom. Torque for brief periods only. Shaft keyways all to DIN 6885 Sht. 1.

(2) Speeds for oil lubrication. For grease lubrication x0.5.

Clutches and flanges normally supplied unassembled. If a clutch is required to be supplied assembled, please indicate direction of rotation viewed direction "A".  
 "R" - inner race overruns clockwise direction.  
 "L" - inner race overruns anticlockwise direction.

**Note:**  
 All clutches are supplied without lubrication, and must be suitably filled prior to operation.  
 If required, flanges can be supplied separately - Please stipulate flange, clutch size and flange reference:- eg "AGF30F3 flange".

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# Types AGF and ALF Overrunning Clutch Couplings

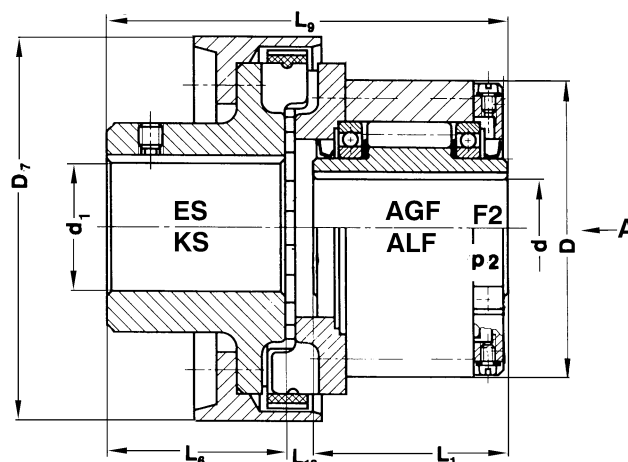
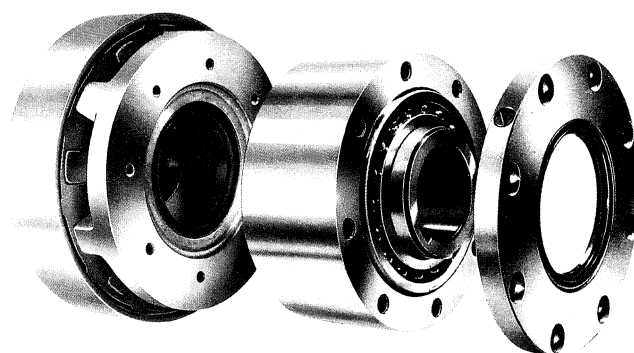


**Roller Ramp Clutch complete with one bearing support and lubrication system combined with rubber element flexible coupling for shaft-to-shaft drives.**

These clutch couplings consists of AGF/ALF type roller ramp clutches fitted with F2 end flange for lubricating, combined with a high speed rubber element coupling. Dependent on torque requirements two sizes of coupling are available for most clutches.

These clutch couplings are to connect shafts used with overrun applications. The rubber flexible element reduces vibration and compensates for alignment errors up to 0.7° angular ±1.0mm axial and 0.5% coupling dia. (D7) parallel. Only maintenance of oil levels in the clutch (including filling before use) is required. If required, rubber elements can be replaced with coupling in situ (except sizes 4SF & 6.3SF). Two sizes of couplings are available, the smaller ES series being most popular, with KS series used for higher torque applications. Two series of clutches are available; AGF (std. stock to 60mm) with F2 flanges with lip seals limiting speeds, or ALF series with P2 flanges using 'V' ring face seals for higher overrun speeds. Selection of clutch coupling should always be made so the coupling shaft overruns. For high speed continuous overrun applications, clutches with centrifugal lift-off sprags should be considered - refer page 21.

All freewheel couplings are typically used on fans, pumps, starter drives, Sunday drives and dual drive conveyors.



