Transeals Pty Ltd

A.B.N. 29 008 902 163

Power Transmission Equipment
Hydraulic Seals Specialists

Shaft Couplings

June 2002 Edition

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Introduction

Selection of flexible couplings is based on the following parameters:

1. Misalignment
Where misalignment is high, a highly elastic design such as Optiflex is preferable to medium elasticity designs. Low elasticity couplings should never be combined with high misalignment. Operational life of couplings and associated machinery is reduced as misalignment increases, hence, the most accurate alignment possible is desirable (particularly as speeds increase).

2. Machine Mounting
Flexible mountings or supporting structures with low rigidity also require a highly elastic coupling such as the Optiflex Tyre design.

3. Shock
Where shock or vibration is high, a highly elastic design such as Optiflex is preferable to medium elasticity designs. The higher cost of Optiflex relative to medium elasticity designs will generally be repaid many times over by the extended service life of machinery.

4. Size
Generally, TRC and Jaw couplings are physically smaller than highly elastic couplings of a similar power rating.

5. Cost
TRC, MC and Jaw couplings offer the best cost/performance scenario for drives requiring midrange-shock, vibration and misalignment capacity.

6. Maintenance
Flexible elements on MC, Optiflex and Jaw (wrap type) couplings can be easily replaced without disturbing the coupling, driving or driven machines. This can significantly reduce maintenance costs.

7. Positive Vs Non-Positive Drive
In the event of tyre failure on the Optiflex Tyre coupling there is no connection between the drive and driven shaft. TRC, Jaw and MC couplings will continue to drive for a period of time after element failure. Optiflex can be used as a shear-pin but never in a situation where the drive should always be maintained. Conversely, TRC, Jaw and MC couplings offer better safety.

8. Environment
All couplings in this publication will withstand typically encountered environments. For highly corrosive or high temperature applications, first consult Transeals for compatible elements and designs.

9. Lubrication
Chain couplings require regular lubrication.

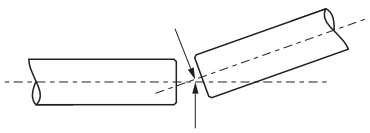
10. TaperFix Bush Vs Parallel Bore
For the same sized coupling, TaperFix designs are often easier to install than parallel bore designs however parallel bore designs usually accommodate larger bore sizes than the equivalent sized TaperFix coupling.

With TaperFix couplings it is often necessary to select a larger size coupling than required (due to power ratings) to accommodate the shafts where a smaller parallel bore coupling can often be selected on power ratings alone.

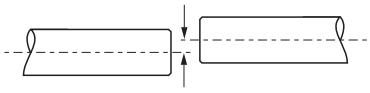
Additionally TaperFix designs are harder to axially align than parallel bore designs. TaperFix H flanges require end wrench clearance which is not required by parallel bore designs.

Where space and fitting issues do not preclude TaperFix bushes, their advantages far outweigh their disadvantages.

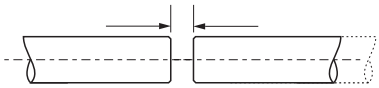
Shaft Alignment



ANGULAR MISALIGNMENT
Shafts are at an angle



PARALLEL MISALIGNMENT
Shafts are offset

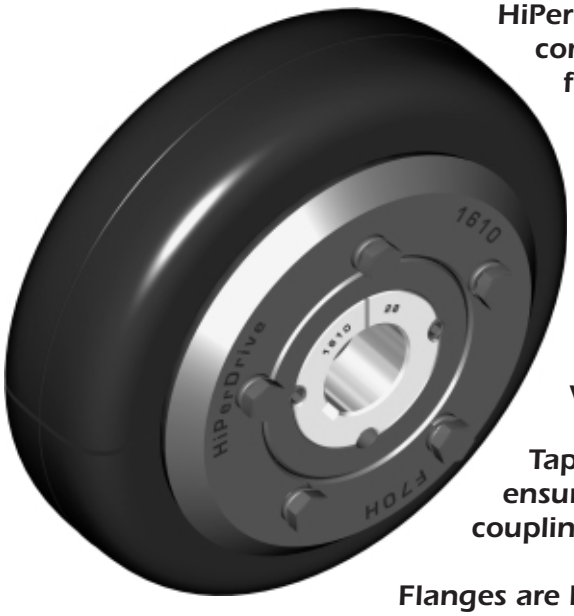


AXIAL MISALIGNMENT
Distance Between Shaft Ends (DBSE) is incorrect

Service Duties Comparison Table

Application	Uniform	Light	Moderate	Heavy	Severe
Agitators		■			
Air Compressors			■		
Blowers (non-positive displacement)	■				
Centrifugal Blowers	■				
Centrifugal Pumps	■	■			
Conveyors and Elevators	■	■			
Cranes		■	■		
Crushers					■
Drill Rigs				■	
Fans	■	■			
Hammer Mills					■
Hydraulic Pumps			■	■	
Machine Tools		■	■		
Reciprocating Conveyors					■
Rotary Compressors			■		
Rubber Mills	■	■			
Shakers			■	■	
Sheet Metal Machinery				■	
Shredders				■	■
Vibrating Screens/Conveyors					■

HiPerDrive® Optiflex Tyre Coupling

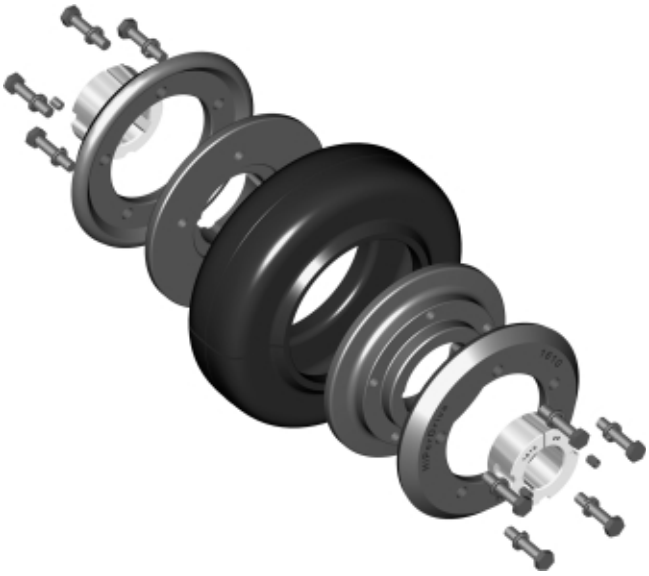


HiPerDrive® Optiflex Tyre couplings are a highly elastic design compatible with European and American equivalents. The flexible tyre accommodates significant angular and parallel misalignment and possesses excellent shock and vibration absorbing properties.

HiPerDrive® Optiflex Tyre couplings dampen shock, vibration and misalignment (in all planes) reducing load on bearings and machinery thus prolonging life and reducing costs. Combined with an SM series Spacer (see page 12) an Optiflex Tyre coupling becomes the ultimate vibration-dampening, Spacer coupling.

TaperFix bushes and generous misalignment allowances ensure few couplings are easier to install than Optiflex Tyre couplings.

Flanges are high-grade, steel; Tyre is synthetic rubber.



Selection Procedure

1. From the Service Duties Comparison Table (page 3) and Service Factors (see below), determine the Service Factor.
2. Calculate the Design Power by multiplying the Absorbed Power of the driven machine by the Service Factor.
3. Determine the size Optiflex Tyre coupling by matching the Design Power to a power rating that matches or exceeds the Design Power.
4. Ensure the dimensions of the selected coupling fit your design requirements and, particularly, shaft sizes can be accommodated.

NOTE:
B Flanges accommodate larger shaft sizes than F or H Flanges.
H Flanges require end wrench clearance while F and B Flanges do not.

