



# Flexible Shaft Connections Marine Pump Drive Coupling

Technical Specifications

Conforming IS 12405, 12427



**Rotate Shaft Without Break !**

Alto momento de impulsión de acero acoplamientos flexibles

و صلات مرنة صلب محرك عال ية دوران عزم

Couple élevé acier Accouplements flexibles

**HIC**  
**UNIVERSAL**  
True Performance Rubbers





## Index

S.No	Title	Page No
1	About HIC.....	1
2	Specification of Flexible Shaft Couplings.....	1
3	Why HIC Universal Steel Flexible Couplings?.....	2
4	Range of Shaft Coupling.....	3
5	Jaw Spider Coupling L, AL Type Sizes Manufactured.....	4
6	Spacer Coupling RRL, RRS Type Sizes.....	5
7	Snap Wrap Coupling SW Type.....	6
8	Cushion Coupling Flex C Type.....	6
9	Multi-Directional Tyre Coupling F Series.....	7
10	Automatic Flexible Tyre Coupling PH Series.....	8
11	Torsionally Elastic Tire Coupling TC Type.....	9
12	Anti Backlash Coupling Pin Bush Type.....	9
13	Crane Coupling Brake Drum Type.....	10
14	Crane Hoists Duty Half Gear Coupling.....	11
15	Turbine Duty Flexible Coupling Full Gear.....	11
16	Semi Elastic Motor Coupling HRC Type.....	12
17	Order Quantity Minimums.....	13
18	Nomenclature of Jaw Spider Coupling (Technical Data).....	14
19	Nomenclature of Spacer Type Pump Coupling (Technical Data).....	16
20	Nomenclature of Semi Elastic Motor Coupling HRC Type (Technical Data).....	17
21	Nomenclature of Elastic Coupling TC Tyre (Technical Data).....	19
22	Nomenclature of Automatic Flexible Coupling PH Tyre (Technical Data).....	20
23	Nomenclature of Automatic Flexible Coupling PX Tyre (Technical Data).....	22
24	Nomenclature of Multi-Directional Coupling F Tyre (Technical Data).....	23
25	Nomenclature of Anti-Backlash Pin Bush Coupling (Technical Data).....	25
26	Nomenclature of Brake Drum Crane Coupling (Technical Data).....	26
27	Nomenclature of Flexible Curved Tooth Coupling FULL and HALF Gear (Technical Data).....	28
28	Selection of Flexible Shaft Coupling.....	31
29	Purchase Enquiry Info.....	32
30	Shipment Handling & Delivery Time.....	32
31	Installation Method of Shaft Couplings.....	33
32	Organization Structure.....	34
33	Production Capacity.....	34
34	Quality Assurance Plan.....	35
35	Test Certificate & Warranty.....	35
36	Manufacturing & Testing Equipments.....	36
37	Quality Control.....	36
38	ISO Certification.....	37
39	Awards.....	37
40	Customers Performance Certificates.....	37



## Specification of Flexible Shaft Couplings

Classified under HS Code 8483



HIC Universal Spider Spacer Couplings ensures quick and easy installation in reciprocating pumps, generator sets, diesel and gas engines and other such drives, in a way, coupling installation requires no special tools due to simple construction, every other spider arm is an idler and can be advanced to the load carrier jaws & thus functioning as a spare spider in every coupling superseding IS 12405, IS 12427, BS 4235, BS 3170, DIN 7190, DIN 6885, ISO 4863, ISO 286 Quality Standards.

**Tyre Couplings** manufactured by HIC Universal ensures **high torque transmitting capacity** in motor generators, etc in various industrial machines, in a way, the true **tyre material** is made from neoprene/ natural/synthetic rubber compounds reinforced with Rayon/ Nylon/ Polyester Cord to give superior rating & long durability, **bore size** is well matched to attain maximum speed (rpm) ensuring minimum to **nil slippage** of the **flexible** element out from the coupling assembly in case of any faulty installation.

**Flexible Gear Couplings** produced by HIC Universal ensures trouble-free service for coupling needs, in way, the bush is having spherical shaped teeth and is precision machined to last for years and thus size of coupling must please be carefully done.

**Pin Bush Couplings** made by HIC Universal Couplings ensures **high torque transmissions** at high speeds, in a way, coupling have remarkable **shock absorption capacity** due to construction being cushioned drive type transmitting the torque through **rubber bushes**, unaffected by water, dust and atmospheric conditions permits drive in either direction requiring no lubrication and no adjustment after fitting.

### About HIC

HIC International Co Inc, formed in 1988 manufacturing industrial **steel and rubber** products **ISO 9001** certified producer of Power Transmission Flexible Shaft Coupling Drive Belt, **Conveyor belt idler pulley**, **Hydraulic hose valve**, **Safety rubber sheet mat** quality exporters of HIC **Universal brand** to industrial traders distributors of USA, Australia, UAE, Singapore, China, South Africa, UK, Germany, Taiwan having manufacturing factories in Delhi and Ghaziabad UP of India.

**Total Quality Management principles are followed and True Performance is thus assured.**

## Why HIC Universal Steel Flexible Couplings?



### High Torque

Transmission between Connecting Drive Shaft

### Superb Misaligned Drive Capabilities

For Connecting Two Shafts

### High Bore Capacity

To Handle Driving Shaft with No Slippage

### Superior Interchangeable Elements

like Rubber Tyre, Spider, Pin Bush on Existing Installations

### Zero Backlash

And High Shock Absorbing Drive Shaft Solution

**Pump motor engine shaft zero backlash energy efficient power transmission using forged steel and torsionally flexible neoprene rubber drive couplings made in India by HIC Universal.**

HIC Universal Flexible couplings, pump coupling and shaft mounted couplings are Original Choice by industrial pumps and diesel engine manufacturers in India, China, USA, Australia, UK, Germany, Mexico, Russia, Uzbekistan, Ghana, Colombia, Cuba, Taiwan, Malaysia, Switzerland, Turkey, Sweden, Portugal, Ghana, Luxembourg, Japan, UAE and other Asian countries.

