MARINE . MINING . DEFENCE . INDUSTRIAL . COMMERCIAL . AUTOMOTIVE

Poly Flex AUSTRALIA

ADVANCED POLYMER TECHNOLOGY FOR VIBRATION CONTROL

Quality & Performance that is Second to None.

DNV TYPE APPROVED PRODUCT

AIMEX AUSTRALIAN MARINE EXPORTS

COUPLINGS

Better By Design

Poly Flex AUSTRALIA

EXCELLENCE IN THE MAKING

Poly Flex Group Pty Ltd is an Australian company and since commencing in 1981 we have continued to expand both in product range and areas of export. Poly Flex manufactures Engine Mounting Systems, Flexible Disc Couplings & Steel Shaft Couplings which are available with DNV Type Approval. Det Norske Veritas (DNV) is a Norwegian based classification society, a respected leader of manufacturing procedures and standards that is accepted by class approval societies and approving bodies worldwide.

Poly Flex Flexible Disc Couplings are designed to act as a dampener between gearbox and driveshaft while still maintaining strength, rigidity and performance. We have over 200 models (10 - 2500 HP) and are continually expanding our range to meet your requirements. All our couplings are tested and most are available with DNV Type Approval.

Resilient mountings are necessary to reduce the transmission of vibration developed from an engine to the vessel or equipment. Poly Flex have over 1600 models (10 - 2000 Kg) of Engine Mount Systems that cater for Marine, Defence, Agricultural, Mining, Industrial & Commercial applications. Our products are moulded from heat cured polymer alloys which are long lasting and oil/fuel resistant. We have a selection of core hardnesses to meet every job requirement in the industry whether it be a light or heavy duty application.

Our Steel Half Couplings are used to join the Flexible Disc Coupling to the propeller shaft and like all our componentry, are CNC machined and engineered to a high standard. All metal components are plated in Cobalt Zinc (SA5) which has very good wear and corrosion resistance. We are proud to say that all products are designed & manufactured in-house.

Poly Flex's ability to respond quickly to our customers requirements together with our extensive product range has created the worldwide distribution network it has today. We target excellence in product design and development in which we are continually expanding our product range and growing our company. We look forward to giving you the customer, a solution for your application.

MAKING GOOD BOATS "BETTER"

INTRODUCTION

There are a large variety of materials and contruction methods used in the marine industry today. For this reason it is important to understand what noise, vibration and acoustics are, what is an acceptable level and how to control it. Marine diesels are always a big contributor to noise, often above 110 decibels (dB). These noises are then bounced around off the construction materials which are usually timber, aluminium, GRP or steel and amplified through hard bulkheads and the steel engines themselves.

Adding weight and thickness to the bulkheads with insulation is one of several ways to reduce engine noise. Reducing the hardness and modifying the texture of the bulkhead surfaces is another. Softer materials will absorb noise, reducing the amplification and vibration caused by the sound bouncing around. It has been proven that if you cocoon the engine room with insulation you can reduce airborne noise by as much as 85% and transform the comfort of all onboard because noise contributes to fatigue, seasickness and overall wellbeing.

Vibration of the propeller shaft is also a noise issue and stems from two directions, firstly from the propeller and secondly from the engine. Traditionally, marine engines have been coupled directly to the propeller shaft with no flexible coupling to absorb vibration. Therefore the majority of the vibration from the propeller is sent straight down the shaft, and the engine mounts cannot do their job properly because they are constantly under strain from the forward thrust of the propeller. This causes vibration to get into the hull which causes noise.

Understanding Noise

Sound is made up of alternating pressure waves in the air. The number of waves per second is known as the frequency. The human ear has the ability to hear a range from 16 Hertz (Hz) to 16,000 Hz. The smaller the value Hz the lower pitched the sound is, so in simple terms we can hear from a low rumble to a high shreak only a bat would appreciate. In relation to sound, noise is not necessarily random. Sounds, particularly loud ones, that disturb people or make it difficult to hear wanted sounds, are noise. For example, conversations of other people may be called noise by people not involved in any of them; any unwanted sound such as domesticated dogs barking, neighbours playing loud music, portable mechanical saws, road traffic sounds, or a distant aircraft in the quiet countryside, is called noise. The loudness of the noise is something quite different from the frequency and is measured in dBA (A weighted decibel loudness) and is a logarithmic scale. This means that a noise at 110 dBA is much much louder that a noise at 100 dBA and not only 10% louder as one would assume.

What Noise is Acceptable?

What sources of noise and at what levels are they acceptable on a boat? Technically speaking most noises in a boat would range between 60 Hz and 2.000 Hz and are either carried by the vessels structure or airborne.

These frequencies can vary depending on the size and structure of the vessel. For example, on big ships the crew's quarters often range from 45 - 60 dBA and in a recreational boat 70 - 80 dBA is

acceptable. Noise dampening is an expensive exercise as there are a lot of variables to take into consideration such as noise from the engine, transmission, driveline and propeller. Another type of noise with different characteristics would derive from the wind and waves. These 2 types of noise and vibration must be assessed and controlled in different ways.

Finding the Source

The first step to controlling noise and vibration is to quieten the source of the sound before the receiving end. This is generally done by calling in an accoustics expert. You can also try to acheive this yourself by establishing what kind of noise it is. Is it noise coming from the engine, transmission, driveline, propeller and some other accessory? If the sound is engine-based it will be prominent whether the boat is in motion or stationary. Run the engine up in neutral, gradually going through the rev. range and see when the noise and vibration starts. The next point of attack would be the transmission. Engage to transmission and find a nice smooth stretch of water to run through the rev. range again and see when the noise or vibration starts.

If still not successful try to get in the space over the propeller. The usual suspect area is right above the tip of the propeller. If the shaft is bent or the propeller is out of balance, you would pick this up on the strut bolts. Also try the tiller arms, rudder stocks and tie rods.

Where Poly Flex comes in

Resilient engine mounts will stop most of the engines inherent shakes and shudders from being transmitted through the hull. Our mounting systems are designed as true marine propulsion engine mounts with sufficient vertical deflection to obtain proven vibration isolation. They have controlled minimum thrust and lateral deflection under propulsion load and inertia due to sea conditions.

If you are planning a new vessel, take into consideration that if the thrust bearing is incorporared into an engine mounted gearbox, all of the propeller thrust must be resisted by the engine mounts. If however a seperate thrust bearing is used, the engine mounts can be more flexible and a softer mount will transmit less vibration reducing noise into the hull structure.

Poly Flex flexible disc transmission couplings provides a damper between the gearbox and propeller shaft to isolate torsional vibration from the engine and gearbox. It also reduces the shock of forward and reverse gear changes. Our couplings should be considered as an essential part of any noise/vibration control system on vessels of all types. They are designed to work in conjunction with the engine mounts by providing the softest element in the shaft assembly to improve performance.

All our mounts and couplings are moulded from engineering heat cured polymer alloys, long lasting and resistant to oil, fuel and most other chemicals. They are manufactured and tested by Poly Flex Group - established in 1981 giving us many years of experience and hands on control of all stages of the manufacturing process. All mounts and couplings are covered with DNV (Det Norske Veritas) Type Approval.

WHY INSTALL POLY FLEX FLEXIBLE DISC TRANSMISSION COUPLINGS ?

All Poly Flex flexible disc couplings are designed, manufactured and tested in-house. Established in 1981 we have many years of experience and hands on control at all stages. We are proud of our acheivements and have successfully distributed our range of products worldwide. We use only high quality engineering heat cured polymer alloys that are long lasting and resistant to oil, fuel and most other chemicals.
Our in-house testing facility has gained us recognition and certification with DNV (Det Norske Veritas) Type Approval.

Poly Flex flexible disc transmission couplings:

- Provides a damper between the gearbox and propeller shaft to isolate vibration from engine & gearbox.
- Dampens the noise and vibration from the propeller shaft.
- Reduces the shock of forward and reverse gear changes.
- Works in conjunction with the engine mounts by providing the softest element in the shaft assembly to improve performance.
- Acts when overloaded by running aground or knotting a rope around the shaft by shearing at a designed point to protect the engine/gearbox and vessel.
- Manufactured and tested by Poly Flex with extensive experience and hands on control at all stages of the manufacturing processes.
- Available with DNV (Det Norske Veritas) Type Approval upon request for vessels in survey.