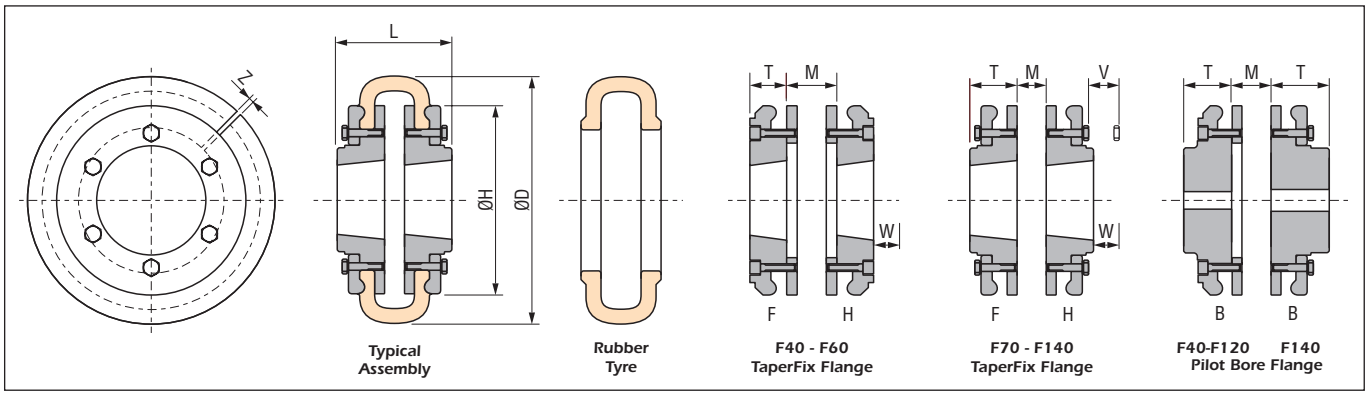
Service Factors

		Electric Motors			Int. Combustion Engines		
	HOURS PER DAY	< 10	10 ~ 16	> 16	< 10	10 ~ 16	> 16
Load	UNIFORM	0.8	0.9	1.0	1.3	1.4	1.5
	LIGHT	1.3	1.4	1.5	1.8	1.9	2.0
	MODERATE	1.8	1.9	2.0	2.3	2.4	2.5
	HEAVY / SEVERE	2.3	2.4	2.5	2.8	2.9	3.0

Power Ratings

		F40	F50	F60	F70	F80	F90	F100	F110	F120	F140
Ratings	Power kW per 100 rpm	0.251	0.691	1.33	2.62	3.93	5.24	7.07	9.16	13.9	24.3
	Power kW @ 720 rpm	1.81	4.98	9.57	18.8	28.3	37.7	50.9	66.0	100	175
	Power kW @ 960 rpm	2.41	6.63	12.8	25.1	37.7	50.3	67.9	88.0	134	234
	Power kW @ 1440 rpm	3.62	9.95	19.1	37.7	56.5	75.4	102	132	201	351
	Power kW @ 2880 rpm	7.24	19.9	38.3	75.4	113	151	-	-	-	-
	Speed Maximum (rpm)	4,500	4,500	4,000	3,600	3,100	3,000	2,600	2,300	2,050	1,800
	Torque Nominal (Nm)	24	66	127	250	375	500	675	875	1,330	2,325
	Torque Maximum (Nm)	64	160	318	487	759	1,096	1,517	2,137	3,547	5,642

HiPerDrive® Optiflex Tyre Coupling



Typical Assembly | Rubber Tyre | F40 - F60 TaperFix Flange | F70 - F140 TaperFix Flange | F40-F120 F140 Pilot Bore Flange

Dimensions

		F40	F50	F60	F70	F80	F90	F100	F110	F120	F140
Bore	TaperFix Bush Size: F Flange	1008	1210	1610	2012	2517	2517	3020	3020	3525	3525
	TaperFix Bush Size: H Flange	1008	1210	1610	1610	2012	2517	2517	3020	3020	3525
	Maximum Bore: F Flange	25	32	42	50	65	65	75	75	100	100
	Maximum Bore: H Flange	25	32	42	42	50	65	65	75	75	100
	Maximum Bore: B Flange	30	38	45	50	63	75	80	90	100	130
Dimension	ØD - Outside Diameter	104	133	165	187	211	235	254	279	314	359
	ØH - Hub Diameter	82	100	125	144	167	188	216	233	264	311
	L - Length: FF	66	76	84	88	116	119	131	127	159	163
	L - Length: HH	66	76	84	84	90	119	119	127	131	163
	L - Length: FH	66	76	84	86	103	119	125	127	145	163
	L - Length: BB	67	89	110	129	144	160	168	175	202	221
	L - Length: FB	66.5	82.5	97	108.5	130	139.5	149.5	151	180.5	192
	L - Length: HB	66.5	82.5	97	106.5	117	139.5	143.5	151	166.5	192
	M - Gap: FF HH FH	22	25	33	23	25	27	27	25	29	32
	M - Gap: BB	22	25	33	40	43	46	48	44	49	32
	M - Gap: FB HB	22	25	33	31.5	34	36.5	37.5	34.5	39	32
	T - Length Through Bore: F Flange	22	25	25	32	45	45	51	51	65	65
	T - Length Through Bore: H Flange	22	25	25	25	32	45	45	51	51	65
	T - Length Through Bore: B Flange	22	32	38	44	51	57	60	65	76	94
	V - Clamping Screw Installation Clearance*	-	-	-	13	16	16	16	16	16	17
	W - Wrench Clearance (H Flange only)*	29	38	38	42	48	48	55	55	67	67
	Z - Tyre End Gap	2	2	2	3	3	3	3	3	3	5
	Tyre Screw Tightening Torque (Nm)	15	15	15	24	24	40	40	40	50	55
Alignment	Max Parallel	1.1	1.3	1.6	1.9	2.1	2.4	2.6	2.9	3.2	3.7
	Max Axial	±1.3	±1.7	±2.0	±2.3	±2.6	±3.0	±3.3	±3.7	±4.0	±4.6
	Max Angular (°)	4	4	4	4	4	4	4	4	4	4
Mass	F Flange (kg)	0.8	1.1	1.8	2.4	3.5	5.8	7.0	9.0	12.0	26.5
	H Flange (kg)	0.8	1.1	1.8	2.6	3.8	5.8	7.0	9.0	13.0	26.5
	B Flange (kg)	1.0	1.7	2.7	3.4	5.2	7.4	10.7	13.7	17.2	36.0
	Tyre (kg)	0.1	0.3	0.5	0.7	0.8	1.0	1.1	1.5	2.0	2.9

** Installation clearance can be reduced with special wrenches.*

All values are in mm unless otherwise stated

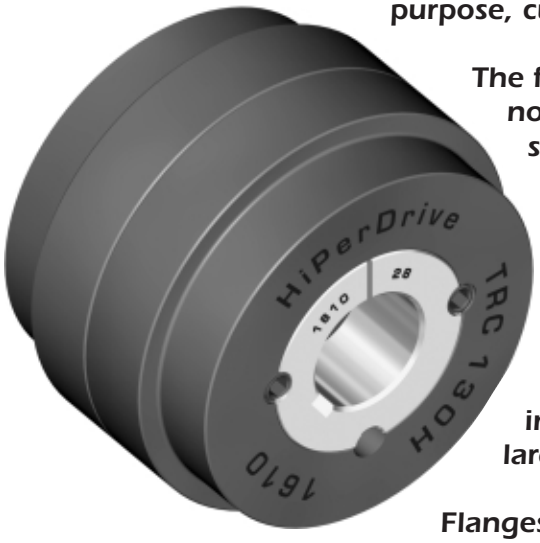
Larger sizes available on request

ORDERING INSTRUCTIONS

- *Optiflex Tyre couplings are specified by the size, flange and tyre combination (e.g. F80 size coupling consisting of 1 F Flange, 1 H Flange and 1 synthetic tyre is specified F60FHS).*
- *TaperFix bushes are required for F and H Flanges and must be ordered as separate items (specifying bush size and required bores).*
- *B Flanges are supplied unbored unless a specific bore is specified when ordering.*

HiPerDrive® TRC Coupling

HiPerDrive® TRC couplings are manufactured to an economical, general purpose, curved-jaw, European design.