# RANGE of Shaft Coupling

## Pump Motor Rotation HIC Torque Transmission



Snap Wrap Flexible Coupling



RRS Spacer Coupling



RRL Spacer Coupling



Rubber Tyre Coupling



Pin Bush Coupling



Gear Type Flexible Coupling

- ❖ **L Type** pumps drive Lovejoy interchangeable **jaw spider** couplings 050 to 280 sizes up to 192 mm OD 75 mm maximum bore.
  - ❖ **SW Type** centrifugal pumps run rathi interchangeable **snap wrap** couplings 095 to 225 sizes up to 323 mm OD 80 mm max bore.  
Ease of use as no need to dismantle connected equipment while replacing element thus **saving machinery downtime**.
  - ❖ **RRS Type** engines hi-speed rotation rathi interchangeable **spacer** couplings 095 to 226 sizes 90-100-140mm spacer length 70 mm max bore.
  - ❖ **RRL Type** engines hi-speed rotation rathi interchangeable spacer couplings 095 to 225 sizes 90-100-140mm **spacer** length 70 mm max bore.
  - ❖ **C-series** Higher Torque Lovejoy interchangeable flex shaft cushion couplings 226 to 2955 sizes up to 80mm max bore.
- ❖ **TC-series** Conventional rubber tyre unique interchangeable motor couplings 006 to 024 sizes up to 530 mm Outer Diameter 170 mm maximum bore and spare tyre.
  - ❖ **F series** Multidirectional flexible rathi interchangeable tyre couplings 40 to 200 sizes up to 190 mm max bore and spare tyre.
  - ❖ **PH series** New Generation flexible fenaflex interchangeable shaft couplings 96 to 450 sizes up to 175 mm max bore and spare tyre. Ease of use as no lubrication needed, absorbs big misalignment thus **saves downtime**.
  - ❖ **HRC-series** fenner interchangeable flexible shaft cushion couplings 090 to 280 sizes up to 115mm max bore and spare element.
  - ❖ **Full Gear** Greater Torque Lovejoy interchangeable cranes-hoists couplings 1 to 12 sizes up to 570 mm Outer Diameter 240 mm maximum bore.

- ❖ **Rigid Gear** fenner interchangeable concrete mixers-diesel engines couplings 1 to 10 sizes up to 530 mm OD 190 mm max bore.
- ❖ **Pin Bush** Coupling 1-b to 11-b sizes up to 530mm Outer Diameter, 190mm Maximum bore.
- ❖ **Spare Elements** for coupling like Jaw Spider, Rubber Tyre, Pin and Bush Set

## Jaw Spider Coupling L, AL Type Sizes Manufactured

### *Set or Spare Spider Star of HIC Elastic Couplings*

**Jaw couplings** used by manufacturers of fuel pump, reciprocating pumps, jaw spline pump, reciprocating requiring **No lubrication** and runs even if elastomer of spider coupling fails applied for light to medium duty electrical motor and internal combustion power transmission drive.

Also **spider coupling** used by manufacturers of gear boxes, blower motor, air compressor motor power equipment producer for reliable performance.

**Pump drive Star spider coupling** sizes manufactured **L series** sizes 050L, 070, 075, 095, 100, 110, 150, 190, 225, 226, 276, 280L, **Bore capacity** maximum MM 75, max Torque 1412 Nm, jaw spider couplings up to 192 mm **OD**.

**Corrosion Resistant Aluminium** Flexible Spider Jaw coupling **AL type** produced sizes 075 AL, 095, 100AL having **Bore capacity** maximum MM 48, max Torque 256 Nm, elastic couplings up to 68 mm **OD**.

**Spider Elements as spare** for jaw coupling also supplied.



## Spacer Coupling RRL, RRS Type Sizes

### *Set or Spare Element of Flexible Pump Couplings Produced by HIC*

**Spacer** couplings used by manufacturers of lub oil pump, process pump, sewage water pump, transfer pump, condensate pump producer to handle misalignment and vibration to small extent having advantage of Easy Element Removal without touching the hubs.

**Aluminium spacer** couplings are also used by manufacturers of industrial water pump, jaw spline pump producer for trouble free performance.

**Pump** coupling sizes manufactured **RRL series** 095RRL, 100, 110, 150, 190, 225RRL with cast iron hub-collars-synthetic rubber snap wrap spiders-aluminum spacer coupling, Bore capacity maximum MM 42.

**External Spider Spacer** coupling used by manufacturers of centrifugal pump, wet vacuum pump, effluent pumps producer for application where Distance Between Shaft Ends of 100, 140, 180 mm DBSE needed for setting apart the coupled machine shafts And in which RRL spacer type coupling is used with a light alloy spacer for disassembling ease by just removing the two elements.

**Spacer jaw type** coupling sizes produced **RRS type** 095RRS, 100, 110, 150, 190, 225RRS, max Torque 265 Nm, Bore capacity maximum MM 65.

Element and ring of spacer coupling as spare also supplied.

HIC Universal Jaw flex spacer couplings are an answer to economical flexible coupling needs for Design Torque or Powers up to 56 H.P. or 42 kW or 53 KVA available at 1440 rpm.



## Snap Wrap Coupling SW Type

### *Set or Spare Spider of Radially Removable Elastomer Couplings Made by HIC*

**Snap Wrap** couplings used by manufacturers of centrifugal fans, agitator motor for exceptional performance featuring good Misalignment capability than L series jaw couplings and having advantage of Easy Spider Removal without moving the modular machined hubs saving machinery downtime.

Radially removable couplings also used by manufacturers of rotary screens, brewing machinery, evaporators producer for reliable performance.

Elastomer coupling sizes manufactured **SW series** 095SW, 099, 100, 110, 150, 190, 225, 226, 276, 280, 295, 2955, 300, 350SW with synthetic rubber element radially removable coupling snap wrap type, max Torque 4308 Nm, Bore capacity maximum MM 115.

Snap wrap spider Elements as spare for jaw coupling also supplied.



## Cushion Coupling Flex C Type

### *Set or Spare Spider of Greater Torque Jaw Couplings Produced by HIC*

**Cushion** couplings used by manufacturers of vacuum pumps, air compressor for exceptional performance featuring angular as well as parallel shaft Misalignment capability where cushions are held in place radially by a steel collar and having advantage of Higher Torque plus Bore Capacity than L series jaw couplings, radially removable elastomeric cushion coupling that can be made to run at low speed of max 250 rpm but with great torque.

**Flex C** jaw couplings also used by manufacturers of effluent pump, portable water pump, stepper motor producer for trouble free performance.

Torque cushion drive couplings heavy duty sizes manufactured **C series** 226C, 276, 280, 295, 2955C with synthetic rubber spider jaw coupling, max Torque 2136 Nm, Bore capacity maximum MM 100.





## Multi-Directional Tyre Coupling F Series

*Set or Spare Rubber Tyre of F, H, B Flange Couplings Produced by HIC*

**Multi-directional Flange** couplings F Series Flexible Rubber Tyre used by manufacturers of vertical shaft impact crusher, ball mill, mud pump diesel engine, vibrating screen, electric motors producer that features great Misalignment Tolerance of shaft in all planes of up to 6 mm parallel- 8 mm axial- 4 degree angular and having advantage of Time-Saving tyre changing simple design without disturbing motor and machine, elastic flexible flange coupling consisting of 2 flanges and 1 neoprene rubber made tyre.



'F' Flange flexible rubber tyre couplings also used by manufacturers of engine coolant circulation pumps, gas engine mechanics-repairers.

