



## Assembly and Maintenance

### Assembly

Care is necessary in the assembly of couplings, particularly in checking for both parallel and angular alignment and in setting the correct gap as shown in the tables. The coupling grooves must be completely packed with grease before the spring is inserted and a further liberal application of grease after its insertion is essential. After the assembly of the outer cover the maximum possible quantity of grease should be injected through the grease valves.

After the first hour's running at full speed and extra 'topping up' of grease should be given to couplings that cannot be serviced more often than every 12 to 15 months.

### Lubrication

Wellman Couplings should be lubricated with good quality stiff water-free grease. The following are approved :

Duckham - Admax S.3 (Previously H.S.G.) Admax L.2 (Previously L.B. 10)

Esso - H.M.P. or Beacon 2 or 3

Mobil oil - Mobilux No 2 or Mobilgrease Larital No. 2

Power - B.P. Energrease - R.B.B. 3 or L.S. 3

Regent/Texaco/Caltex - Marfak 3 or Marfak Multi-purpose 2

Sheel - Nerita 3 or Alvania 3

Castrol - Spherol - A.P. 2 or A.P. 3

Turbine and other high speed couplings are designed for oil lubrication as individually specified.

### Maintenance

1. Periodically replenish grease through the grease valves.
2. Open up covers occasionally to check shaft alignment and to ensure that springs are lubricated against wear.
3. Clean out and renew grease in accordance with the above instructions as necessary, but at least every 12 to 15 months.



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# WELLMAN

## Resilient Couplings

## Flanged Couplings Types FK and FKE FX and FXE

Wellman Flanged Couplings known as the Type F series, have fixed covers with one hub carrying a flange to which the spring cover is secured. These Flanged Couplings are designed for the following special application where Types A and C are not normally recommended.

1. For speeds higher than those specified for Type A couplings.
2. For drives subject to rapid reversals or frequent starts and stops.
3. For conditions where space available along one Shaft does not permit the use of Type A couplings and where the speed is too high for Type C couplings.
4. For connecting vertical shafts where the flanged hub must be at the bottom to prevent loss of grease by gravity.
5. For condition when two prime movers are used (one as a stand by) with one driven machine. When the stand by prime mover is disconnected,

by the removal of the coupling grid springs, and the cover bolted back in position, the latter forms a perfect guard for the rotating hub.

Coupling types FK and FKE all have a single piece cover which can be withdrawn in one axial direction only. Coupling types FX and FXE have a two piece axially split cover which is removed at right angles to the driving and driven shafts and therefore requires no extra "Removal Space". It is usually immaterial whether the flanged hub or the free hub is the driving member although it is important that this should be recorded to the correct identification of spares.

The free hubs (shown on the left in the diagrams opposite) as well as the covers and springs of couplings type FK, FX, FKE and FXE are interchangeable with the corresponding parts of brakewheel couplings types WK, WX, WKE and WXE.

Sizes larger than those tabulated opposite are available, but types H and HX couplings will usually be found suitable and more convenient for these larger sizes.



# Coupling Ratings and Working Factors

To obtain full benefit from the resilient qualities of a Wellman Coupling it must be carefully matched to the particular characteristics of the power transmission system for which it is intended. The characteristics must therefore be carefully studied before the coupling can be specified. Although some systems are found on examination to present special problems, in most cases it is possible to select a Wellman Coupling of a rating precisely right for its purpose by using a simple formula which includes a working factor, the latter taking account of such contingencies as overloads shocks, stalling, accidental misalignment, etc ; thus.

$$\text{Coupling rating} = \frac{\text{Normal h.p.} \times \text{factor}}{\text{r.p.m.}}$$

$$\text{or } \frac{\text{Normal torque in lbs/ins} \times \text{factor}}{63,000}$$

Coupling ratings are given in each of the tables appearing in latter pages. Recommended factors for various duties are listed opposite. The list is not intended to be more than a general guide to such factors because each case must be studied on its merits and account taken of the particular working conditions. Sometimes reduced factors can safely be used (for example with certain low speed applications) with consequent cost savings. Wellman engineers are always ready to give advice on this subject.

After the coupling rating has been selected, it is always necessary to check the maximum bore and safe speed against the requirements of the drive. If the maximum bore is too small, a larger coupling must be selected. If the safe speed is too low, a different type of Wellman Coupling will be required.

Class of Machine		Max. Factor
Agitator	...	2
Calendar	...	3
Cement Mill and Kiln	...	3
Conveyor	: Horizontal : ...	1.0
	: Inclined : ...	1.5
Couches	:	2.5
Crane motions :-		
a) (Classes 3 & 4)	Hoist : ...	4
	Long travel : ...	3
	Cross traverse : ...	3
b) (Classes 1 & 2)	Hoist : ...	3
	Long travel : ...	2.5
	Cross traverse : ...	2.5
Electric Generator	(Steady load) : ...	1.75
Fan	: Cooling tower : ...	2.5
	Industrial : ...	2.0
	Mine : ...	2.5
Haulage	:	3
Line shafting	:	2
Machine Tool	: Reversing : ...	3.0
	Other : ...	1.5
Paper Mill	:	2 to 4 +
	Pumps : Centrifugal ...	1.25
	Rotary ...	2
	Reciprocating ...	3
Rock Crushers	:	4
Rubber Mill	: Rubber Mixer : ...	3
Steel Work drives	:	2 to 5 +
Turbine Driven Generators	:	1.25
Roll'g Mills, Motor driven without Flywheel	...	4

+ The factors given above for Paper Mill and Steel Works drives are only a general guide. These drives are so varied in their characteristics and methods of specifying power transmitted are so diverse that each must be considered individually. Full details should be sent to Wellman Wacoma Limited. Drives from prime movers other than electric or turbine, e.g. steam, diesel, petrol engines, etc. call for individual consideration. Here also full details should be sent to Wellman Wacoma Limited.