The flexible, six-leg rubber spider element accommodates nominal misalignment, reduces transmission of vibration and smoothes transient peak loads.

The curved profile and dimensions of the spider are optimised for smooth deflection under load and optimal dampening properties. The totally enclosed spider is resistant to mineral oils and no lubrication is required.

F and H flanges are fitted with TaperFix bushes for ease of installation. B flanges are bored to size and accommodate larger shaft sizes.

Flanges are high-grade, cast iron; Flexible spider element is synthetic rubber.

Selection Procedure

1. From the Service Duties Comparison Table (page 3) and Service Factors (see below), determine the Service Factor.
2. Calculate the Design Power by multiplying the Absorbed Power of the driven machine by the Service Factor.
3. Determine the size TRC coupling required by matching the Design Power to a power rating that matches or exceeds the Design Power.
4. Ensure the dimensions of the selected coupling fit your design requirements and particularly the desired shaft sizes can be accommodated.

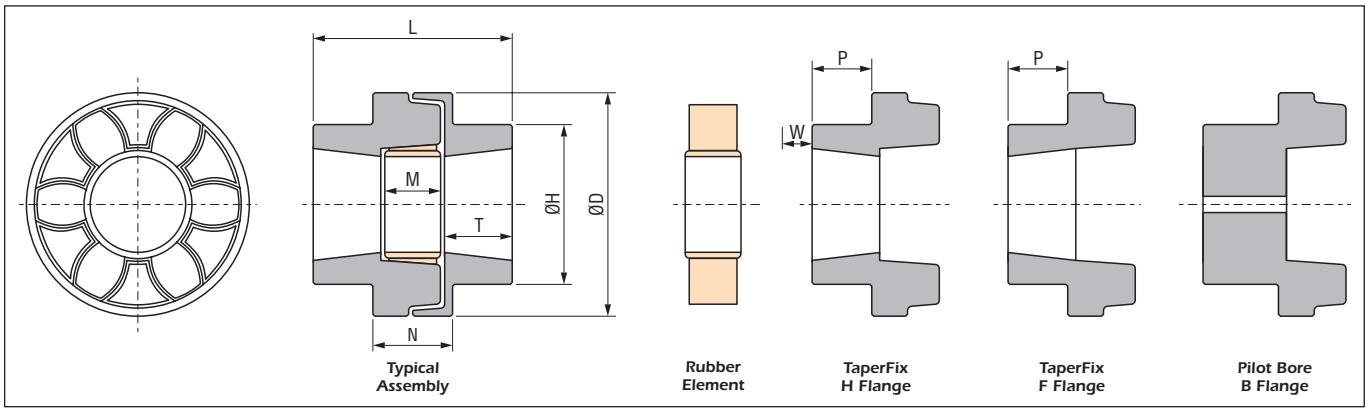
NOTE:
B Flanges accommodate larger shaft sizes than F or H Flanges.
H Flanges require end wrench clearance while F and B Flanges do not.

Service Factors

		Electric Motors			Int. Combustion Engines		
	HOURS PER DAY	< 10	10 ~ 16	> 16	< 10	10 ~ 16	> 16
Load	UNIFORM	1.00	1.12	1.25	1.25	1.40	1.60
	LIGHT	1.00	1.12	1.25	1.25	1.40	1.60
	MODERATE	1.60	1.80	2.00	2.00	2.24	2.50
	HEAVY / SEVERE	2.50	2.80	3.12	3.12	3.55	4.00

Power Ratings

		TRC70	TRC90	TRC110	TRC130	TRC150	TRC180	TRC230	TRC280
Ratings	Power kW per 100 rpm	0.33	0.84	1.68	3.30	6.28	9.95	20.9	33.0
	Power kW @ 720 rpm	2.37	6.03	12.1	23.8	45.2	71.6	151	238
	Power kW @ 960 rpm	3.17	8.04	16.1	31.7	60.3	95.5	201	317
	Power kW @ 1440 rpm	4.75	12.1	24.1	47.5	90.5	143	302	475
	Power kW @ 2880 rpm	9.5	24.1	48.3	95	181	286	-	-
	Speed Maximum (rpm)	9,100	7,400	5,600	4,850	4,200	3,500	2,800	2,300
	Torque Nominal (Nm)	31.5	80	160	315	600	950	2,000	3,150
	Torque Maximum (Nm)	72	180	360	720	1,500	2,350	5,000	7,200



Dimensions

		TRC70	TRC90	TRC110	TRC130	TRC150	TRC180	TRC230	TRC280
Bore	TaperFix Bush Size: F & H Flanges	1008	1108	1610	1610	2012	2517	3020	3525
	Maximum Bore: F & H Flanges	25	28	42	42	50	65	75	100
	Maximum Bore: B Flanges	32	42	55	60	65	80	100	115
Dimension	ØD - Outside Diameter	69	85	112	130	150	180	225	275
	ØH - Hub Diameter	60	70	100	105	115	125	155	206
	L - Length: FF HH FH	65	69.5	82	89	107	142	164.5	207.5
	L - Length: BB	65	82.5	119	131	152	189	239.5	285.5
	L - Length: FB HB	65	76	100.5	110	129.5	165.5	202	246.5
	M - Gap	18	22.5	29	36	40	49	59.5	74.5
	N - Outer Length	25	30.5	45	53	60	73	85.5	105.5
	P - F & H Flanges	20	19.5	18.5	18	23.5	34.5	39.5	51
	P - B Flange	20	26	37	39	46	58	77	90
	T - Length Through Bore: F & H Flange	23.5	23.5	26.5	26.5	33.5	46.5	52.5	66.5
	T - Length Through Bore: B Flange	23.5	30	45	47.5	56	70	90	105.5
	W - Wrench Clearance (H Flange only)*	29	29	38	38	42	48	55	67
Alignment	Max Parallel	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5
	Max Axial	+0.2	+0.5	+0.6	+0.8	+0.9	+1.1	+1.3	+1.7
	Max Angular (°)	1	1	1	1	1	1	1	1
Mass	F & H Flange (kg)	0.45	0.70	1.60	2.25	3.25	5.40	9.05	20.2
	B Flange (kg)	0.60	1.05	3.10	3.90	5.60	8.90	16.3	33.3
	Rubber Element (kg)	0.02	0.05	0.09	0.15	0.23	0.39	0.87	1.63

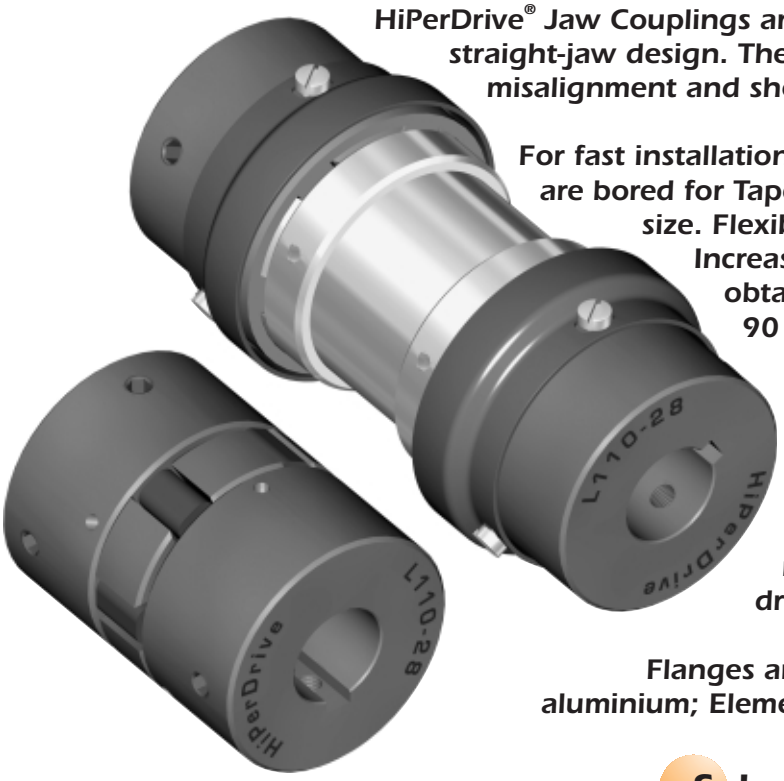
** Installation clearance can be reduced with special wrenches.*