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For more information visit us at

polyflex.com.au

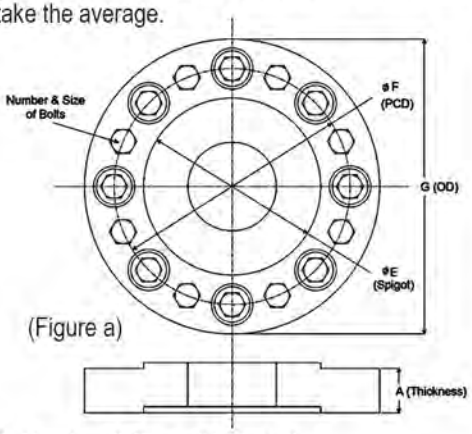
CONTENTS

HOW TO MEASURE

In order to purchase one of our couplings you will need to know the measurements of your current gearbox and propeller shaft flanges. A vernier caliper is the best tool to use to measure the following:

1. PCD (F) known as Pitch Circle Diameter

When looking at the gearbox flange you will find a hole pattern where one hole is aligned with another hole directly opposite it (except for 3 hole pattern). To find the PCD measure the outside edge of the hole to the inside edge of the hole directly opposite as show below (figure a). It is good practice to measure more than one hole and take the average.



(Figure a)

2. Number & Size of bolts (B)

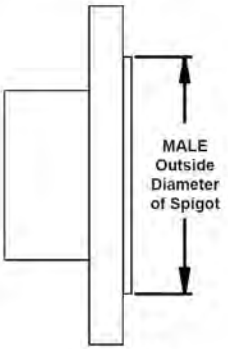
The number of bolts is determined by the number of holes in the gearbox flange. Our couplings range from a 3 bolt pattern up to a 12 bolt pattern. To determine the size of the bolts simply measure the inside diameter of the holes in the gearbox flange. The gearbox and propeller shaft flanges are generally the same unless there has been a modification or retro-fit. In this case an adaptor or cotton reel can be used. Just ask one of our friendly staff about custom adaptors and cotton reels.

3. Spigot (E) male or female?

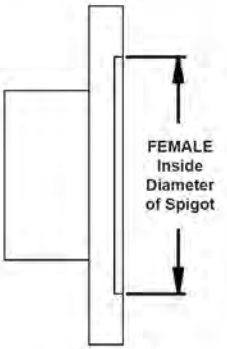
To determine whether the spigot is male or female check which way it is facing on the gearbox flange. If it is protruding it is male and if it is recessed it is female.

Male Spigot - Measure the outside diameter of the spigot on the gearbox flange using a vernier caliper (figure b).

Female Spigot - Measure the inside diameter of the spigot on the gearbox flange using a vernier caliper (figure c).



(Figure b)



(Figure c)

4. Torque Calculation

In order for our flexible coupling to work correctly it must be strong enough to handle and control the torque rating specified for the installation. In other words it must be able to carry the torque rating loads output by the engine/gearbox during normal

operation but at the same time be able to shear at a designed point to protect both engine and gearbox in the event of running aground or knotting rope around the propeller shaft.

Before installing any driveline coupling, you should first determine the maximum allowable torque rating of your engine/gearbox. This is generally found in the owner's manual or a specification plate on the engine/gearbox itself.

Torque is calculated using the formulas below and Poly Flex recommend that you use these formulas to calculate the rating of the installation. We are more than happy to do the calculations for you provided we get the following information:

- *Engine Power (hp)*
- *Engine (RPM)*
- *Gearbox Reduction Ratio*

Otherwise please refer to the corresponding formula below to complete this calculation yourself.

To calculate the approximate engine/gearbox output torque in Nm, use one of the formulae below:

$$\text{Torque (Nm)} = \frac{\text{(Engine power (hp) x 7124 x gear reduction ratio)}}{\text{Engine RPM}}$$

$$\text{Torque (Nm)} = \frac{\text{(Engine power (kW) x 9550 x gear reduction ratio)}}{\text{Engine RPM}}$$

$$\text{Torque (Nm)} = 1.356 \times \text{Torque (ft-lb)}$$

To calculate the approximate engine/gearbox output torque in ft-lbs, use one of the formulae below:

$$\text{Torque (ft-lb)} = \frac{\text{(Engine power (hp) x 5252 x gear reduction ratio)}}{\text{Engine RPM}}$$

$$\text{Torque (ft-lb)} = \frac{\text{(Engine power (kW) x 7038 x gear reduction ratio)}}{\text{Engine RPM}}$$

$$\text{Torque (Nm)} = 0.737 \times \text{Torque (Nm)}$$

Conversion Factors:

1 hp = 0.746 kW	1 ft-lb = 1.356 Nm
1 kW = 1.34 hp	1 Nm = 0.7376 ft-lb

COUPLING SPECS

The Poly Flex flexible drive coupling range is moulded from engineering heat cured polymer alloys of the highest standards and all metal components are plated in SA5 Cobalt Zinc, increasing the metal life that normal zinc plating would give by 600%.

All our couplings are machined on purpose built flange jigs and have a maximum runout of (0.002" or 0.05mm). Spigots are machined to tolerance within (+/- 0.002" or +/- 0.05mm).

To ensure maximum strength, durability and performance of your flexible coupling strict installation guidelines must be followed which are included with each coupling sold by Poly Flex. The table below (table 1a) is a guide for the recommended torque ratings for the bolts used in our couplings.

NOTE: Over-tensioning of the bolts during assembly may cause internal damage to the Poly Flex coupling and therefore will result in a coupling that will not function properly as designed to do so.

Poly Flex couplings are sold with anti-sieze applied to the thread of the insert bolts to ensure easy maintanence and removal. If removed bolts will sieze up over time.

(table 1a)

COUPLING BOLT SIZE	RECOMMENDED TORQUE SETTINGS		HIGH TENSILE GRADE	
	ft-lbs	Nm		
8mm	12	16	8.8	Metric
10mm	24	32	8.8	
12mm	40	54	8.8	
14mm	45	60	8.8	
16mm	45	60	8.8	
20mm	70	95	8.8	
24mm	88	120	8.8	
27mm	110	150	8.8	
3/8"	24	32	Gr5	Imperial
7/16"	35	48	Gr5	
1/2"	40	54	Gr8	
5/8"	45	60	Gr8	
3/4"	65	88	Gr8	
7/8"	80	108	Gr8	
1"	90	122	Gr8	

GENERAL COMMENTS

Electrical Isolation

All Poly Flex coupling electrically isolate the shaft and propeller from the engine/gearbox. This can be rectified by installing a shaft strap.

General Maintanence

Misalignment increases stresses on the drive train (gearbox), which decreases the capacity and life of the coupling and causes premature wear of the stern bearings.

If the engine is mounted on rubber mounts it is recommended that the alignment is checked every 6 months due to the design and materials used in rubber mounts, which tend to settle.

Check every 12 months if the engine is sitting on Poly Flex mounts.

Alignment must be carried out while the vessel is in the water.