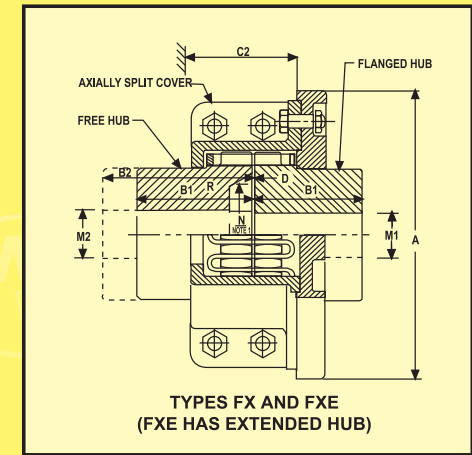
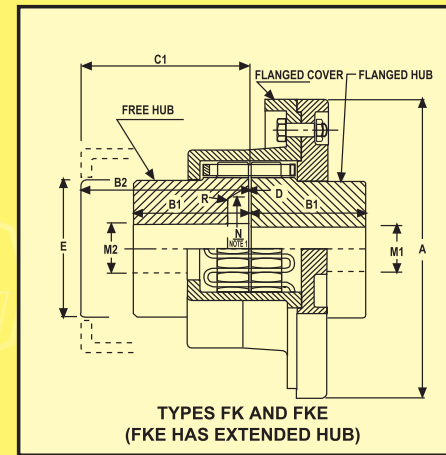


Table-1

Coupling No.	Rating (h.p.) per r.p.m.	Clearance dia A mm	Hub length (Note 1)		Removal Space		Gap D mm	Cover Bore E mm	Maximum Bore		Max recess dia (Note 1) N mm	Safe Speed (Note 2)				Stand. dia rough bore	Approx Weight (kg.)
			FK B1 mm	FKE B2 mm	C1 mm	C2 mm			M1 mm	M2 mm		FKc r.p.m.	FKn r.p.m.	FKg r.p.m.	FX FXE r.p.m.		
120	0.015	152	44.5	75	86	60	.79	57.5	41	35	40	5400	8100	11100	3500	16	5.44
124	0.025	178	51	85.5	87	60	.79	76	57	49	62	4100	6000	8500	2700	16	9.52
126	0.04	194	51	100	87	60	.79	89	63	56	70	3700	5400	7600	2500	16	10.88
136	0.06	209	57	114	117	81	.79	95	63	69	78	3500	5150	7300	2400	16	14.51
152	0.09	229	63.5	114	117	81	.79	118	78	74	100	3000	4400	6200	2000	25	20.41
158	0.12	263.5	70	114.5	117	81	.79	133.5	92	86	111	2500	3700	5300	1750	25	29.48
168	0.18	286	89	130	117	81	.79	156	108	102	133	2250	3300	4700	1600	25	40.82
212	0.35	311	102	183	187	129	1.58	156	102	102	130	2200	3200	4500	1500	38	58.96
218	0.4	305	101.5	179.5	187	129	1.58	152.5	104	98	114.5	2200	3200	4500	1500	38	55.00
236	0.45	349	101.5	208	217	149	1.58	184	122	120	158	1900	2800	3900	1300	50	79.38
266	0.65	362	101.5	208	217	149	1.58	187.5	122	122	155	1800	2600	3700	1250	50	83.91
290	0.90	400	114	208	217	149	1.58	219	146	146	184	1550	2300	3300	1100	50	117.93
318	1.25	438	127	208	217	149	1.58	244.5	166	162	203	1400	2000	2900	1000	50	158.76
366	2.0	476	139.5	214.5	230	149	1.58	266.5	154	170	210	1260	1800	2700	860	50	185.00
432	2.40	520.7	139.7	214.5	244	168	3.17	239.7	149	172	210	1145	1650	2500	820	75	215.46
478	3.50	577.85	152.4	238.12	244	168	3.17	267	165	173	260	1020	1460	2200	740	89	274.42

- Types FK and FX have free hub length B1 Types FKE and FXE have free hub length extended up to B2. Maximum Inner face of free hub can be recessed (as dotted in diagrams), to suit a shaft nut or an increased distance between shaft and Radius R should not be less than 1/4".
- Couplings for higher speeds quoted on application.
- All couplings are fitted with grease valves, BS, 1486, part I 1959 type II B in covers.
- All dimensions are subject to confirmation.
- Any enquiry should be accompanied by the following service information.

- h.p.m. and r.p.m. to be transmitted. (b) classes of driving and driven machines. (c) starting loads or over-loads. (d) nominal diameters and lengths of shaft extensions. (e) to which shaft (driving or driven) flanged hub is to be fitted. (f) any other relevant details of working conditions. When ordering the following additional information should be supplied. (g) bore diameter and limit required for each half coupling (or each shaft diameter and manufacturing limits) (h) full keyway dimensions and whether parallel or taper.