All values are in mm unless otherwise stated

ORDERING INSTRUCTIONS

- *TRC couplings are specified by the size and Flange combination (e.g. TRC180 size coupling consisting of 1 F Flange, 1 B Flange and 1 element is specified TRC180FB).*
- *TaperFix bushes are required for F and H Flanges and must be ordered as separate items (specifying bush size and the required bores).*
- *B Flanges are supplied unbored unless a specific bore is specified when ordering.*

HiPerDrive® Jaw Coupling

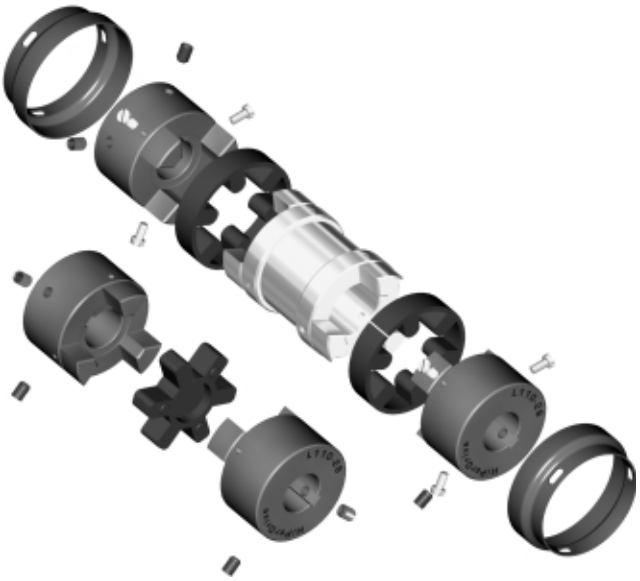


HiPerDrive® Jaw Couplings are a popular, economical, American, straight-jaw design. The rubber element absorbs nominal vibration, misalignment and shock loads.

For fast installation and removal of couplings, F and H Flanges are bored for TaperFix bushes whereas B Flanges are bored to size. Flexible elements are Black 80 shore NBR rubber. Increased power ratings or extended service is obtained by upgrading to Yellow 80 shore or Red 90 shore polyurethane elements.

When fitted with a drop-in Spacer and Wrap Element, the Jaw coupling becomes an economical Spacer coupling with fast removal and replacement. Wrap Elements may be used to make a standard coupling not requiring movement of the driving or driven machines to change the drive element.

Flanges are high-grade, cast iron; Spacers are aluminium; Elements are synthetic rubber or polyurethane.



Selection Procedure

1. From the Service Duties Comparison Table (page 3) and Service Factors (see below) determine the Service Factor.
2. Calculate the Design Power by multiplying the Absorbed Power of the driven machine by the Service Factor.
3. Determine the size required by matching the Design Power to a Power Rating that matches or exceeds the Design Power.
4. Ensure dimensions of the selected coupling fit design requirements and, particularly, shaft sizes can be accommodated.
5. For spacer configuration select from 100, 140 and 180mm DBSE.

NOTE 1:
B Flanges accommodate larger shaft sizes than F and H Flanges.
H Flanges require end wrench clearance; F and B Flanges do not.

NOTE 2:
Rubber flexible elements provide low wear on driving metal surfaces. Yellow or red polyurethane elements provide increased power ratings, often allowing use of a physically smaller coupling.

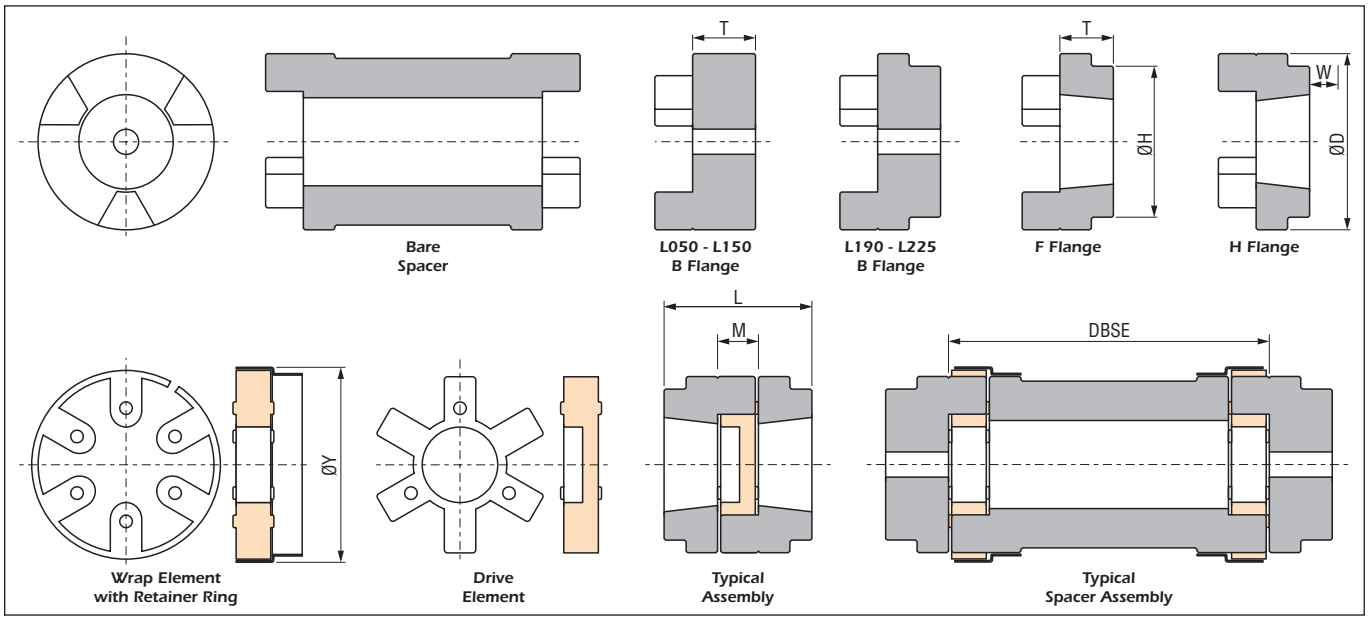
Service Factors

		Electric Motors
Load	UNIFORM	1.0
	MODERATE	1.5
	HEAVY / SEVERE	2.0

Power Ratings

		L050	L070	L075	L095	L100	L110	L150	L190	L225
Ratings	Power kW per 100 rpm Black Rubber 80 shore A	0.031	0.063	0.10	0.26	0.63	1.2	1.6	2.1	2.7
	Power kW per 100 rpm Yellow PU 80 shore A	0.042	0.084	0.13	0.31	0.79	1.5	2.0	2.6	3.4
	Power kW per 100 rpm Red PU 90 shore A	0.063	0.105	0.16	0.42	0.94	1.7	2.4	3.1	4.2
	Speed Maximum (rpm)	17,000	14,000	11,000	9,000	7,000	5,000	4,000	3,600	3,600
	Torque Nominal (Nm) Black Rubber 80 shore A	3	6	10	25	60	110	150	200	260
	Torque Nominal (Nm) Yellow PU 80 shore A	4	8	12	30	75	140	190	250	325
	Torque Nominal (Nm) Red PU 90 shore A	6	10	15	40	90	165	225	300	400