COUPLING CROSS REFERENCE

DRIVESAVER TO POLY FLEX

DRIVE SAVER	POLYFLEX
303	n/a
353	n/a
354	n/a
404	n/a
404A	434
404AC	434
404V	464
404S	n/a
424Y	424
4756	546IRM
4756PR	546IRM
454	434P
504	524
504A	n/a
504AC	514
504PR	524
504H	534
504HPR	524FRL
524Y	534
554	n/a
908	9858 5/8
908PR	9858 5/8
908S	9114
908AC	n/a

DRIVESAVER	POLYFLEX
1058	10834
1108	11834
1108A	11834A
1308	n/a
4756	546IRM
5756	616 1/2
5756A	616 1/2 A
5756APR	616 1/2 A
5756AZF	616 1/2 A
5756AZFPR	616 1/2 A
576B	616 5/8
6256	636
7256	7206 5/8
7256PR	7206 5/8
7258ZPR	7608 IRM
7306Z	7606IRM
8078Z	n/a
8010Z	8170
8858Z	n/a

REMEMBER TO CHECK TORQUE RATINGS

COUPLING CROSS REFERENCE

R&D TO POLYFLEX

R & D	POLYFLEX
RA900-003	546
910-001	434
910-002	424
910-005	434P
910-006	616 5/8
910-007	464
910-009	524
910-012	534
910-013	494
910-014	434
910-015	n/a
910-016	n/a
910-017	7606IRM *
910-018	7606IRM
910-019	464
910-020	464
910-021	n/a
910-022	9114 *
910-024	10834 *
910-025	616 1/2
910-026	616 5/8 or 656
910-027	8196 *
910-028	494
910-029	524
910-030	n/a
910-032	616 1/2 A
910-033	616 5/8 or 656
910-034	524

R&D	POLYFLEX
910-035	n/a
910-036	n/a
910-037	524
910-038	n/a
910-039	7606IRM *
910-040	7606
910-041	n/a
910-042	n/a
910-043	424
910-044	524
910-045	n/a
910-046	9858 3/4
910-047	20150
910-048	9858 3/4 *
910-049	8170 *
910-050	9114 *
910-052	546 or 546IRM
910-053	n/a
910-054	616 1/2
910-055	434
910-057	542
910-058	7306
910-059	464

* BUSHING KIT REQUIRED

REMEMBER TO CHECK TORQUE RATINGS

COUPLING CROSS REFERENCE

ISOFLEX TO POLY FLEX

ISOFLEX	POLYFLEX
IC-3100-95	305-12
IC-3200-95	305-14
IC-3300-95	306
IC-4200-90	424
IC-4300-95	434
IC-4400-95	534
IC-4500-95	524
IC-4550-95	524
IC-4550-HT	524
IC-4600-95	464
IC-4700-95	547
IC-4800-95	484
IC-4900-95	1550
IC-6000-95	546 or 546IRM
IC-6000-HT	546 or 546IRM
IC-6100-95	616 1/2
IC-6125-95	616 1/2 A
IC-6150-95	616 5/8 or 656
IC-6300-IV	7206 5/8 or 3/4
IC-6400-95	7606IRM
IC-6500-95	2306
IC-6600-95	
IC-8100-95	9858 5/8 or 3/4
IC-8100-HT	9858 5/8 or 3/4
IC-8200-95	9114
IC-8200-HT	9114
IC-8300-95	7608
IC-8400-95	9934

ISOFLEX	POLYFLEX
IC-8400-HT	9934
IC-8534-95	10834
IC-8600-HT	2308
IC-8690-95	11834A
IC-8695-95	11834
IC-8695-HT	11834
IC-8700-95	2808
IC-8800-95	3408
IC-10325-HT	8170

REMEMBER TO CHECK TORQUE RATINGS

TRANSMISSION CROSS REFERENCE

GEARBOX	POLYFLEX
ARONA	
ARONA	303
ADVANCE	
GEAR100	566 + ADAPTOR
GEAR135	10835 + BUSH KIT
ALLISON	
M	7206 5/8"
M25	9858 5/8"
MH	9858 3/4"
BORG WARNER	
70C, 71C, 500, 1000, 1500	434
71C, 72C, 1000, VELVET DRIVE 5000A	524
73C, 7000	616 1/2" B
BUKH	
4 BOLT	494
CMC	
CMC	566
DONG I	
DMT25AL	490
DMT70T, DMT70T-6, DMT100T	7306
DMT140H	6170
DMT150H, DMTP5100	2206
DMT260H, DMT280H	20150
DMT-170 HL	24160
DMT400H	24180
DMTP7500, DMT260HL, DMT280HL, DMT200HL	24190

GEARBOX	POLYFLEX
DMT400HL, DMTP6500	24220
LEVI DRIVE	
8000 SERIES	2308
NEWAGE / PRM	
DELTA, 80, 120, 150	434
101, 140, 160, 260, 602	524
175, 260, 265, 301 302, 310, 401, 402, 500, 601 (3:1)	616 1/2" A
750, 1000 (3:1)	616 5/8"
601 (4:1), 1000 (4:1) 1200SC, 1500SC, 1750SC	7206 5/8"
1200DC, 1500DC, 1700DC	10834
PARAGON	
P13, 200, 300	434P
PM, PMB, PL, P15	514
RC SERIES	636
RUGERINI	
RUGERINI	303
ROLCO	
ROLCO	ROLCO3
SAAB	
SAAB	454

THE ABOVE IS A GUIDE ONLY. Please check with Manufacturer.

TRANSMISSION CROSS REFERENCE

GEARBOX	POLYFLEX
TECHNODRIVE	
TMC30, TMC40, TMC50, TMC60, TMC80	434
TMC93, TMC93A, TMC170, TMC170A, TMC260, TMC345A, TMC545A, TMC880	524
TMC345	524 + SPACER or 524IRM
TMC485A	524IRM OR 524 + SPCR
TMC130B, TMC265, TMC265A	616 5/8"
TMC200B	7206 5/8"
TMP	
1200	524 + SPACER or 524IRM
TWINDISC	
MG340, MG360, MG5010SC, MG5011SC, MG5010V	434
MG5005A, MG5012SC, MG5015A, MG5020SC, MG5055A	524
MG502, MG502-1, MG502A, MG502V	546 or 546IRM
MG5010DC, MG5050V,MG5061, MG5061SC, MG 5061V, MG5062V, MG507-1, MG507A-1, MG507-2, MG507A-2, MG5075IV, MG5075-A MG5075SC	616 5/8"

GEARBOX	POLYFLEX
MG5050, MG5050-A, MG5050SC, MG5061-A, MG506A-1, MGX5065A	656
MG506DC, MG507-1, MG507-1SC, MG507-2SC, MG507A-2, MG5075A, MG5075SC, MG5075IV, MG5081SC, MG5082A, MG5082SC, MG 5085A, MG5085SC, MG5090A, MG5090SC, MG509U, MG5091SC, MGX5095	7206 3/4"
MG5081A	7206 3/4" + ADAPTOR
MGX5095A	7606 + BUSH KIT
MG5111SC, MG5114SC	9114 (3+3) + BUSH KIT
MG510SC, MG510A, MG514CU, MG514U	9858 3/4" + BUSH KIT
MG5111A, MG5114A, MG5111V, MG5114V, MG5135A	9114 + BUSH KIT
MGX5147A	9934
MG5145A, MGX5145A	9934 + BUSH KIT
MG5091DC, MG509DC, MG510DC, MG5111DC, MG5114DC, MG5113, MG514DC	10834 + BUSH KIT

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TRANSMISSION CROSS REFERENCE

GEARBOX	POLYFLEX
VOLVO	
MD10A, MD38, MD7A, MD11C, 2000 SERIES, MS2, MS10, MS15 , MS25	464
MS, MS3, MS4, MS4A, MS5, MS45A, MS63A	524
YANMAR	
20G, 20H, 20M, 30G, 30H, 30M, JH2-TF, KBW10, KM2, KM2P, KM3, KM35, YSBE8, YSBE12, YSE8, YSE12, YSME8, YSME12	424
30G, 30H, 30M, KBW20, KBW21, KM4	534
ZF63A, KMH50A	524IRM
KMH4A	534 + SPACER
KM5, LH SERIES	524
YX30-2	556
KMH6, KMH61A	616 5/8''
YX71-4	6146
YP-50LE, YP-60LP	7506
YX120	8192
ZF	
DIN PCD	404
4M, 5M, 10M, 12, 12M, 15M, 15MA, 15MIV, 25, 25M, 25MA, 30M, 45A, 45C, SAE PCD	434
220A, 220V, 225A	546IRM
220	546

GEARBOX	POLYFLEX
45-1, 45C, 63, 63A, 63C, 88C, 90TS, 90ATS, 110TS	524
45A	524IRM
45, 80A, 80-1A, 85A, 220, 280A, 280-1, 280-1A, 280IV, 280, 285A, 285IV, 300TS, 300-1TS, 300ATS, 300-1ATS, 301C, 301A, 3001VTS, 110ATS, 110IVTS	616 5/8''
311, 325A, 350, 350A, 350TS, 350ATS, 350V, 350IV, 550A, 665, 65A, 665V	8170 + BUSH KIT
3000, 3050, 3060, 3060A, 3060V	3306 + BUSH KIT

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POLY FLEX COUPLINGS

SPICER

DIMENSIONS

Metric (mm)

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (kg)
484	79.38 rect	127.00	38.10	(4) 3/8" UNF	60.33	25.40	96.85	A	0.78
545	95.25 rect	134.14	50.00	(4) 7/16" UNF	69.85	31.75	115.87	A	1.12
547	95.25 rect	152.40	50.00	(4) 7/16" UNF	69.85	31.75	115.87	A	1.29
1550	120.65 rect	177.80	50.00	(4) 1/2" UNF	95.25	36.50	146.05	A	2.03
1600	155.58 45deg	215.90	60.00	(8) 3/8" UNF	168.28	25.40	174.63	A	1.76
1700	184.15 45deg	241.30	72.60	(8) 3/8" UNF	196.85	25.40	228.60	A	2.13

Imperial (inch) "

Please note that some couplings may require a bushing kit supplied by Poly Flex.