Coupling Clutch Size <sup>(1)</sup>	Flexible Coupling Ref.	Coupling Torque Rating TR <sup>(4)</sup>	Clutch Nominal Torque TN <sup>(4)</sup>	Max <sup>(2)</sup> Overrun Speed Coupling	Max <sup>(2)</sup> Overrun Speed Clutch	Clutch Bore Dia.	Coupling Bore <sup>(3)</sup>		Dimensions mm						Approx. Weight
							Min	Max	Dh7	D7	L1	L6	L9	L13	
AGF 12-ES	4SF	63	44	4700	3100	12	10	35	62	70 *	42	40	99	17	2.1
AGF 15-ES	4SF	63	100	4400	2800	15	10	35	68	70 *	52	40	110	18	2.5
AGF 20-ES	4SF	63	145	4100	2400	20	10	35	75	70 *	57	40	116	19	2.7
AGF 20-KS	10SF	160	145	4100	2400	20	12	45	75	113	57	48	124	19	3.8
AGF 25-ES	6.3SF	100	230	3800	1600	25	12	40	90	82 *	60	45	123	18	4.2
AGF 25-KS	10SF	160	230	3800	1600	25	12	40	90	114	60	45	127	19	4.4
AGF 30-ES	10SF	160	400	2800	1300	30	12	45	100	114	68	48	134	18	5.0
AGF 30-KS	16SF	250	400	2800	1300	30	12	50	100	127	68	52	140	20	5.9
AGF 35-ES	16SF	250	580	2600	1200	35	12	50	110	127	74	52	144	18	6.6
AGF 35-KS	25SF	400	580	2600	1200	35	15	55	110	143	74	57	155	24	8.1
AGF 40-ES	25SF	400	820	2300	850	40	15	55	125	143	86	57	164	21	9.1
AGF 40-KS	40SF	630	820	2300	850	40	18	60	125	158	86	61	173	26	11.4
AGF 45-ES	40SF	630	900	2200	740	45	18	60	130	158	86	61	173	26	11.3
AGF 45-KS	63SF	1000	900	2200	740	45	20	70	130	181	86	67	186	33	13.3
AGF 50-ES	63SF	1000	1700	1950	580	50	20	70	150	181	94	67	193	34	16.7
AGF 50-KS	100SF	1600	1700	1950	580	50	28	75	150	202	94	75	210	41	19.1
AGF 55-ES	100SF	1600	2100	1800	550	55	28	75	160	202	104	75	216	37	20.4
AGF 60-ES	100SF	1600	2800	1700	530	60	28	75	170	202	114	75	227	38	24.0
AGF 60-KS	160SF	2500	2800	1700	530	60	32	80	170	230	114	82	243	47	27.1
AGF 70-ES	160SF	2500	4600	1600	500	70	32	80	190	230	134	82	262	46	32.5
AGF 70-KS	250SF	4000	4600	1600	500	70	38	90	190	257	134	89	278	55	40.4
AGF 80-ES	250SF	4000	6800	1500	480	80	38	90	210	257	144	89	285	52	44.2
AGF 80-KS	400SF	6300	6800	1500	480	80	45	100	210	294	144	97	305	64	57.0
AGF 90-ES	400SF	6300	11600	1300	450	90	45	100	230	294	158	97	320	65	65.0
AGF 90-KS	630SF	10000	11600	1300	450	90	65	120	230	332	158	116	347	73	87.0
AGF 100-ES	630SF	10000	16000	1100	350	100	65	120	270	332	182	116	361	63	104.0
AGF 100-KS	1000SF	16000	16000	1100	350	100	80	140	270	382	182	140	386	64	131.0
AGF 130-KS	1600SF	25000	25000	900	250	130	90	160	310	432	202	160	458	96	196.0
AGF 150-ES	1600SF	25000	56000	700	200	150	90	160	400	432	246	160	493	87	282.0

- For clutch sizes AGF12 to 60, type ALF can be supplied to order, for oil lubricated clutches where higher overrun speeds are required.
- For oil bath lubrication.  
For grease lubrication x0.5.
- When ordering please state bore diameter, keyway and setscrew requirements for coupling half. Also indicate direction viewed from 'A' towards F2.  
"R" - inner race overruns clockwise direction.  
"L" - inner race overruns anticlockwise direction.

Clutch keyways all to DIN 6885 Sht. 1.

- For applications where clutch is normally overrunning, such as starter drives, selection is controlled by coupling torque rating TR which should never be less than max. starting torque. For constant drive applications selection is dependent on peak torques seen by coupling and selection is by service factor. All shafts should be manufactured to h6 or j6 tolerances. Prior to assembly align shafts accurately to minimise couplings loads. All couplings are intended for horizontal application. For other requirements consult Clutch Technical Department.

\*Dimension without retaining cap.

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