HiPerDrive® Jaw Coupling



Dimensions

		L050	L070	L075	L095	L100	L110	L150	L190	L225
Bore	TaperFix Bush size: F & H Flange	-	-	-	-	1108	1210	1210	1610	2012
	Maximum Bore: F & H Flange	-	-	-	-	28	32	32	42	50
	Maximum Bore: B Flange	16	20	22	28	35	42	48	55	60
Dimensions	ØD - Outside Diameter	27	35	44.5	54	65	84	96	115	127
	ØH - Hub Diameter	27	35	44.5	54	65	84	96	102	108
	L - Length: FF HH FH	-	-	-	-	64	74	77	77	89
	L - Length: BB	42	53	53	65	86	110	113	133	155
	L - Length: FB HB	-	-	-	-	75	92	95	95	122
	M - Gap	12	13	13	13	18	22	25	25	25
	T - Length Through Bore: F & H Flange	-	-	-	-	23	26	26	26	32
	T - Length Through Bore: B Flange	15	20	20	26	34	44	44	54	65
	W - Wrench Clearance (H Flange only)*	-	-	-	-	29	38	38	38	42
	ØY - Retainer Outside Diameter	-	-	-	64	77	97	112	130	143
	DBSE	-	-	-	100, 140 and 180mm DBSE lengths					
Alignment	Max Parallel	0.2	0.2	0.22	0.25	0.28	0.32	0.36	0.38	0.4
	Max Axial	0.6	1	1.2	1.4	1.5	1.6	1.7	1.8	1.8
	Max Angular (°)	1	1	1	1	1	1	1	1	1
Mass	B Flange (minimum bore) (kg)	0.06	0.014	0.25	0.42	0.86	1.84	2.48	3.65	4.90
	H or F Flange (kg)	-	-	-	-	0.42	0.89	1.23	1.71	2.12
	Spider Element (kg)	0.005	0.01	0.01	0.02	0.03	0.06	0.10	0.14	0.17
	Wrap Element complete with Retainer (kg)	-	-	-	0.05	0.09	0.15	0.21	0.28	0.34
	100mm DBSE Spacer (kg)	-	-	-	0.31	0.39	0.70	0.83	1.6	1.8
	140mm DBSE Spacer (kg)	-	-	-	0.45	0.57	1.04	1.17	2.0	2.2
	180mm DBSE Spacer (kg)	-	-	-	0.60	0.75	1.38	1.51	2.4	2.8

** Installation clearance can be reduced with special wrenches.*

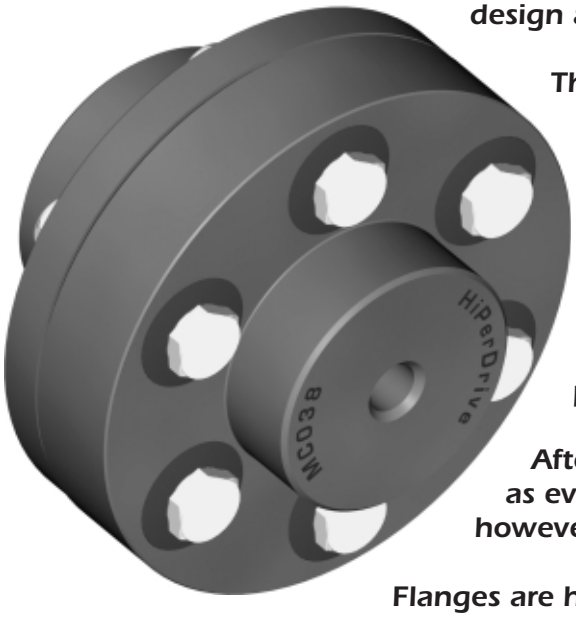
All values are in mm unless otherwise stated

Larger sizes available on request

ORDERING INSTRUCTIONS

- *Jaw couplings are specified by the size, flange, element and spacer combination.*
- *TaperFix bushes are required for F and H Flanges and must be ordered as separate items (specifying bush size and the required bores).*
- *B Flanges are supplied unbored unless a the required bore is specified when ordering.*

HiPerDrive® MC Coupling



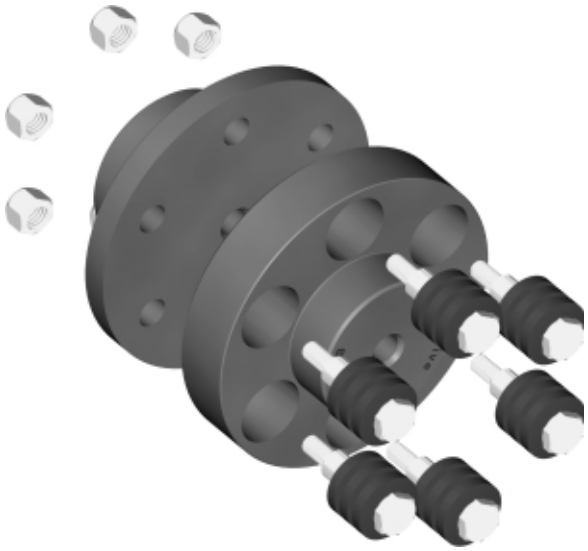
HiPerDrive® MC couplings are manufactured to a proven Australian design and dimensions.

The flexible element consists of tapered rubber rings mounted on steel pins. These rings absorb commonly encountered misalignment, shock and vibration. The flexible rings can be changed by removing the pins from the coupling using simple hand-tools without the need to disturb the driving or driven machine.

Combined with a SM series Spacer, the MC coupling can be converted to a Spacer coupling configuration (refer to page 13 for details).

After many decades of service, the MC coupling is as popular as ever for its ease of maintenance. No lubrication is required however the flexible rings are oil resistant.

Flanges are high-grade, cast iron; Pins are hexagonal steel bar; Rings are synthetic rubber (urethane rings are available for severe applications).



Selection Procedure

1. From the Service Duties Comparison Table (page 3) and Service Factors (see below) determine the Service Factor.
2. Calculate the Design Power by multiplying the Absorbed Power of the driven machine by the Service Factor.
3. Determine the size MC coupling required by matching the design power to a power rating that matches or exceeds the Design Power.
4. Ensure the dimensions of the selected coupling fit your design requirements and shaft sizes can be accommodated.

NOTE 1:
MC Flanges accommodate larger shaft sizes than MCT Flanges.

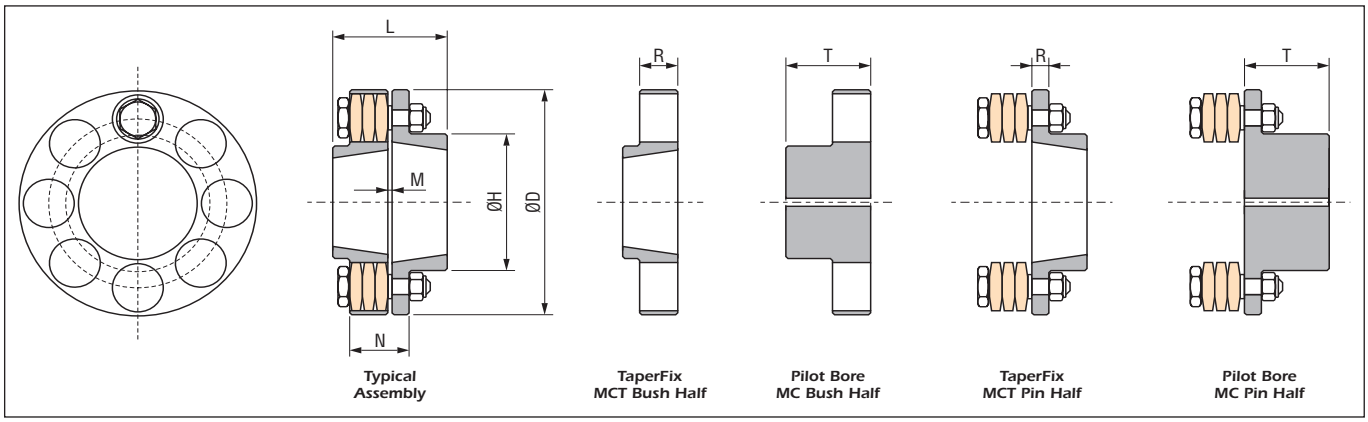
NOTE 2:
By convention the pin half is mounted on the driven shaft.