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (lb)
484	3.125 rect	5.000	1.500	(4) 3/8" UNF	2.375	1.000	3.813	A	1.72
545	3.750 rect	5.281	1.968	(4) 7/16" UNF	2.750	1.250	4.562	A	2.47
547	3.750 rect	6.000	1.968	(4) 7/16" UNF	2.750	1.250	4.562	A	2.84
1550	4.750 rect	7.000	1.968	(4) 1/2" UNF	3.750	1.438	5.750	A	4.48
1600	6.125 45deg	8.500	2.362	(8) 3/8" UNF	6.625	1.000	6.875	A	3.88
1700	7.250 45deg	9.500	3.000	(8) 3/8" UNF	7.750	1.000	9.000	A	4.70

SPICER

TORQUE RATINGS

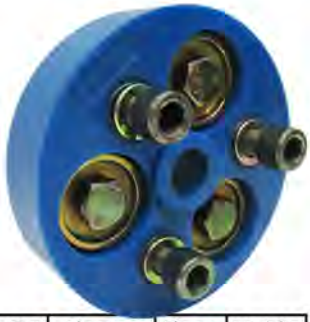
Metric (Nm)

MODEL	LIGHT DUTY *	MEDIUM DUTY *	HEAVY DUTY *
484	171	309	
545	260	335	563
547	260	335	563
1550	360	670	1200
1600		1536	2152
1700		1690	2370

Imperial (ft-lb)

MODEL	LIGHT DUTY *	MEDIUM DUTY *	HEAVY DUTY *
484	126	227	
545	191	247	415
547	191	247	415
1550	265	494	885
1600		1132	1587
1700		1246	1747

POLY FLEX COUPLINGS



3 BOLT

DIMENSIONS

Metric (mm)

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (kg)
303	97.00	122.00	16.00	3/8" UNF	25.40	16.00	3 leg	Plain	0.43
304	101.60	133.35	25.40	3/8" UNF	25.40	15.88	3 leg	Plain	0.43
Rolco3	57.15	101.60	25.40	3/8" SHCS	25.40	25.40	76.20	B	0.51
305-12	78.50	122.00	38.00	M8	3 X 12	24.50	Toyota	n/a	0.50
305-14	78.50	122.00	38.00	M8	3 X 14	24.50	Toyota	n/a	0.50
306D	84.00	123.00	38.00	M8	3 X 14	26.00	Toyota	n/a	0.50

Imperial (inch) "

Please note that some couplings may require a bushing kit supplied by Poly Flex.

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight(lb)
303	3.819	4.803	0.625	3/8" UNF	1.000	0.625	3 leg	Plain	0.95
304	4.000	5.250	1.000	3/8" UNF	1.000	0.625	3 leg	Plain	0.95
Rolco3	2.250	4.000	1.000	3/8" SHCS	1.000	1.000	3.000	B	1.12
305-12	3.090	4.803	1.496	M8	3 x 0.472	1.000	Toyota	n/a	1.10
305-14	3.090	4.803	1.496	M8	3 x 0.551	1.000	Toyota	n/a	1.10
306D	3.307	4.842	1.496	M8	3 x 0.551	1.023	Toyota	n/a	1.10

3 BOLT

TORQUE RATINGS

Metric (Nm)

MODEL	LIGHT DUTY *	MEDIUM DUTY *	HEAVY DUTY *
303		180	
304		210	
Rolco3		125	
305-12			
305-14			
306D			

Imperial (ft-lb)

MODEL	LIGHT DUTY *	MEDIUM DUTY *	HEAVY DUTY *
303		133	
304		155	
Rolco3		92	
305-12			
305-14			
306D			

POLY FLEX COUPLINGS

4 BOLT

DIMENSIONS

Metric (mm)

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (kg)
404	85.73	127.00	38.10	3/8" UNF	63.50	25.40	101.60	A	0.60
414	70.00	125.00	25.40	M8	57.00	25.00	105.00	A	0.62
424	78.00	127.00	38.10	M10	50.00	25.00	105.00	A	0.80
434	82.55	127.00	38.10	3/8" UNF	63.50	25.40	101.60	A	0.76
434 P	82.55	127.00	38.10	3/8" UNF	66.68	25.40	101.60	A	0.78
454	90.00	140.00	38.10	M10	60.00	25.00	100.00	A	0.82
464	80.00	127.00	38.10	M10	60.00	25.00	100.00	B	0.80
474	75.00	120.00	38.10	7/16" UNF	45.00	25.00	100.00	A	1.20
490	90.00	120.00	38.10	7/16"UNF	60.03	28.60	100.00	A	0.85
494	74.50	127.00	25.40	M8	47.00	25.00	100.00	B	0.65
514	104.78	155.58	50.00	7/16" UNF	73.03	28.58	127.00	A	1.37
524	107.95	155.58	50.00	7/16" UNF	63.50	28.58	127.00	A	1.37
524 IRM	107.95	138.11	50.00	7/16" SHCS	63.50	28.58	127.00	A	1.24
534	100.00	152.00	50.00	M10	65.00	25.00	120.00	A	0.95
534IRM	100.00	133.00	50.00	M10 SHCS	65.00	25.00	120.00	A	0.83

Please note that some couplings may require a bushing kit supplied by Poly Flex.

Imperial (inch) "

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (lb)
404	3.375	5.000	1.500	3/8" UNF	2.500	1.000	4.000	A	1.32
414	2.756	4.921	1.000	M8	2.244	0.984	4.134	A	1.37
424	3.071	5.000	1.500	M10	1.968	0.984	4.134	A	1.76
434	3.250	5.000	1.500	3/8" UNF	2.500	1.000	4.000	A	1.67
434 P	3.250	5.000	1.500	3/8" UNF	2.625	1.000	4.000	A	1.72
454	3.543	5.512	1.500	M10	2.362	0.984	3.937	A	1.80
464	3.150	5.000	1.500	M10	2.362	0.954	3.937	B	1.76
474	2.953	4.724	1.500	7/16" UNF	1.772	0.984	3.937	A	2.65
490	3.543	4.724	1.500	7/16"UNF	2.363	1.126	3.937	A	1.87
494	2.933	5.000	1.000	M8	1.850	0.984	3.937	B	1.43
514	4.125	6.125	1.968	7/16" UNF	2.875	1.125	5.000	A	3.02
524	4.250	6.125	1.968	7/16" UNF	2.500	1.125	5.000	A	3.02
524 IRM	4.250	5.437	1.968	7/16" SHCS	2.500	1.125	5.000	A	2.73
534	3.937	5.984	1.968	M10	2.559	0.984	4.724	A	2.09
534IRM	3.937	5.326	1.968	M10 SHCS	2.559	0.984	4.724	A	1.83

POLY FLEX COUPLINGS

4 BOLT

TORQUE RATINGS

Metric	(Nm)		
MODEL	**LIGHT DUTY ***	**MEDIUM DUTY ***	**HEAVY DUTY ***
404	230	496	610
414	230	496	610
424	230	496	610
434	230	496	610
434 P	230	496	610
454	230	496	610
464	230	496	610
474	325	418	703
490	325	418	703
494	325	418	703
514	325	418	703
524	325	418	703
524 IRM	280	378	558
534	325	418	703
534IRM	280	378	558