"F" tyre flange coupling sizes produced **F series** 40F, 45, 50, 60, 70, 80, 85, 90, 100, 110, 120,140, 160, 180, 200, 220F with **F or H flanges** or **B** type flange coupling that accommodate larger shaft thickness sizes, constant Torque up to 11,600 Nm, Bore capacity maximum MM 190.

Flange coupling F tyre type can tolerate max torque of about 3 times more than constant ratings for short duration, say at starting motor loads.

'F' Rubber Tyre flexible element as spare for flange coupling also supplied.

FRAS quality rubber tyre also produced for mining motor applications.

Also, manufacture flange tyre F couplings with HIC Universal Quick-fit Taper Bush.

## Automatic Flexible Tyre Coupling PH Series

### *Set or Spare Rubber Tyre Elastomeric Couplings Produced by HIC*

**Automatic Flexible Tyre PH couplings** used by manufacturers of cane crusher, concrete mixer for exceptional performance that features Freedom from tyre Slippage by virtue of flexible member firmly bolted to clamping element and good Misalignment Tolerance of shaft in all planes of up to 5.4 mm parallel- 6 mm axial- 4 degree angular, elastomeric coupling consisting of flexible element made of nylon chords reinforced rubber.



Flexible elastomeric coupling 'PH' also used by manufacturers of centrifugal pumps, pulp grinder, of oil-well pump, agitator motor, lobe compressor producer for Trouble Free Performance.

Flexible rubber tire coupling sizes produced **PH series** 96PH, 106, 116, 126, 140, 160, 178, 190, 218, 250, 272L, 272H, 292L, 292H, 316L, 316H, 342L, 342H, 390L, 390H, 450L, 450H, 520L, 520H PH, constant Torque up to 7,150 Nm, Bore capacity of elastomeric coupling maximum MM 220.

Elastomeric coupling PH tyre type can tolerate max torque of about 3 times more than constant ratings for short duration, say at starting motor loads.

**Rubber Tyre flexible element as spare for elastomeric coupling also supplied.**

Also, manufacture automatic flexible PH tyre couplings with HIC Universal **Quick-fit Taper Bush.**

## Torsionally Elastic Tire Coupling TC Type

### Complete Set or Spare Rubber Tyre Motor Couplings Manufactured by HIC

Torsionally Elastic Tire TC Type couplings used by manufacturers of generator sets, diesel engine pump set that features good Misalignment Tolerance of shaft in all planes of up to 5 mm radial- 6 mm axial- 4 degree angular, soft tire motor coupling consisting of cast iron Hubs and flexible rubber tire to run up to 60 degree C temperature.



TC tyre flexible drive motor coupling also used by manufacturers of combine harvester engine, farm machinery, turbine producer for reliable performance.

Elastic coupling sizes produced **TC series** 006TC, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020, 021, 022, 023, 024TC, constant Torque up to 6,425 Nm, OD max MM 530, Bore capacity of elastic tire maximum MM 170.

Torsionally soft coupling TC tyre type can tolerate max torque of about 3 times more than constant ratings for short duration, say at starting motor loads.

Rubber Tire flexible element as spare for torsionally elastic coupling also supplied.

## Anti Backlash Coupling Pin Bush Type

### Set or Spare Bush & Pin Taper Bush Flexible Couplings Produced by HIC

Pin Bush Anti Backlash couplings used by manufacturers of fire pump, engine coolant circulation pumps producer that features great Shock Absorbing bushes with high tensile steel Bolts that transmits torque and accommodates small misalignment of shaft, anti-backlash coupling consisting of pins and bushes.



Flexible pin bush coupling also called as Backlash Free Coupling used by manufacturers of multi-cylinder engine, steam turbine gas engine, eot cranes, elevators, belt conveyors producer for long lasting performance.

Pin bush coupling sizes produced **B series** 1-B, 2, 2A, 3, 4, 4A, 5, 6, 7, 7A, 8, 8A, 9, 9A, 10, 10A, 11B, constant Torque up to 23,780 Nm, Bore capacity of backlash free coupling maximum MM 190, OD max MM 530.

HIC Universal Bush type flexible couplings are an answer to fail-safe backlash free drive coupling needs for Design Torque or Powers up to 2,773 H.P. or 2069 kW available at 100 rpm.

Bush and Bolt sets as spare for anti-backlash pin bush coupling also supplied.

Also, manufacture pin bush couplings with HIC Universal Quick-fit Taper Bush.

## Crane Coupling Brake Drum Type

*Thruster Control Resilient Couplings Produced by HIC*

**Brake Drum couplings** used by manufacturers of crane control systems, thrusters brake mechanism, electromagnetic equipment, rubber machinery producer that features **Dual Purpose server of mounting brake** within the same space and that of **flexible coupling** at same time being **resilient against Shocks accommodating** combined angular-parallel **Misalignments** as well as **End-Float of shafts**, brake drum coupling consisting of **grid spring** connecting two **hubs**.



**Brake Drum Gear coupling** sizes produced **BDG series** 4", 5-1/2", 6", 7", 8", 10", 12", 14", constant Torque up to 1300 Kg.M, OD max MM 375, **Bore capacity** maximum MM 130.

HIC Universal Brake Drum Gear type flexible couplings are an answer for equipment to **drive on Either Directions** requiring no lubrication and not affected by water or dust **resilient** coupling needs for Design Torque or Powers up to 1,740 H.P. or 1300 kW available per 100 rpm.

## Crane Hoists Duty Half Gear Coupling

### *Half Gear Half Rigid Couplings Produced by HIC*

**Half Gear** couplings used by manufacturers of EOT crane gear, hoist motor, cutter suction dredge pump, metal rolling mill producer that features **Big Bore capacity** for floating shaft drives to accommodate axial expansion and larger shaft diameters at rigid hub side having **Super High Torque** ratings, flexible rigid coupling consisting of **outer sleeve** and **inner hub** plus Rigid half comprises a **flanged hub**.



Rigid gear coupling sizes produced **HG series** 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, Max Torque up to 8200 Kg.M, OD max MM 490, **Bore capacity** maximum MM 260.

HIC Universal **Half Gear Half Rigid** couplings are an answer for **gearbox motor** to drive **without checks** having superior lubrication system for very long time running half geared coupling needs for Design Torque or Powers up to 1,148 H.P. available per 100 rpm.

## Turbine Duty Flexible Coupling Full Gear

### *Curved Tooth Couplings Produced by HIC*

**Full Gear Flexible** couplings used by manufacturers of marine gas turbine, sea vessel water jet pump producer that features **Reversible Hubs** permit **large Tapered Shaft Separation** and that **accommodates Exceptional** shaft **Misalignment** of parallel-offset as well as angular while transmitting heavy duty loads, full gear coupling consisting of two hubs with **multi-crowned external teeth** and two outer sleeves with **internal spur teeth**.



**Full Gear** coupling also used by manufacturers of rear rudders, deck winches, paper making machines producer for long lasting trouble free performance.