Service Factors

		Electric Motors
Load	UNIFORM	1.0
	LIGHT	1.5
	MODERATE	2.0
	HEAVY	2.5
	SEVERE	3.0

Power Ratings

		MC030	MC038	MC042	MC048	MC058	MC070	MC075	MC085	MC105
Ratings	Power kW per 100 rpm	1.16	1.87	2.84	4.93	7.54	10.7	25.7	35.5	53.0
	Power kW @ 720 rpm	8.4	13.5	20.4	35.5	54.3	77.0	185	255	381
	Power kW @ 960 rpm	11.1	18.0	27.3	47.3	72.4	102	246	340	508
	Power kW @ 1440 rpm	16.7	26.9	40.9	71.0	108	154	370	511	763
	Power kW @ 2880 rpm	33.4	53.9	81.8	142	217	-	-	-	-
	Speed Maximum (rpm)	4,600	4,400	4,000	3,400	3,000	2,700	2,300	2,090	1,750
	Torque Nominal (Nm)	110	175	265	465	720	1,020	2,450	3,390	5,080
	Torque Maximum (Nm)	220	350	530	930	1,420	2,040	4,900	6,780	10,160



Dimensions

		MC030	MC038	MC042	MC048	MC058	MC070	MC075	MC085	MC105
Bore	TaperFix Bush Size: Pin Half	-	-	1610	2012	2517	3020	-	3535	4040
	TaperFix Bush Size: Bush Half	-	-	1210	1610	2012	2517	-	3030	3535
	Maximum Bore: TaperFix Pin Half	-	-	42	50	65	75	-	90	100
	Maximum Bore: TaperFix Bush Half	-	-	32	42	50	65	-	75	90
	Maximum Bore: Pilot Bore Pin Half	38	42	48	55	65	80	85	90	115
	Maximum Bore: Pilot Bore Bush Half	30	38	42	48	58	70	75	85	105
Dimension	ØD - Outside Diameter	127	132	146	171	193	216	254	279	330
	ØH - Hub Diameter: Pin Halves	64	70	82	94	110	132	142	162	200
	ØH - Hub Diameter: Bush Halves	51	64	70	82	97	117	127	147	180
	L - Length: MC	88	102	118	128	142	159	183	207	241
	L - Length: MCT	-	-	56	63	82	102	-	172	198
	M - Gap	6	6	6	6	6	7	7	7	7
	R - Flange Length: Pin Halves	12	12	12	17	17	17	30	30	30
	R - Flange Length: Bush Halves	26	26	26	33	33	33	56	56	56
	T - Length Through Bore: MC Pin & Bush Halves	41	48	56	61	68	76	88	100	117
	T - Length Through bore: MCT Pin Halves	-	-	25	32	44	51	-	89	102
	T - Length Through Bore: MCT Bush Halves	-	-	25	25	32	44	-	76	89
Spares	Number of Pins	4	6	8	6	8	10	8	10	12
	Pin Size	GC1-3	GC1-3	GC1-3	GC1.3/4-3	GC1.3/4-3	GC1.3/4-3	GC2.3/4-3	GC2.3/4-3	GC2.3/4-3
	Ring Size: Rubber	GC1-4	GC1-4	GC1-4	GC1.3/4-4	GC1.3/4-4	GC1.3/4-4	GC2.3/4-4	GC2.3/4-4	GC2.3/4-4
	Ring Size: Polyurethane	U272	U272	U272	U273	U273	U273	U274	U274	U274
Mass	TaperFix Pin Half (kg)	-	-	2.00	3.45	4.75	5.90	-	26.0	29.3
	TaperFix Bush Half (kg)	-	-	1.85	3.20	3.90	5.10	-	14.2	32.0
	Pilot Bore Pin Half (kg)	2.00	2.50	3.55	5.75	7.95	11.6	21.5	28.5	43.5
	Pilot Bore Bush Half (kg)	2.10	2.30	2.95	4.80	6.60	9.25	16.4	21.5	35.3

All values are in mm unless otherwise stated

Larger sizes available on request

ORDERING INSTRUCTIONS

- *MC (through bore) and MCT (TaperFix) couplings are specified by size and flange type; Pilot bore flanges are prefixed MC and TaperFix flanges are prefixed MCT; Pin halves are suffixed -1; Bush halves are suffixed -2 (e.g. a MC058 pin half is specified MC058-1 and a MCT058 bush half is specified MCT058-2).*
- *TaperFix bushes are required for MCT flanges and must be ordered separately.*

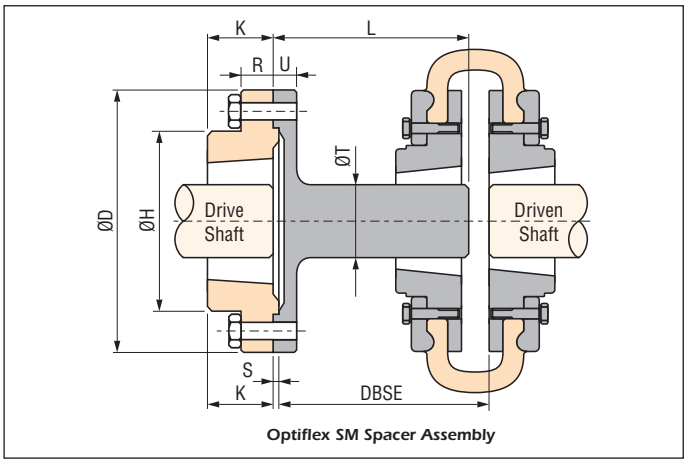
HiPerDrive® Optiflex Spacer Coupling

HiPerDrive® SM series Spacers combined with an Optiflex Tyre coupling (refer to page 4) provide a Spacer design where maintenance is more efficient by being able to move the drive or driven shafts without disturbing the mounting of the driving or driven machine.

Standard Distance Between Shaft Ends (DBSE) lengths of 100, 140 and 180mm are available.

Selection Procedure

1. Select a suitable Optiflex Tyre coupling using the selection procedure found on page 4.
2. Select a suitable size SM Spacer taking into consideration the required shaft spacing.



Optiflex SM Spacer Assembly

Dimensions

		SM16	SM25	SM30	SM35
	Use with Optiflex Tyre coupling	F50 F60	F70 F80 F90	F100 F110	F120 F140
Dimensions	TaperFix Bush Size (Spacer Flange)	1615 *	2517	3030	3535
	TaperFix Bush Maximum Bore	42	65	75	90
	ØD - Outside Diameter	127	178	216	248
	ØH - Hub Diameter	80	123	146	178
	K*	38	46	76	89
	L - Length: 100mm DBSE*	94	94	-	-
	L - Length: 140mm DBSE*	134	134	134	134
	L - Length: 180mm DBSE*	-	174	174	174
	R	18	22	51	63
	S	6	6	6	6
	ØT	32	48	60	80
	U	15	16	20	20
Mass	100mm DBSE (kg)	3.55	8.05	-	-
	140mm DBSE (kg)	3.8	8.65	16.4	25.4
	180mm DBSE (kg)	-	9.25	17.3	26.9