Imperial	(ft-lb)		
MODEL	**LIGHT DUTY ***	**MEDIUM DUTY ***	**HEAVY DUTY ***
404	169	365	450
414	169	365	450
424	169	365	450
434	169	365	450
434 P	169	365	450
454	169	365	450
464	169	365	450
490	239	308	518
494	239	308	518
494	239	308	518
514	239	308	518
524	239	308	518
524 IRM	206	278	411
534	239	308	518
534IRM	206	278	518

POLY FLEX COUPLINGS

6 BOLT

DIMENSIONS

Metric (mm)

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (kg)
416	85.00	152.00	50.00	M10	65.00	25.00	105.00	B	0.70
546	98.42	152.40	50.00	7/16" UNF	63.50	31.75	120.65	B	1.60
546IRM	98.42	152.40	50.00	7/16" SHCS	63.50	31.75	120.65	B	1.60
556	105.00	150.00	50.00	M10	60.00	32.00	125.00	A	1.11
566	100.00	152.00	50.00	M10	75.00	25.00	125.00	A	1.12
616 1/2 A	120.65	161.92	58.00	1/2" UNC	76.20	38.10	146.05	A	2.44
616 1/2 B	120.65	161.92	58.00	1/2" UNC	76.20	38.10	146.05	B	2.44
616.5/8	120.65	161.92	58.00	5/8" UNC	76.20	38.10	146.05	B	2.95
636	136.52	184.15	59.00	7/16" UNF	82.55	25.40	171.45	A	2.40
646	125.00	160.00	51.00	M12	80.00	32.00	160.00	A	2.44
656	120.65	153.99	60.00	5/6" UNC	76.20	38.10	146.05	B	2.95
2206	180.00	240.00	75.00	M20	140.00	38.10	220.00	A	6.35
2306	260.00	337.00	100.00	M20	170.00	38.10	320.00	A	13.00
2306-27	260.00	337.00	100.00	M27	170.00	38.10	320.00	A	13.50
2586	220.00	300.00	100.00	M20	140.00	42.00	258.00	B	7.40
7206 5/8	152.40	212.72	75.00	5/8" UNC	95.25	38.10	184.15	B	4.37
7206.3/4	152.40	212.72	75.00	3/4" UNF	95.25	38.10	184.15	B	4.85

Please note that some couplings may require a bushing kit supplied by Poly Flex.

Imperial (inch) "

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (lb)
416	3.346	5.984	1.968	M10	2.559	0.984	4.134	B	1.54
546	3.875	6.000	1.968	7/16" UNF	2.500	1.250	4.750	B	3.53
546IRM	3.875	6.000	1.968	7/16" SHCS	2.500	1.250	4.750	B	3.53
556	4.134	5.905	1.968	M10	2.362	1.260	4.921	A	2.45
566	3.937	5.984	1.968	M10	2.953	0.984	4.921	A	2.47
616 1/2 A	4.750	6.375	2.283	1/2" UNC	3.000	1.500	5.750	A	5.38
616 1/2 B	4.750	6.375	2.283	1/2" UNC	3.000	1.500	5.750	B	5.38
616.5/8	4.750	6.375	2.283	5/8" UNC	3.000	1.500	5.750	B	6.50
636	5.375	7.250	2.323	7/16" UNF	3.250	1.000	6.750	A	5.29
646	4.921	6.299	2.008	M12	3.150	1.260	6.299	A	5.38
656	4.750	6.062	2.362	5/6" UNC	3.000	1.500	5.750	B	6.50
2206	7.087	9.449	2.953	M20	5.512	1.500	8.661	A	14.00
2306	10.236	13.268	3.937	M20	6.693	1.500	12.598	A	28.66
2306-27	10.236	13.268	3.937	M27	6.693	1.500	12.598	A	29.76
2586	8.661	11.811	3.937	M20	5.512	1.653	10.157	B	16.31
7206.5/8	6	8.375	2.953	5/8" UNC	3.750	1.5	7.25	B	9.63
7206.3/4	6	8.375	2.953	3/4" UNF	3.750	1.5	7.25	B	10.69

POLY FLEX COUPLINGS

6 BOLT

TORQUE RATINGS

Metric	(Nm)		
MODEL	**LIGHT DUTY ***	**MEDIUM DUTY ***	**HEAVY DUTY ***
416	230	496	610
546		975	1560
546IRM		800	1360
556		496	610
566		496	610
616 1/2 A		1600	2550
616 1/2 B		1600	2550
616 5/8		1800	2750
636		975	1560
646		975	1560
656		1600	2550
2206		2800	4000
2306			5000
2306-27			5000
2586			8000
7206 5/8		3200	4200
7206 3/4		3350	4500

Imperial	(ft-lb)		
MODEL	**LIGHT DUTY ***	**MEDIUM DUTY ***	**HEAVY DUTY ***
416	169	365	450
546		719	1150
546IRM		590	1003
556		365	450
566		365	450
616 1/2 A		1180	1880
616 1/2 B		1180	1880
616 5/8		1327	2028
636		719	1150
646		719	1150
656		1180	1880
2206		2065	2950
2306			3688
2306-27			3688
2586			5900
7206 5/8		2360	3097
7206 3/4		2470	3319

POLY FLEX COUPLINGS

6 BOLT

DIMENSIONS

Metric (mm)

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (kg)
7306	152.00	195.00	75.00	M16	100.00	36.00	184.00	B	3.55
7506	160.00	240.00	75.00	M20	100.00	38.10	220.00	A	4.30
7606 IRM	152.40	184.15	75.00	M16 SHCS	95.25	31.75	152.40	B	2.95
9114 (3+3)*	190.50	241.00	100.00	5/8" UNC	152.40	38.10	228.60	B	4.50
6170	170.00	212.00	75.00	M16 SHCS	130.00	38.10		A	4.50
1306	130.00	162.00	60.00	M8	85.00	25.00	155.00	A	1.50
20150	240.00	336.55	100.00	M20	150.00	38.10	280.00	B	
24160	240.00	336.55	100.00	M24	160.00	46.00	287.00	B	
24180	240.00	336.55	100.00	M24	180.00	46.00	285.00	B	
24190	270.00	400.00	100.00	M24	190.00	50.00	318.00	B	

Please note that some couplings may require a bushing kit supplied by Poly Flex.

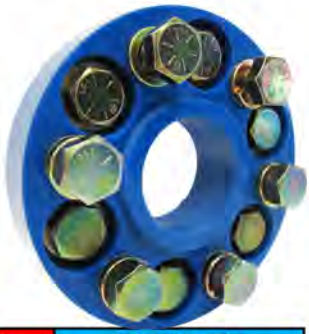
Imperial (inch) "

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (lb)
7306	5.984	7.677	2.953	M16	3.937	1.417	7.244	B	7.83
7506	6.299	9.449	2.953	M20	3.937	1.500	8.661	A	9.48
7606 IRM	6.000	7.250	2.953	M16 SHCS	3.750	1.250	6.000	B	6.50
9114 (3+3)	7.500	9.488	3.937	5/8" UNC	6.000	1.500	9.000	B	9.92
6170	6.693	8.346	2.953	M16 SHCS	5.118	1.500		A	9.92
1306	5.118	6.380	2.362	M8	3.346	0.984	6.102	A	3.30
20150	9.449	13.250	3.937	M20	5.905	1.500	11.024	B	
24160	9.449	13.250	3.937	M24	6.299	1.811	11.299	B	
24180	9.449	13.250	3.937	M24	7.087	1.811	11.220	B	
24190	10.630	15.748	3.937	M24	7.480	1.968	12.520	B	

POLY FLEX COUPLINGS

6 BOLT

TORQUE RATINGS



Metric	(Nm)		
MODEL	**LIGHT DUTY ***	**MEDIUM DUTY ***	**HEAVY DUTY ***
7306			4200
7506			4500
7606 IRM			2770
9114 (3+3)			4000
1306			1000
20150			8600
24160			8600
24180			7000
24190			13500

Imperial	(ft-lb)		
MODEL	**LIGHT DUTY ***	**MEDIUM DUTY ***	**HEAVY DUTY ***
7306			3097
7506			3318
7606 IRM			2042
9114 (3+3)			2950
1306			737
20150			6343
24160			6343
24180			5162
24190			9957

POLY FLEX COUPLINGS

8 BOLT

DIMENSIONS

Metric (mm)