Curved tooth coupling sizes produced **FG series** 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, Max Torque up to 113,000 Kg.M, **Bore capacity** of full gear couplings maximum MM 610.

HIC Universal **Forged Steel Full Gear** couplings are an answer for turbine drive duty to maximize **trouble-free machine runtime** coupling needs for Design Torque or Powers up to 15,778 H.P. available per 100 rpm.

**Dynamic Balancing and special Heat Treatment of full gear couplings also undertaken.**

**Vendor Data:** [www.hic-india.com](http://www.hic-india.com) | **Customers List:** [www.universaldelhi.org](http://www.universaldelhi.org) | **Catalogue:** [www.rubber-steel-industrial-products.com](http://www.rubber-steel-industrial-products.com)

## Semi Elastic Motor Coupling HRC Type

### General Purpose Couplings Produced by HIC

HRC couplings used by manufacturers of IEC electric motor, steam turbine producer that features Fail-safe shaft connection by virtue of interacting dog design that accommodates incidental shaft Misalignment up to 1 degree angular, semi elastic coupling consisting of GG25 graded cast iron hub and F type flange or H type or B type flanges.



Semi Elastic coupling also used by manufacturers of rotary mills, water turbine, engine flywheel, centrifugal compressors producer *for reliable drive performance.*

Flexible motor coupling sizes produced **HRC series** 070, 090, 110, 130, 150, 180, 230, 280, constant Torque up to 3150 Nm, Bore capacity of HRC shaft couplings maximum MM 100.

HIC Universal HRC General Purpose spacer type flexible couplings are an answer for easy Alignment and fitting of shaft coupling needs for Design Torque or motor Power up to 44 H.P. available per 100 rpm.

Also, manufacture HRC spacer couplings with HIC Universal **Quick-fit Taper Bush.**

Flexible element as spare for HRC motor coupling also supplied.

## Order Quantity Minimums

### *Pilot or Finished Bore Numbers of HIC Flexible Shaft Couplings Supplied*

Jaw coupling, Elastomer coupling, Spacer coupling, Snap Wrap coupling, Spider Element only Minimum order quantity L series, AL, RRL, RRS, SW, C series in Assortment sizes or single size NUMBERS 15.



Tyre coupling, Flange coupling, Elastomeric coupling, Flexible Rubber Tire only Minimum order quantity F series, PH, TC in Assortment sizes or single size NUMBERS 10.



Pin Bush coupling, Anti-backlash flexible coupling, Bush only, Bolt only set Minimum order quantity B series in Assortment sizes or single size NUMBERS 04.



Brake Drum coupling, Resilient coupling, Minimum order quantity BDG series in Assortment sizes or single size NUMBERS 04.

Flexible Gear coupling, Curved Tooth coupling, Minimum order quantity FG series, HG in Assortment sizes or single size NUMBERS 02.



HRC coupling, Spacer type General Purpose flexible coupling, Minimum order quantity HRC series in Assortment sizes or single size NUMBERS 04.

Packed in sea-worthy jute or HDPE bags or corrugated box.

# Nomenclature of Jaw Spider Coupling

## L Type, Snap Wrap Type, Max Bore and Power Rating: Technical Data

Coupling		Power Rating						Pilot Drill Size	Max Bore	ΦA		Length thru' Bore "C"	ΦB	Gap G	ΦE	S	Overall Length "L" for (SW/L)
		Synthetic Rubber		Polyurethane		Hytrel				SW/RRS	L						
Type	Size	Rated Torque(Nm)	kW@100 rpm	Rated Torque (Nm)	kW@ 100rpm	Rated Torque (Nm)	kW@ 100 rpm										
L	035	0.38	0.004	0.6	0.01	1.0	0.01	-	10	-	16	6.5	16	1	-	-	21
	050	2.80	0.03	4.2	0.04	7.0	0.07	-	16	-	27	15	27	1	-	-	42
	070	4.90	0.05	7.4	0.08	12.3	0.13	-	20	-	34.5	19	34.5	2	-	-	51
	075	9.80	0.1	14.7	0.15	24.5	0.26	-	22	-	44.5	21	44.5	2	-	-	55
	075	9.80	0.1	14.7	0.15	24.5	0.26	-	22	-	44.5	21	39	2	-	-	55
L SW RRS	095	21.10	0.22	31.7	0.33	528	0.55	-	28	65	54	25	49	2	19	90,100,140	63
	099	<b>46.40</b>	0.49	69.6	0.73	116	1.2	-	30	78	65	27	51	2	27	90	72
	100	46.40	0.49	69.6	0.73	116	1.2	-	35	78	65	35	57	2	27	100	88
	110	89	0.93	133.5	1.4	222.5	2.3	-	42	96	85	43	76	3	35	100	108
	150	141	1.5	211.5	2.2	352.5	3.7	-	48	111	96	<b>45</b>	80	3	35	140	115
	190	190	2.0	285	3.0	475	5.0	-	60	129	115	<b>54</b>	102	3	45	140	133
	225	265	2.8	397.5	<b>4.2</b>	662.5	6.9	-	65	142	127	64	111	3	45	180	153
	226	327	3.4	490.5	<b>5.1</b>	817.5	<b>8.6</b>	25	70	153	137	70	119	3	51	180	178
L SW	276	532	5.6	798	8.4	<b>1330</b>	13.9	25	75	173	157	80	127	3	60	-	200
	280	782	8.2	1173	12.3	1955	20.5	30	80	208	192	80	140	3	70	-	200
	295	1279	13.4	1918.5	20.1	3197.5	33.5	30	95	253	237	95	162	3	80	-	238
	2955	2132	22.3	3198	33.5	5330	568	30	105	253	237	108	180	3	80	-	264
SW	300	3047	31.9	4570.5	47.9	7617.5	<b>79.8</b>	30	105	272	-	115	180	3	-	-	283
	350	4308	45.1	6462	67.7	10770	112.8	30	115	323	-	128	200	3	-	-	309

All Dimensions are in mm

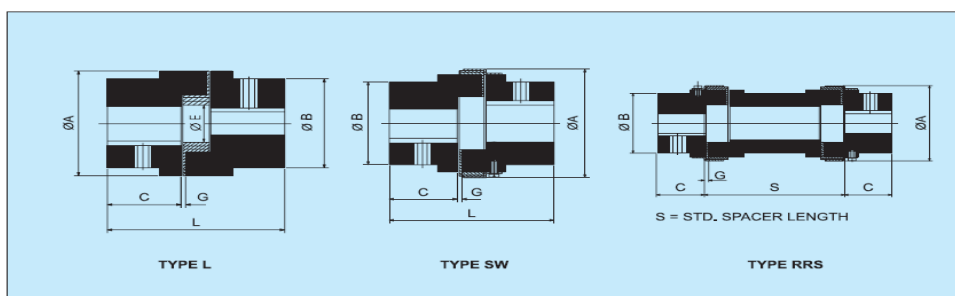
Material: Sintered iron for sizes 035 to 075      ■ 075 — Aluminium

Aluminum for sizes 050 to 110 8 for all RRS spacers.