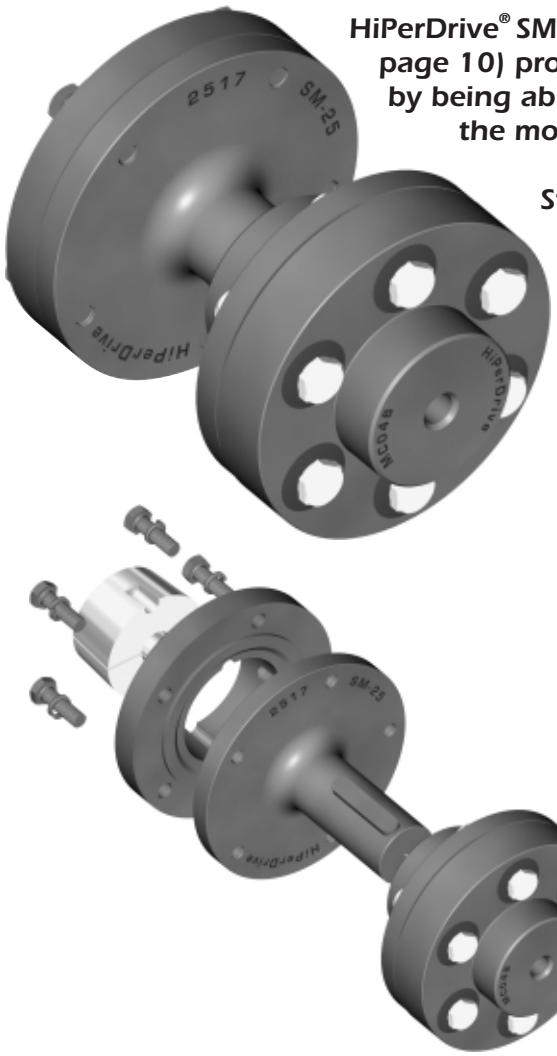
** NOTE: May vary on short reach bush design*

All values are in mm unless otherwise stated

ORDERING INSTRUCTIONS

- *SM Spacers are specified by the size and DBSE (e.g. SM25 Spacer with a 140mm DBSE length is specified SM25-140).*
- *SM Spacers require a TaperFix bush which must be ordered as a separate item (specifying bush size and the required bore).*
- *To order a complete Spacer coupling list the individual components of the coupling and Spacer including required TaperFix bushes.*

HiPerDrive® MC Spacer Coupling

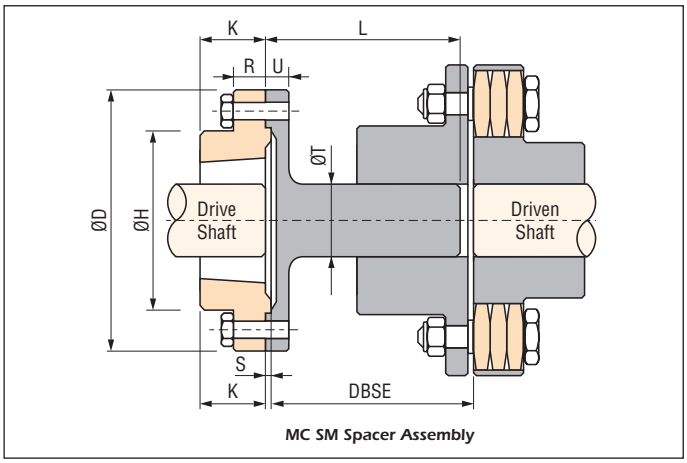


HiPerDrive® SM series Spacers combined with an MC coupling (refer to page 10) provide a Spacer design where maintenance is more efficient by being able to move the driving or driven shafts without disturbing the mounting of the driving or driven machine.

Standard Distance Between Shaft Ends (DBSE) lengths of 100, 140 and 180mm are available.

Selection Procedure

1. Select a suitable size of MC coupling using the selection procedure found on page 10.
2. Select a suitable size SM Spacer taking into consideration the required shaft spacing.



MC SM Spacer Assembly

Dimensions

		SM16	SM25	SM30	SM35
Dimensions	Use with MC coupling	MC038	MC042 MC048	MC058	MC070 MC075
	TaperFix Bush Size (Spacer Flange)	1615 *	2517	3030	3535
	TaperFix Bush Maximum Bore	42	65	75	90
	ØD - Outside Diameter	127	178	216	248
	ØH - Hub Diameter	80	123	146	178
	K*	38	46	76	89
	L - Length: 100mm DBSE*	94	94	-	-
	L - Length: 140mm DBSE*	134	134	134	134
	L - Length: 180mm DBSE*	-	174	174	174
	R	18	22	51	63
	S	6	6	6	6
	ØT	32	48	60	80
	U	15	16	20	20
Mass	100mm DBSE (kg)	3.55	8.05	-	-
	140mm DBSE (kg)	3.8	8.65	16.4	25.4
	180mm DBSE (kg)	-	9.25	17.3	26.9

** NOTE: May vary on short reach bush design*

All values are in mm unless otherwise stated

ORDERING INSTRUCTIONS

- *SM Spacers are specified by the size and DBSE (e.g. A SM25 spacer with a 140mm DBSE length is specified as a SM25-140).*
- *SM Spacers require a TaperFix bush which must be ordered as a separate item (specifying bush size and the required bore).*
- *To order a complete Spacer coupling list the individual components of the coupling and spacer including required TaperFix bushes.*

HiPerDrive® RM Rigid Coupling

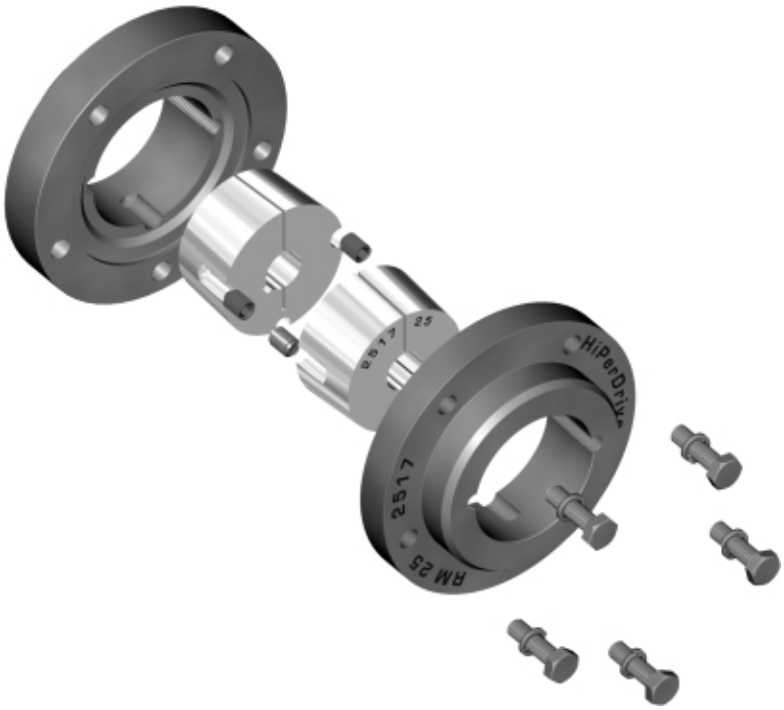
HiPerDrive® RM Rigid couplings are used to rigidly connect two shafts. Rigid couplings are often used to facilitate ease-of-maintenance or simply to aid machine assembly.

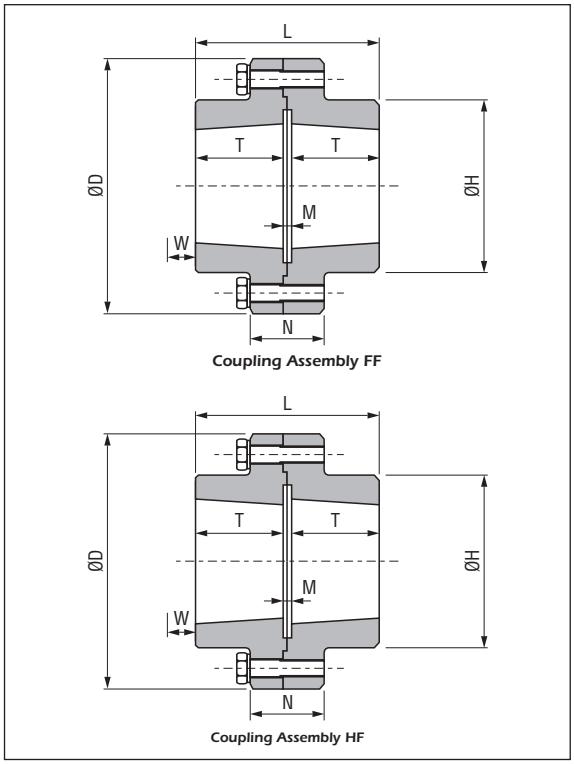
TaperFix bushes provide a secure fit on the driving and driven shafts, ensuring installation and removal is simple.