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (kg)
7608IRM	152.40	184.15	75.00	M16 SHCS	95.25	31.75	152.40	B	3.55
8148	148.00	212.00	60.00	M14 SHCS	100.00	38.10	200.00	A	4.56
8192	192.00	240.00	80.00	5/8" UNC	130.00	38.10	220.00	B	5.50
8196	196.00	280.00	75.00	5/8" UNC	140.00	38.10	225.00	B	6.00
9114	190.50	241.00	75.00	5/8" UNC	152.40	38.10	228.60	B	5.50
9858 5/8"	190.50	279.40	100.00	5/8" UNC	152.40	38.10	228.60	B	5.66
9858 3/4"	190.50	279.40	100.00	3/4" UNF	152.40	38.10	228.60	B	6.57
9934	200.00	280.00	75.00	3/4" UNF	110.00	38.10	230.00	B	6.57
10834	222.25	317.50	75.00	3/4" UNF	127.00	46.04	266.70	B	9.56
11834	228.60	336.55	100.00	3/4" UNF	152.40	46.04	279.40	B	10.37
11834A	241.30	285.75	100.00	3/4" UNF	152.40	46.04	279.40	B	10.37
2308	230.00	318.00	100.00	M20	150.00	38.10	255.00	B	11.00
2808	280.00	360.00	75.00	7/8" UNF	200.00	50.00	345.00	A	17.07
24220	300.00	400.00	100.00	M24	220.00	50.00	348.00	B	
3308	330.20	425.00	130.00	1" UNS	225.00	60.00		B	
3408	340.00	460.00	130.00	1" UNS	180.00	60.00	415.00	B	29.30

Please note that some couplings may require a bushing kit supplied by Poly Flex.

Imperial (inch) "

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (lb)
7608IRM	6.000	7.250	2.953	M16 SHCS	3.750	1.250	6.000	B	7.82
8148	5.827	8.346	2.362	M14 SHCS	3.937	1.500	7.874	A	10.05
8192	7.559	9.449	3.150	5/8" UNC	5.118	1.500	8.661	B	12.13
8196	7.716	11.024	2.953	5/8" UNC	7.716	1.500	8.858	B	13.22
9114	7.500	9.488	2.953	5/8" UNC	6.000	1.500	9.000	B	12.13
9858 5/8"	7.500	11.000	3.937	5/8" UNC	6.000	1.500	9.000	B	12.48
9858 3/4"	7.500	11.000	3.937	3/4" UNF	6.000	1.500	9.000	B	14.48
9934	7.874	11.024	2.953	3/4" UNF	4.330	1.500	9.055	B	14.48
10834	8.750	12.500	2.953	3/4" UNF	5.000	1.812	10.500	B	21.08
11834	9.000	13.250	3.937	3/4" UNF	6.000	1.812	11.000	B	22.86
11834A	9.500	11.250	3.937	3/4" UNF	6.000	1.812	11.000	B	22.86
2308	9.055	12.520	3.937	M20	5.905	1.500	10.039	B	24.25
2808	11.024	14.173	2.953	7/8" UNF	7.874	1.968	13.583	A	37.63
24220	11.811	15.748	3.937	M24	8.664	1.968	13.700	B	
3308	13	16.732	5.118	1" UNS	8.858	2.362		B	
3408	13.386	17.11	5.118	1" UNS	7.087	2.362	16.338	B	64.59

POLY FLEX COUPLINGS

8 BOLT

TORQUE RATINGS

Metric	(Nm)		
MODEL	**LIGHT DUTY ***	**MEDIUM DUTY ***	**HEAVY DUTY ***
7608IRM			3810
8148			4500
8196			6500
9114			5000
9858 5/8			6500
9858 3/4			7000
9934			7000
10834			8600
11834			8600
11834A			8600
2308			8600
2808			12470
24220			22000
3308			25000
3408			30000

Imperial	(ft-lb)		
MODEL	**LIGHT DUTY ***	**MEDIUM DUTY ***	**HEAVY DUTY ***
7608IRM			2810
8148			3319
8196			4794
9114			3687
9858 5/8			4794
9858 3/4			5162
9934			5162
10834			6343
11834			6343
11834A			6343
2308			6343
2808			9197
24220			16226
3308			18439
3408			22126

POLY FLEX COUPLINGS

IO BOLT

DIMENSIONS

Metric (mm)

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (kg)
8170	170.00	212.00	75.00	M14 SHCS	140.00	38.10	200.00	B	4.56
8218	218.00	270.00	75.00	5/8" UNC	140.00	38.10	270.00	A	6.80

Imperial (inch) "

Please note that some couplings may require a bushing kit supplied by Poly Flex.

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (lb)
8170	6.693	8.346	2.953	M14 SHCS	5.512	1.500	7.874	B	10.05
8218	8.583	10.630	2.953	5/8" UNC	5.512	1.500	10.630	A	15.00

IO BOLT

TORQUE RATINGS

Metric (Nm)

MODEL	LIGHT DUTY *	MEDIUM DUTY *	HEAVY DUTY *
8170			3500
8218			5500

Imperial (ft-lb)

MODEL	LIGHT DUTY *	MEDIUM DUTY *	HEAVY DUTY *
8170			2581
8218			4057

POLY FLEX COUPLINGS

12 BOLT

DIMENSIONS

Metric (mm)

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (kg)
2250	245.00	305.00	80.00	M14 SHCS	175.00	38.10		B	9.05
3306	190.00	240.00	80.00	M14 SHCS	145.00	38.10	225.00	B	5.87

Please note that some couplings may require a bushing kit supplied by Poly Flex.

Imperial (inch) "

MODEL	PCD (F)	COUP OD (G)	COUP ID	BOLT SIZE	SPIGOT (E)	THICKNESS (A)	Flange ø (C)	Flange Type	Weight (lb)
2250	9.646	12.007	3.150	M14 SHCS	6.890	1.500		B	19.95
3306	7.480	9.449	3.150	M14 SHCS	5.709	1.500	8.858	B	12.95

12 BOLT

TORQUE RATINGS

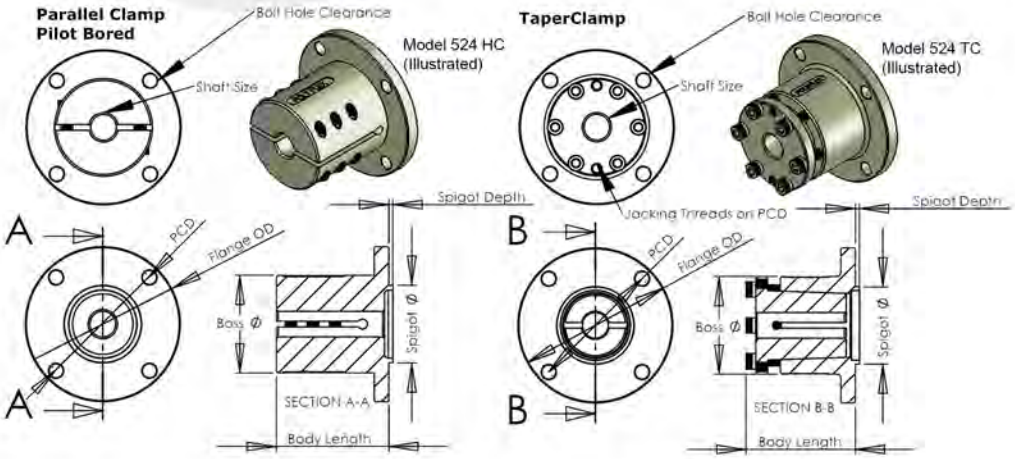
Metric (Nm)

MODEL	LIGHT DUTY *	MEDIUM DUTY *	HEAVY DUTY *
2250			4000
3306			4000

Imperial (ft-lb)

MODEL	LIGHT DUTY *	MEDIUM DUTY *	HEAVY DUTY *
2250			2950
3306			2950

STEEL SHAFT COUPLINGS



Poly Flex steel half couplings are a steel mating component between the gearbox flange / flexible coupling and output shaft.
These are available in a range of styles and sizes in the form of 4" (101.6mm), 5" (127mm) and 6" (152.4mm) flanges. Shaft sizes can range from 3/4" (19mm) to 1 1/2" (38.1mm) in the 4" type, 7/8" (22mm) to 2 1/2" (63.5mm) in the 5" Type and 1" (25mm) - 3" (76.2mm) in the 6" type.