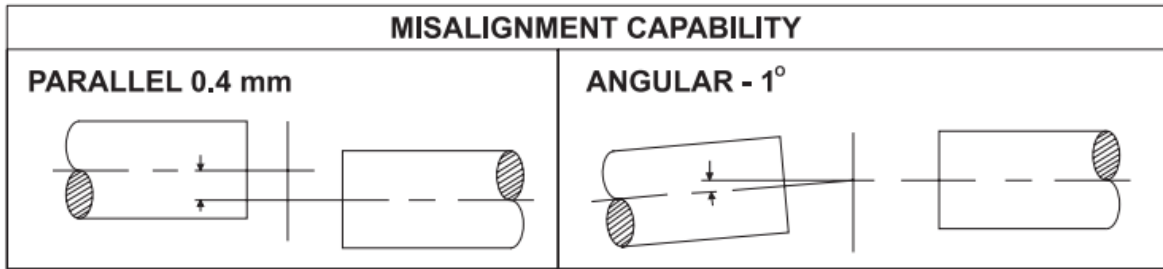
0 075 — Sintered Iron

# For RRS, L = S + 2C For RRS/SW maintain gap 'G' at the time of assembly. Cast Iron for sizes 095 to 350.

Maximum bores can be increased in case of steel hubs. Consult manufacturer







A Coupling is required to transmit 65KW from an electric motor which runs at 1500 rpm to a centrifugal pump for 12 hours a day. The motor shaft diameter is 60mm, and the pump shaft diameter is 55 mm.

i) **Service Factor**

From Table A the service factor is 1.0

ii) **Design Power**

Design Power

$$@100\text{rpm} = 100/1500 \times 65\text{KW} \times 1(\text{SF}) = 4.3 \text{ KW}$$

iii) **Coupling Size**

Refer Table. The first power to exceed Design Power of 4.3 KW is 5.6 KW. The size of coupling specified in the first column corresponding to 5.6 KW is SW-276.

iv) **Bore Size**

Max Bore for coupling size is SW-276 is 75mm. This shows that both the shaft diameters are within the range.

# Nomenclature of Spacer Type Pump Coupling

## Type, Max Bore and Distance between Shaft Ends: Technical Data

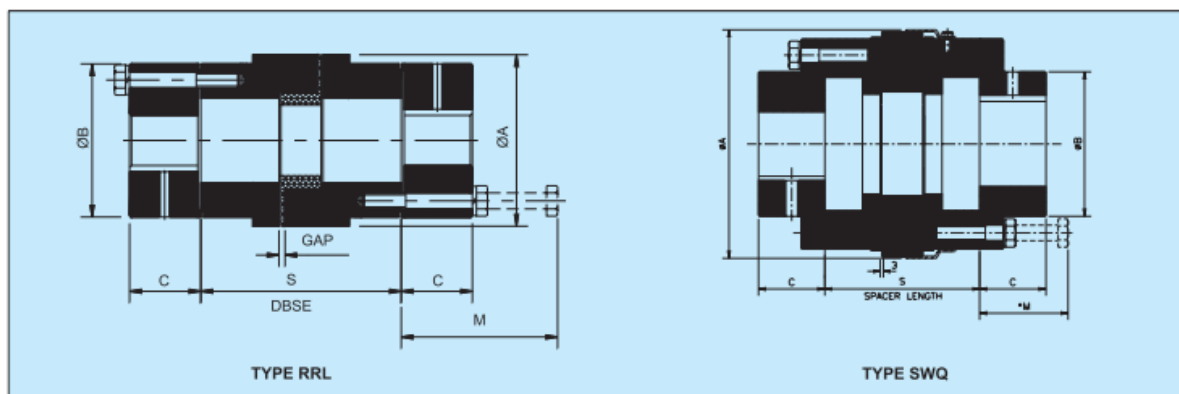
Size	Synthetic Rubber		DBSE 'S'		Min. Bore	Max. Bore		Outside Dia $\phi$ A	Adapter Hub Dia. $\phi$ B	Length thru' Bore C		Min. bolt clearance * M			
	Rated Torque Nm	kW at 100 rpm	Min.	Std.		$\blacktriangle$	Std.			$\blacktriangle$	Std.	$\blacktriangle$	Std.	$\blacktriangle$	Std.
RRL-095	21.1	0.221	75	90,100,140	10	—	28	54	54	—	25	—	45		
RRL-100	46.4	0.49	75	90,100,140,180	10	—	38	65	65	—	30	—	50		
RRL-110	89	0.93	75		15	24	42	85	76	35	35	36	60		
RRL-150	141	1.5	75		15	32	48	96	90	40	40	48	70		
RRL-190	190	2.0	75		15	38	55	115	102	45	45	48	75		
RRL-225	265	2.76	90		15	42	65	127	115	50	50	54	90		

$\blacktriangle$  Triangular Adapter Body.

Size	Rated Torque Nm	kW at 100 rpm	DBSE 'S'	Bore		Outside Dia. $\phi$ A	Adapter Hub Dia. $\phi$ B	Length thru' Bore C	Min. bolt clearance * M
				Min.	Max.				
SW0-226	327	3.43	140, 180	25	70	153	134	50	92
SWQ-276	524	5.6		25	80	173	130	60	107
SWQ-280	783	8.2		30	80	208	130	60	70
SWQ-295	1279	13.4		30	105	253	160	70	80
SWQ-2955	2139	22.3		30	105	253	160	75	80
SWQ-300	3046	31.9		30	115	272	180	80	85
SWQ-350	4297	45		30	125	323	200	90	85

\* Loosening & Tightening of bolts is possible within dimension 'M'.

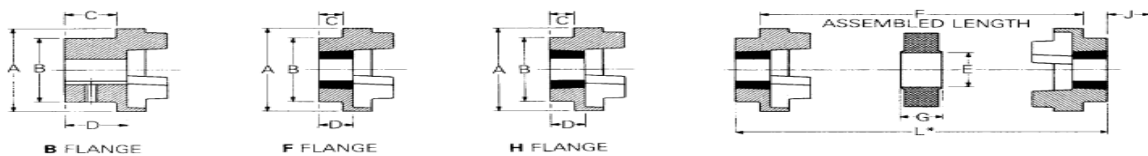
- Maintain gap 2 mm for RRL-095, RRL-100 & 3 mm for all other sizes at the time of assembly.
- Non-standard (NSTD) DBSE available on request.