Selection Procedure

1. Select a size of RM coupling to fit the larger of the driving or driven shafts.
2. For severe applications, select the next largest size of RM coupling.

NOTE:
HF or FF assemblies can be used on horizontal shafts.
Only FF assemblies are to be used on vertical shafts.





Dimensions

		RM12	RM16	RM25	RM30	RM35	RM40	RM50
Dimensions	TaperFix Bush Size: F & H Flanges	1210 *	1615 *	2517	3030	3535	4040	5050
	Maximum Bore: F & H Flanges	32	42	65	75	90	100	125
	ØD - Outside Diameter	118	127	178	216	248	298	362
	ØH - Hub Diameter	83	80	123	146	178	210	266
	L - Assembled Length	57	83	97	159	185	210	260
	M - Gap	7	7	7	7	7	7	7
	N - Outer Length	35	43	51	65	75	76	92
	W - Wrench Clearance (H Flange Only)*	38	38	48	54	67	79	92
	Total Weight (kg)	2.9	3.8	8.8	18.2	28.8	47.3	89.1

**NOTE: May vary between short reach bush and long reach bush designs.*

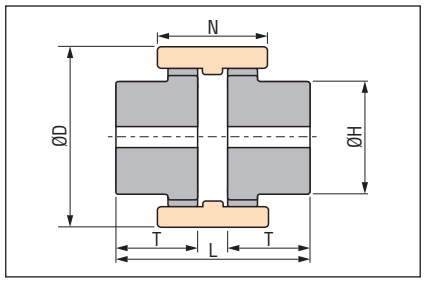
All values are in mm unless otherwise stated

ORDERING INSTRUCTIONS

- *RM couplings are supplied as complete assemblies in either HF or FF configuration (e.g. a RM25 configured as a HF is specified RM25HF).*
- *RM couplings require TaperFix bushes which must be ordered as separate items (specifying bush size and the required bores).*

HiPerDrive® GearDrive Coupling

HiPerDrive® GearDrive couplings provide a simple, slip-together connection between two shafts. Drive is transmitted between the two gear-hubs by a precision-moulded, nylon sleeve. Its double-crowned tooth form and low friction between gears and sleeve accommodate nominal misalignment between shafts. This design is free from pins, bolts and seals allowing easy assembly. Lubrication is not required.

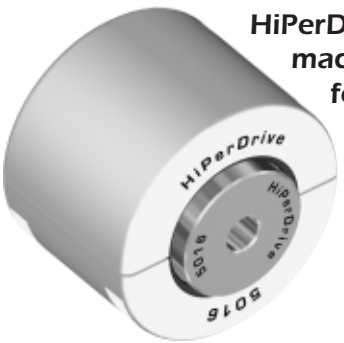


Dimensions

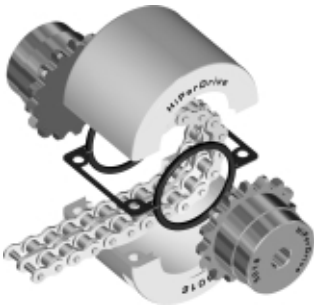
		S14	S19	S24	S28	S32	S38	S42	S48	S65
Rating	Power kW per 100 rpm	0.10	0.16	0.21	0.46	0.62	0.82	1.05	1.44	3.93
	Power kW @ 1440 rpm	1.4	2.4	3.0	6.6	9.0	11.8	15.1	20.7	56.5
	Maximum (rpm)	14,000	11,800	10,600	8,500	7,500	6,700	6,000	5,600	4,000
	Torque Nominal (Nm)	9.7	15.6	19.5	44.1	58.8	78.4	98.1	137.3	372.7
	Torque Maximum (Nm)	19.5	31.3	39.2	88.3	117.6	156.8	196.2	274.6	745.3
Dimensions	ØD - Outside Diameter	39.9	48.3	52.1	66.0	76.2	82.6	92.2	99.8	139.7
	ØH - Hub Diameter	25.4	31.8	35.6	43.9	49.5	58.4	64.8	67.8	96.5
	L - Assembled Length	45.7	49.8	52.6	83.8	83.8	83.8	87.6	104.1	143.5
	N - Sleeve Length	36.8	36.8	40.6	45.7	48.3	48.3	50.0	50.0	71.9
	T - Length Through Bore	20.1	21.3	21.3	35.6	35.6	35.6	38.1	45.7	64.0
	Misalignment (°)	Axial ±1.0, Parallel ± 0.3, Angular 2.0								
	Total Weight (kg)	0.2	0.3	0.4	0.8	1.5	1.8	2.0	2.5	6.8

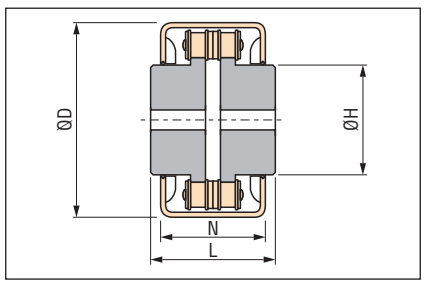
All values are in mm unless otherwise stated

HiPerDrive® Chain Coupling



HiPerDrive® Chain couplings provide a robust, compact coupling. The driven machine can be declutched by removing the chain. Lubrication is critical for long service life (retained by the outer aluminium cover).





Dimensions

		4012	4016	5016	5018	6018	6022	8018	8022	10020
Dimensions	Chain Pitch	1/2"		5/8"		3/4"		1"		1 1/4"
	Maximum Bore	22	32	40	45	56	71	80	100	110
	ØD - Outside Diameter	77	92	110	122	147	168	190	226	281
	ØH - Hub Diameter	36	51.5	64	73.5	89.5	115	115	142	162
	L - Assembled Length	79.4	87.4	99.7	99.7	123.5	123.5	141.2	157.2	178.8
	N - Cover Length	72	72	87	85	105	117	129	137	153
	Total Weight (kg)	1.1	1.9	3.3	4.2	7.8	11.6	15.1	24.5	36.5

All values are in mm unless otherwise stated

Other Products Available

Hydraulic Seals

Product Range

Hydraulic Cylinder Seals
Custom and Standard Seal kits
CNC Machined Seals
Rod Wipers
Single and Double Acting Seals
Energised Piston and Rod Rings
Vee Packings
Wear Rings and Bearing Strip
Pneumatic Cylinder Seals
Custom Moulded Seals
O'Rings, X'Rings
Backup Washers

Core Brands

Hallite
Seal Maker
SSI
Dynamic Seals
CDI Seals
Polypac Balsele
Gapi
Parmargon

Additional Brands

Macrotec Polyseal
Claron
Merkel
Dowty

Power Transmission

Product Range

Vee & Wedge Belts, Drives & Pulleys
Synchronous Belts, Drives & Pulleys
Roller Chain Drives & Sprockets
Custom Length Vee & Wedge Belts
Shaft Copulings. Flexible & Rigid
Locking Assemblies
TaperFix and DuoFix products
Speed Reducing Gear Boxes
Variable Speed Drives

Core Brands

BeltCorp
HiPerDrive
Dayco
Resatec
Centa

Additional Brands

Arcusaflex
Lovejoy
Stromag
UCC
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Telephone
+61 (08) 9451 6011

Email
sales@transeals.com.au

Facsimile
+61 (08) 9458 5766

Web
www.transeals.com.au

Head Office
1 Atlas Court
Welshpool WA 6106
Perth Western Australia