The 3 different styles available are:

Pilot Bored
This type of coupling requires a keyway and grub screw and is generally used in tapered shafts for high hp or heavy duty applications.

Parallel Clamp
These are a split body with a parallel bore and clamping is acheived by tightening the socket head cap screws provided. This steel coupling does not require a keyway but is recommended in high horse powered (hp) applications.

TaperClamp
These steel couplings clamp via a tapered body and collar and is known to be a very effective clamping system.

All our metal components are Precision CNC machined to specification and plated in SA5 Cobalt Zinc for better protection in the marine environment.

Custom steel couplings available on request.

POLY FLEX SHAFT COUPLINGS

4 INCH

DIMENSIONS

Metric (mm)

MODEL	PCD	Flange OD	SHAFT SIZE	BOLT HOLE CLEARANCE	SPIGOT ø	SPIGOT DEPTH	BODY LENGTH	BOSS ø
Pilot Pored								
424	78.00	101.60	16 - 38.1	4 x 11.00	50.00	M 3.20	89.00	71.00
434	82.55	101.60	16 - 38.1	4 x 10.50	63.50	M 3.20	89.00	71.00
464	80.00	101.60	16 - 38.1	4 x 10.50	60.00	F 4.00	89.00	71.00
Parallel Clamp								
424	78.00	101.60	16 - 38.1	4 x 11.00	50.00	M 3.20	89.00	71.00
434	82.55	101.60	16 - 38.1	4 x 10.50	63.50	M 3.20	89.00	71.00
464	80.00	101.60	16 - 38.1	4 x 10.50	60.00	F 4.00	89.00	71.00
494	74.50	101.60	16 - 38.1	4 x 8.50	47.00	M 3.20	89.00	71.00
TaperClamp								
424	78.00	101.60	16 - 38.1	4 x 11.00	50.00	M 3.20	75.00	65.00
434	82.55	101.60	16 - 38.1	4 x 10.50	63.50	M 3.20	75.00	65.00
464	80.00	101.60	16 - 38.1	4 x 10.50	60.00	F 4.00	75.00	65.00

Imperial (inch) ''

MODEL	PCD	Flange OD	SHAFT SIZE	BOLT HOLE CLEARANCE	SPIGOT ø	SPIGOT DEPTH	BODY LENGTH	BOSS ø
Pilot Pored								
424	3.070	4.000	5/8 - 1 1/2	4 x 0.433	1.968	M 0.125	3.504	2.795
434	3.250	4.000	5/8 - 1 1/2	4 x 0.413	2.500	M 0.125	3.504	2.795
464	3.150	4.000	5/8 - 1 1/2	4 x 0.413	2.362	F 0.157	3.504	2.795
Parallel Clamp								
424	3.070	4.000	5/8 - 1 1/2	4 x 0.433	1.968	M 0.125	3.504	2.795
434	3.250	4.000	5/8 - 1 1/2	4 x 0.413	2.500	M 0.125	3.504	2.795
464	3.150	4.000	5/8 - 1 1/2	4 x 0.413	2.362	F 0.157	3.504	2.795
494	2.933	4.000	5/8 - 1 1/2	4 x 0.413	1.850	M 0.125	3.504	2.795
TaperClamp								
424	3.070	4.000	5/8 - 1 1/2	4 x 0.433	1.968	M 0.125	3.110	2.559
434	3.250	4.000	5/8 - 1 1/2	4 x 0.413	2.500	M 0.125	3.110	2.559
464	3.150	4.000	5/8 - 1 1/2	4 x 0.413	2.362	F 0.157	3.110	2.559

POLY FLEX SHAFT COUPLINGS

5 INCH

DIMENSIONS

Metric (mm)

MODEL	PCD	Flange OD	SHAFT SIZE	BOLT HOLE CLEARANCE	SPIGOT ø	SPIGOT DEPTH	BODY LENGTH	BOSS ø
Pilot Pored								
524	107.95	127.00	22 - 50.8	4 x 11.50	63.50	M 3.20	93.00	80.00
534	100.00	127.00	22 - 50.8	4 x 10.50	65.00	M 3.20	93.00	80.00
546	98.43	120.60	22 - 63.5	6 x 11.50	63.50	F 5.00	116.00	95.00
Parallel Clamp								
524	107.95	127.00	22 - 50.8	4 x 11.50	63.50	M 3.20	93.00	80.00
534	100.00	127.00	22 - 50.8	4 x 10.50	65.00	M 3.20	93.00	80.00
546	98.43	120.60	22 - 63.5	6 x 11.50	63.50	F 5.00	116.00	95.00
TaperClamp								
524	107.95	127.00	22 - 50.8	4 x 11.50	63.50	M 3.20	93.00	80.00
534	100.00	127.00	22 - 50.8	4 x 10.50	65.00	M 3.20	93.00	80.00

Imperial (inch) "

MODEL	PCD	Flange OD	SHAFT SIZE	BOLT HOLE CLEARANCE	SPIGOT ø	SPIGOT DEPTH	BODY LENGTH	BOSS ø
Pilot Pored								
524	4.250	5.000	7/8 - 2	4 x 0.453	2.500	M 0.126	3.661	3.150
534	3.937	5.000	7/8 - 2	4 x 0.413	2.559	M 0.126	3.661	3.150
546	3.875	4.750	7/8 - 2 1/2	6 x 0.453	2.500	F 0.197	4.567	3.740
Parallel Clamp								
524	4.250	5.000	7/8 - 2	4 x 0.453	2.500	M 0.126	3.661	3.15
534	3.937	5.000	7/8 - 2	4 x 0.413	2.559	M 0.126	3.661	3.15
546	3.875	4.750	7/8 - 2 1/2	6 x 0.453	2.500	F 0.197	4.567	3.74
TaperClamp								
524	4.25	5.000	7/8 - 2	4 x 0.453	2.500	M 0.126	3.661	3.15
534	3.937	5.000	7/8 - 2	4 x 0.413	2.559	M 0.126	3.661	3.15

POLY FLEX SHAFT COUPLINGS

6 INCH

DIMENSIONS

Metric (mm)

MODEL	PCD	Flange OD	SHAFT SIZE	BOLT HOLE CLEARANCE	SPIGOT ø	SPIGOT DEPTH	BODY LENGTH	BOSS ø
Pilot Pored								
616 1/2 A	120.65	152.40	25 - 76.2	6 x 13.00	76.20	M 5.00	135.00	120.00
616 1/2 B	120.65	152.40	25 - 76.2	6 x 13.00	76.20	F 6.00	135.00	120.00
616 5/8 A	120.65	152.40	25 - 76.2	6 x 16.50	76.20	M 5.00	135.00	120.00
616 5/8 B	120.65	152.40	25 - 76.2	6 x 16.50	76.20	F 6.00	135.00	120.00
Parallel Clamp								
616 1/2 A	120.65	152.40	25 - 76.2	6 x 13.00	76.20	M 5.00	135.00	120.00
616 1/2 B	120.65	152.40	25 - 76.2	6 x 13.00	76.20	F 6.00	135.00	120.00
616 5/8 A	120.65	152.40	25 - 76.2	6 x 16.50	76.20	M 5.00	135.00	120.00
616 5/8 B	120.65	152.40	25 - 76.2	6 x 16.50	76.20	F 6.00	135.00	120.00

Imperial (inch) "

MODEL	PCD	Flange OD	SHAFT SIZE	BOLT HOLE CLEARANCE	SPIGOT ø	SPIGOT DEPTH	BODY LENGTH	BOSS ø
Pilot Pored								
616 1/2 A	4.750	6.000	1 - 3	6 x 0.512	3.000	M 0.197	5.315	4.724
616 1/2 B	4.750	6.000	1 - 3	6 x 0.512	3.000	F 0.236	5.315	4.724
616 5/8 A	4.750	6.000	1 - 3	6 x 0.650	3.000	M 0.197	5.315	4.724
616 5/8 B	4.750	6.000	1 - 3	6 x 0.650	3.000	F 0.236	5.315	4.724
Parallel Clamp								
616 1/2 A	4.750	6.000	1 - 3	6 x 0.512	3.000	M 0.197	5.315	4.724
616 1/2 B	4.750	6.000	1 - 3	6 x 0.512	3.000	F 0.236	5.315	4.724
616 5/8 A	4.750	6.000	1 - 3	6 x 0.650	3.000	M 0.197	5.315	4.724
616 5/8 B	4.750	6.000	1 - 3	6 x 0.650	3.000	F 0.236	5.315	4.724