# Nomenclature of Semi Elastic Motor Coupling HRC Type

## Torque, Max Misalignment and Max Bore Capacity: Technical Data

Motor Couplings Size	Common Dimensions					Type F & H					Type B				Nominal Torque (Nm)	Weight Kg (Approx)
	A	B	E	F	G	Bush Size	Max. Bore mm	C	D	Jt	Bore Dia's Max.	Screw Over Key	C	D		
70 HRC	69	60	31	25.0	18.0	1008	25	20.0	23.5	29	32	M6	20	23.5	31	1.00
90 HRC	85	70	32	30.5	22.5	1108	28	19.5	23.5	29	42	M6	26	30.0	80	1.78
110 HRC	112	100	45	45.0	29.0	1610	42	18.5	26.5	38	55	M10	37	45.0	160	5.00
130 HRC	130	105	50	53.0	36.0	1610	42	18.0	26.5	38	60	M10	39	47.5	315	5.46
150 HRC	150	115	62	60.0	40.0	2012	50	23.5	33.5	42	70	M10	46	56.0	600	7.11
180 HRC	180	125	77	73.0	49.0	2517	60	34.5	46.5	48	80	M10	58	70.0	950	16.60
230 HRC	225	155	99	85.5	59.5	3020	75	39.5	52.5	55	100	M12	77	90.0	2000	26.00
280 HRC	275	206	119	105.5	74.5	3525	100	51.0	66.5	67	115	M16	90	105.5	3150	50.00



### Service Factors for HRC Jaw Coupling Selection

SPECIAL CASES For applications where substantial shock, vibration and torque fluctuation occur and for reciprocating machines, e.g. Internal combustion engines, piston type pumps and Compressors, refer to Fenner with full machine details for torsional analysis.	TYPES OF DRIVING UNIT					
	Electric Motors Steam Turbines			Internal Combustion Engines Steam Engines water Turbines		
	OPERATIONAL HOUR PER DAY					
DRIVEN MACHINE CLASS	8 and Under	Over 8 to 16 Inclusive	Over 16	8 and Under	Over 8 to 16 Inclusive	Over 16
Uniform Agitators, Brewing Machinery, Centrifugal Blower and Compressors, Conveyors, Centrifugal Fans and Pumps. Generators, Sewage Disposal Equipment.	1	1.12	1.25	1.25	1.4	1.6
Moderate Shock Clay working machinery. Cranes Hoist, Laundry machinery, Wood working machinery, Machinery Tools, Rotary Mills, Paper Mill machinery, Textile machinery.	1.6	1.8	2	2	2.24	2.5
Heavy Shock Reciprocating conveyors, Crushers, Shakers, Metal Mills, Rubber machinery, (Banbury Mixers and Mills), Reciprocating compressors.	2.5	2.8	3.12	3.12	3.55	4

# Service Factors for Jaw Type Flexible Coupling Selection

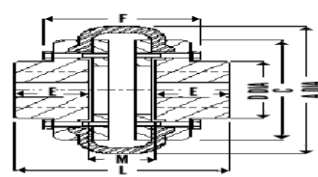
SPECIAL CLASSES	Type of Driving Unit					
	Electric Motors			Internal Combustion Engines Steam Engines Water Turbines		
	Hours per day duty			Hours per day duty		
Driven Machine Class	8 and under	over 8 to 16 inclusive	over 16	8 and under	over 8 to 16 Inclusive	over 16
<b>UNIFORM</b> Agitators, Brewing machinery, Centrifugal Blowers, Conveyors, Centrifugal Fans and Pumps, Generators, Sewage disposal Equipments. Evaporators, Feeders, Textile machines, Wood working machines.	1.00	1.00	1.00	1.00	1.10	1.10
<b>MODERATE SHOCK*</b> Clay working machinery, Crane Hoists. Laundry machinery. Machine Tools, Rotary Mills, Paper Mill machinery, Non-uniformly loaded centrifugal pumps, Rotary Screens, Centrifugal Compressors. Shredders, Printing presses, Oil Industry, Mixers, Food industry, Beaters, Bucket elevators, Gear pumps, Wood working machinery, Textile machinery	1.10	1.10	1.20	1.20	1,25	1.25
<b>HEAVY SHOCK*</b> Reciprocating Conveyors, Crushers, Shakers, Metal Mills, Rubber machinery (Banbury Mixers and Mills) Reciprocating Compressors, Welding Sets, Freight & passenger elevators, Cooling tower fans, Hammer mills, Reciprocating pumps, Vibrating screens, Winches, Wire drawing machines.	1.25	1.40	1.60	1.60	1.80	2.00

\* It is recommended that keys with top clearance are fitted for applications where load fluctuation is expected.

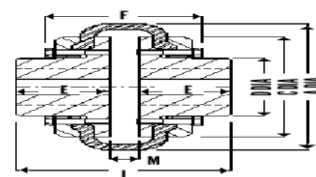
# Nomenclature of Elastic Coupling TC Tyre

## Outer Diameter, Speed and Max Bore Capacity: Technical Data

Size	Max Bore mm	Max Speed RPM	Cont. Rating		Max Torque NM	A Dia mm	Approx Dimensions				Torsional Stiffness NM/rad	Inertia MR <sup>2</sup> KgM <sup>2</sup>	Max. Misalignment			Weight Kg (Approx)
			Torque Nm	HP/100 rpm			L mm	D Dia. mm	E mm	M mm			Radial mm	Axial mm	Ang. deg	
001/TC/Z	9	6000		Nominal		42	54	27	19	16	60	-	1.0	2.0	3.0	0.2
002/TC/Z	11	6000		Nominal		54	68	38	24	20	150	0.0001	1.0	2.0	3.0	0.5
003/TC/Z	14	6000		Nominal		70	78	43	27	24	220	0.0003	1.0	2.0	3.0	0.7
004/TC/Z	18	6000		Nominal		93	74	30	26	22	415	0.0006	1.5	2.0	3.5	0.9
005/TC/Y	22	5500	6	0.08	18	97	74	35	25	24	520	0.0008	1.5	2.0	4.0	1.3
006/TC/X	24	5500	12	0.17	36	105	84	38	32	20	630	0.001	1.5	2.5	4.0	1.6
007/TC/W	28	5500	18	0.25	54	105	111	43	40	31	1000	0.001	1.5	2.5	4.0	1.7
008/TC/V	32	5500	24	0.34	72	120	95	51	37	21	1455	0.003	1.5	2.5	4.0	2.7
009/TC/U	38	5500	36	0.50	108	135	108	58	39	30	1890	0.005	2.0	2.5	4.0	3.4
0095/TC/US	42	5500	46	0.65	138	144	120	66	48	24	2400	0.008	2.0	2.5	4.0	5.2
010/TC/T	45	4400	54	0.75	162	160	132	71	49	34	2600	0.012	2.0	2.5	4.0	6.4
011/TC/S	48	4300	64	0.90	192	164	133	75	51	31	3200	0.016	2.5	2.5	4.0	7.7
012/TC/R	45	4200	84	1.18	282	176	147	71	53	41	4000	0.017	2.5	2.5	4.0	7.4
013/TC/Q	51	3750	132	1.85	396	188	145	80	53	39	4300	0.027	2.5	2.5	4.0	10
014/TC/P	62	3200	200	2.8	600	212	155	95	56	43	6200	0.036	2.5	3.0	4.0	12
015/TC/O	76	2750	265	3.7	795	240	173	118	62	49	8900	0.084	2.5	3.0	4.0	19
016/TC/N	90	2700	355	5.0	1065	270	181	140	68	45	9900	0.148	3.0	3.5	4.0	27
017/TC/M	95	2600	565	7.9	1695	280	215	145	76	61	13400	0.189	3.0	3.5	4.0	32
018/TC/L	100	2550	720	10.1	2160	310	195	154	90	15	14200	0.305	3.5	4.0	4.0	42
019/TC/K	105	2500	940	13.2	2820	316	202	159	96	10	35000	0.358	3.5	4.0	4.0	48
020/TC/J	130	2200	1440	20.2	4320	370	225	203	110	6	47600	0.815	4.0	4.5	4.0	79
021/TC/I	130	2000	1795	25.2	5365	370	240	203	115	10	66000	0.868	4.0	4.5	4.0	85
022/TC/H	150	1700	2870	40.3	8610	412	256	237	118	20	110000	1.49	4.0	5.0	4.0	115
023/TC/G	150	1600	4445	62.4	13335	448	280	230	125	30	188000	1.90	4.5	6.0	4.0	127
024/TC/F	200	1300	6425	90.2	19275	530	282	315	128	26	200000	4.80	5.0	6.0	4.0	218
025/TC/E	165	1250	8215	115.3	24645	546	365	280	147	71	310000	5.20	5.0	6.0	4.0	224
026/TC/D and Larger																