POLY FLEX COUPLING SPACERS

SPACER DIMENSIONS

Metric (mm)

MODEL	PCD	Flange OD	SHAFT SIZE	BOLT HOLE CLEARANCE	SPIGOT ø	SPIGOT DEPTH	BODY LENGTH	BOSS ø
Spacers								
424	78.00	101.60	N/A	4 x 11.00	50.00	M 3.20	30.00	N/A
434	82.55	101.60	N/A	4 x 10.50	63.50	M 3.20	30.00	N/A
464	80.00	101.60	N/A	4 x 10.50	60.00	F 4.00	33.00	N/A
524	107.95	127.00	N/A	4 x 11.50	63.50	M 3.20	25.00	N/A
534	100.00	127.00	N/A	4 x 10.50	65.00	M 3.20	38.00	N/A
Blank Spacers								
4 B-SP		101.60	N/A				35.00	N/A
5 B-SP		127.00	N/A				38.00	N/A

Imperial (inch) "

MODEL	PCD	Flange OD	SHAFT SIZE	BOLT HOLE CLEARANCE	SPIGOT ø	SPIGOT DEPTH	BODY LENGTH	BOSS ø
Spacers								
424	3.070	4.000	N/A	4 x 0.433	1.97	M 0.125	1.18	N/A
434	3.250	4.000	N/A	4 x 0.413	2.500	M 0.125	1.181	N/A
464	3.150	4.000	N/A	4 x 0.413	2.362	F 0.157	1.299	N/A
524	4.250	5.000	N/A	4 x 0.453	2.500	M 0.125	0.984	N/A
534	3.937	5.000	N/A	4 x 0.413	2.559	M 0.125	1.500	N/A
Blank Spacers								
4 B-SP		4.000	N/A				1.378	N/A
5 B-SP		5.000	N/A				1.500	N/A

Poly Flex Spacers are also available in custom sizes to order. We can also machine adaptors to suit your application.

COTTON REELS

Cotton Reel Adaptors can be designed and manufactured by Poly Flex to suit your custom application.

COUPLING INSTALLATION

Important Preliminary Check

There should not be any physical obstruction within the specified distance from the circumference of the coupling, ie: 3mm for couplings up to 6" (150mm) diameter & 6mm for couplings over 6" (150mm) diameter:- If this clearance is not available a cotton reel extension adaptor or adaptor flange will need to be fitted.

Important Note: All alignment and fitting preceedures must be carried out while the vessel is in the water. If it is not possible to fit the coupling whilst in the water, final alignment and tightening proceedures must be carried out after launching the vessel.

STEP 1: Disconnect reverse gear & propeller shaft flange being careful to support the dead weight of the shaft. Leaving the bolts loosely connected aids support of the shaft.

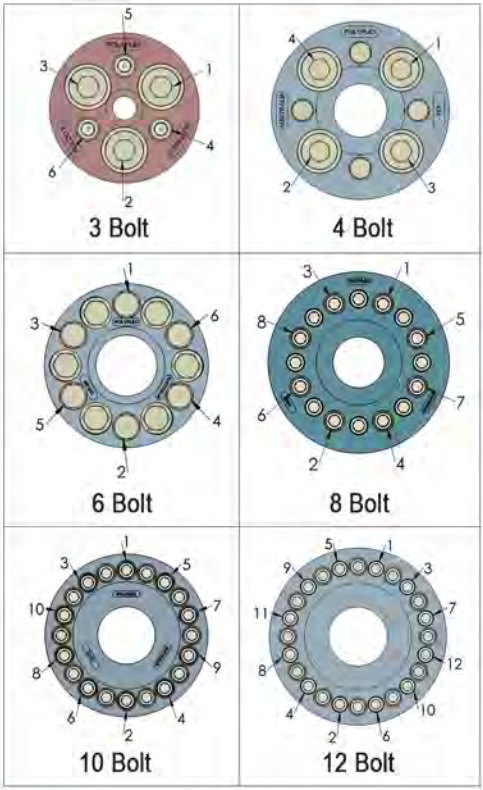
STEP 2: Check alignment of the propeller shaft flange to the gearbox flange using feeler guages. Adjust engine to compensate for any misalignment. Re-check with feeler guages to confirm correct alignment. 0.003" (0.076mm) between flanges should be considered maximum allowable misalignment.

STEP 3: Install coupling to the gearbox flange by mating spigots. Rotate coupling to align with bolt holes in the flange. Fix hex bolts, spring washers & nuts. Use "Loctite 243" (or equivalent) on threads, and coat nuts & bolts with water proof grease or lanolin to increase corrosion protection.

NOTE

LOCTITE NOT TO BE USED ON THREADED INSERTS IN THE COUPLING - ANTI-SEIZE ONLY ON THESE INSERTS.

If the gearbox flange has threaded holes, use "Loctite 243" on the thread of the flange only. Tighten in the sequence shown in the diagram below to the bolt torque settings on page 3.



Note: The torque settings should be applied in the sequence shown, in increments of approximately 25% of the total at a time. For example if the total torque per bolt is 40ft-lb, the torquing will start at 10ft-lb, working up to 40ft-lb, in steps of 10ft-lb.

COUPLING INSTALLATION CONT'

STEP 4: Slide the propeller shaft and flange forward so that the spigot on the propeller shaft mates with the spigot on the coupling. Tighten the bolts in sequence as shown in the diagram, to the torque settings shown on the installation sheet supplied. Use anti-seize on the threads going into the coupling. Rotate shaft by hand to check for runout. (Use a dial indicator for accuracy.)

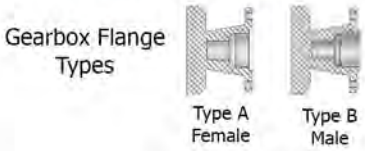
STEP 5: After running for 1 hour check the coupling. Any heat build up in the coupling is an indicator that there is a serious misalignment present. If so, because of the damaging affects of any misalignment, the flange/coupling should be disassembled and the installation recommenced at STEP 2.

Important: Misalignment increases stresses on the drivetrain (gearbox), decreases the capacity and life of the coupling and causes premature wear of the stern bearings.

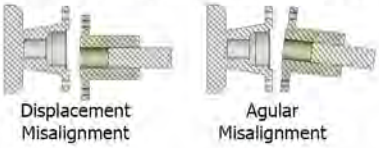
STEP 6: Check bolt tightness after 10 - 15 hours of operation.

Important:

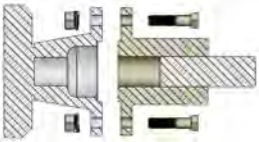
- Poly Flex couplings electrically isolate the shaft and propeller from the engine.
- If the engine is mounted on rubber mounts - check alignment every 6 months due to the design & materials used in rubber mounts which tend to settle. - Check alignment every 12 months if engine is on Poly Flex mounts.



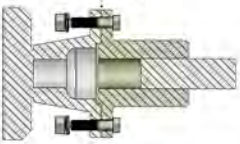
IMPORTANT: CHECK FOR MISALIGNMENT



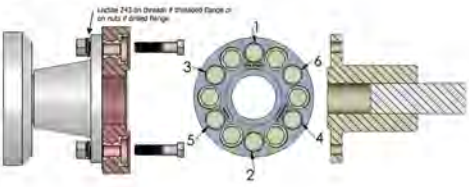
STEP 1



STEP 2

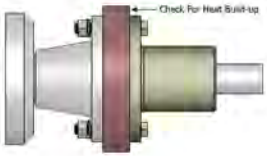


STEP 3

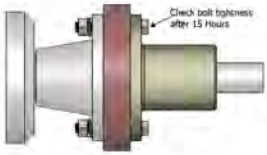


STEP 4

STEP 5



STEP 6



NOTES

NOTES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