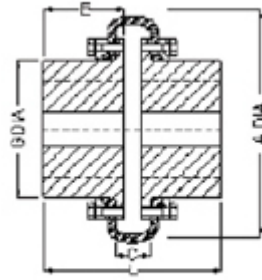
UPTO SIZE TC/M/017



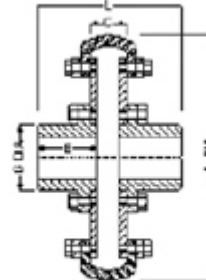
SIZE TC/L/018 AND LARGER

# Nomenclature of Automatic Flexible Coupling PH Tyre

## Max Misalignment, Speed and Max Bore Capacity: Technical Data



UPTO SIZE 520 H



SIZE PH 600 TO PH 1000

Size	Max. Bore mm	Max. Speed RPM	Cont. Rating		Max. Torque mm	Appx. Dimension MM					Torsional MR <sup>2</sup> Stiffness Nm / Rad KgM <sup>2</sup>		Max. Misalignment			Weight KG (Approx)
			Torque kgm	H.P./100 RPM		A Dia. mm	G Dia. mm	E mm	C mm	L mm			Radial mm	Axial +- mm	Angular deg	
PH-76	27	6000	18	0.25	54	76	39	30	14	66	255	0.00024	1	2	4	0.84
PH-86	34	6000	29	0.4	87	86	49	35	14	76	410	0.00055	1.5	2	4	1.35
PH-96	36	5500	36	0.5	108	96	51	35	16	76	510	0.00086	1.5	2	4	1.5
PH-106	38	5500	45	0.6	135	106	54	35	18	76	618	0.00135	1.5	2.5	4	1.9
PH-116	42	5500	55	0.75	165	116	60	40	22	88	765	0.00230	1.5	2.5	4	2.75
PH-126	48	5500	90	1.25	270	126	68	40	22	88	1275	0.00350	2	2.5	4	3.5
PH-140	50	5500	125	1.75	375	140	72	46	26	100	1815	0.0060	2	2.5	4	4.75
PH-160	50	5500	165	2.25	495	160	82	50	28	108	2350	0.0112	2	2.5	4	6
PH-178	60	4500	220	3	660	178	100	60	32	128	3140	0.023	2.5	2.5	4	11
PH-190	65	4000	285	4	855	190	105	70	30	146	4170	0.034	2.5	2.5	4	14
PH-218	75	3500	430	6	1290	218	124	75	36	160	6380	0.065	2.5	3	4	21
PH-250	80	3000	610	8.5	1830	250	145	90	40	192	9075	0.123	3	3.5	4	32
PH-272S	75	2750	740	10.5	2220	272	125	80	40	173	10800	0.131	3	3.5	4	28
PH-272H	100	2750	740	10.5	2220	272	163	96	40	205	10800	0.189	3	3.5	4	38
PH-292S	80	2600	1070	15	3210	292	130	80	47	175	16200	0.178	3.5	4	4	30
PH-292H	105	2600	1070	15	3210	292	168	105	47	228	16200	0.243	3.5	4	4	44
PH-316S	90	2500	1320	18.5	3960	316	150	90	47	195	18800	0.270	3.5	4	4	40



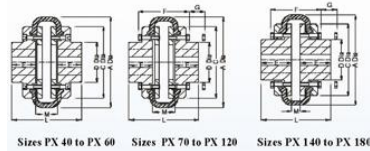
PH-316H	115	2500	1320	18.5	3960	316	190	115	47	245	18800	0.395	3.5	4	4	60
PH-342S	90	2250	1870	26	5610	342	150	90	53	195	26700	0.360	4	4.5	4	45
PH-342H	120	2250	1870	26	5610	342	198	120	53	255	26700	0.520	4	4.5	4	71
PH-390S	100	2000	2850	40	8550	390	165	100	57	218	40700	0.717	4	5	4	70
PH-390H	140	2000	2850	40	8550	390	230	140	57	298	40700	1.10	4	5	4	115
PH-450S	130	1600	5000	70	15000	450	216	120	60	270	71400	1.36	4.5	6	4	110
PH-450H	175	1600	5000	70	15000	450	286	170	60	360	71400	2.42	4.5	6	4	190
PH-520S	150	1480	7150	100	21450	520	250	135	62	294	102000	2.60	5	6	4	170
PH-520H	220	1480	7150	100	21450	520	324	180	62	384	102000	5.45	5.5	6	4	300
PH-600	As	1300	12850	180	38550	60	To Suit				184000	ON	6	8	4	On Request
PH-672	Required	1100	19230	270	57690	672	Requirements				275000	Request ST	6.5	8	4	
PH-725		1000	28500	400	85500	725					407000		6.5	8	4	
PH-812		850	42740	600	128220	812					612000		7	8	4	
PH-1000		750	64100	900	192300	1000					918000		8	8	5	
PH-1100		650	85500	1200	256500	1100					1216000		8	8	5	
PH-1175		550	107000	1500	321000	1175					1530000		8	10	6	
PH-1250		500	143000	2000	429000	1250					2040000		8	12	6	



# Nomenclature of Automatic Flexible Coupling PX Tyre

## Max Misalignment, Speed and Max Bore Capacity: Technical Data

Size	Max Speed RPM	Rating			KW rating at common RPMs					Tor Stiff NM / deg	MAX Misalignment		
		Torque			585	720	970	1440	2880		Ang deg	Parallel mm	Axial Mm
		Cont Nm	Max Nm	KW / 100 rpm									
40PX	4500	21	64	0.22	1.3	1.6	2.1	3.2	6.3	5	4	1.1	1.3
45PX	4500	37	110	0.39	2.3	2.8	3.8	5.6	11	9	4	1.2	1.5
50PX	4500	53	160	0.56	3.3	4.0	5.4	8.0	16	13	4	1.3	1.47
60PX	4000	106	318	1.11	6.5	8.0	10.8	16	32	26	4	1.6	2.6
70PX	3600	162	487	1.70	10	12	16.2	24	49	41	4	1.9	2.3
80PX	3100	253	759	2.65	15	19	25.6	38	76	63	4	2.1	2.6
85PX	3000	305	915	3.20	19	23	31	46	92	76	4	2.2	2.8
90PX	2880	365	1096	3.82	22	28	38	55	110	91	4	2.4	3.0
100PX	2600	505	1517	5.29	31	38	51	76		126	4	2.6	3.3
110PX	2300	712	2137	7.46	44	54	73	107		178	4	2.9	3.7
120PX	2050	1182	3547	12.4	73	89	120	178		296	4	3.2	4.0
140PX	1800	1881	5642	19.7	115	142	191	284		470	4	3.7	4.6
160PX	1600	3113	9339	32.6	191	235	316	469		778	4	4.2	5.3
180PX	1450	5485	16455	57.5	336	410	557	827		1371	4	4.8	6.0



Size	Max Bore mm	Pilot Bore mm	A Dia mm	C Dia mm	D Dia Mm	E mm	F mm	G mm	L mm	M mm	WR <sup>2</sup> KgM <sup>2</sup>	Bolt TT NM	Weight Kg(Approx)
40PX	30	13	104	82	-	22	-	43	66	22	0.001	15	1.6
45PX	32	13	120	94	-	25	-	43	74	24	0.002	15	2.0
50PX	38	18	133	100	79	32	-	43	89	25	0.003	15	2.4
60PX	48	18	165	125	70	38	-	43	109	33	0.010	15	4.0
70PX	55	20	197	144	76	45	101	10	130	40	0.018	24	6.2
80PX	65	26	211	167	95	51	106	10	145	43	0.037	24	9.6
85PX	70	32	222	179	103	53	106	13	150	44	0.050	32	11.5
90PX	76	32	235	188	110	57	119	13	160	46	0.064	32	14
100PX	85	32	254	216	124	60	123	13	168	48	0.120	32	20
110PX	90	32	279	233	140	66	127	14	174	44	0.160	32	26
120PX	102	32	314	264	155	76	140	14	201	49	0.343	35	32
140PX	120	40	359	311	195	89	152	14	211	24	0.695	35	54
160PX 180PX	130	50	395	345	200	104	160	16	244	30	1.22	90	82
	155	60	470	398	220	116	190	16	282	46	2.01	90	126



# Nomenclature of Multi-Directional Coupling F Tyre

## Max Misalignment, Speed and Max Bore Capacity: Technical Data

Coupling flexible tyre size	TLB No. (Optional)	Tyre coupling bore		A mm	L mm	D mm	E mm	C mm	G** mm	M** mm	F mm	Motor power per 100 rev./min kw.	Power per 100 rev./min H.P.	Max speed rev/min	Nominal Torque Nm	Parallel Misalignment Max (mm)	Weight kg (Approx)
		Min mm	Max mm														
40-F	1008	13	30	104	66	-	22	82	43	22	-	0.20	0.26	4400	24	1.1	0.100
45-F	1108	13	32	120	74	-	25	94	43	24	-	0.35	0.46	4400	55	1.2	0.250
50-F	1210	18	38	133	89	79	32	100	43	25	-	0.50	0.67	4400	66	1.3	0.300
60-F	1610	18	48	165	109	73	38	125	43	33	-	1.05	1.40	3900	127	1.6	0.500
70-F	2012	20	55	197	130	82	45	144	10	40	101	1.60	2.14	3600	250	1.9	0.700
80-F	2517	26	65	211	145	95	51	167	10	43	106	2.55	3.41	3000	375	2.1	1.000
85-F	2525	32	70	222	150	103	53	179	13	44	107	3.10	4.15	2900	460	2.3	1.050
90-F	2517	32	76	235	160	110	57	188	13	46	119	3.75	5.02	2800	500	2.4	1.100
100-F	3020	32	85	254	168	124	60	216	13	48	123	5.19	6.95	2500	675	2.6	1.150
110-F	3020	32	90	279	174	134	65	233	14	44	127	7.32	9.80	2200	875	2.9	1.400
120-F	3525	39	102	314	201	152	76	264	14	49	140	12.20	16.34	2000	1330	3.2	2.300
140-F	3525	76	120	359	211	195	89	311	14	24	152	19.20	25.72	1700	2325	3.7	2.600
160-F	4040	75	140	402	234	216	102	345	19	30	156	32.10	43.01	1500	3770	4.2	3.400
180-F	4545	75	175	470	274	266	114	398	19	46	188	57.00	76.38	1400	6270	4.8	7.700

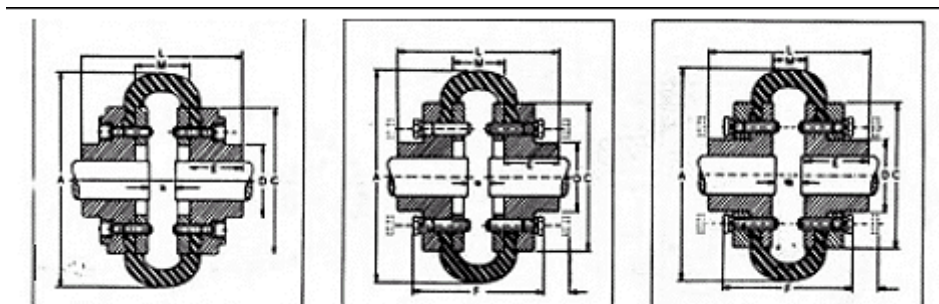
Notes: Also tyre coupling sizes 200-F (For Max Speed 1300 Rev/Min and Max Torque 23500 Nm), 220-F Size F (For Max Speed 1100 Rev/Min and Max Torque 33100 Nm) produced subject to substantial order quantity.

# Angular Misalignment Capacity up to 4o for all above "F" Series Coupling

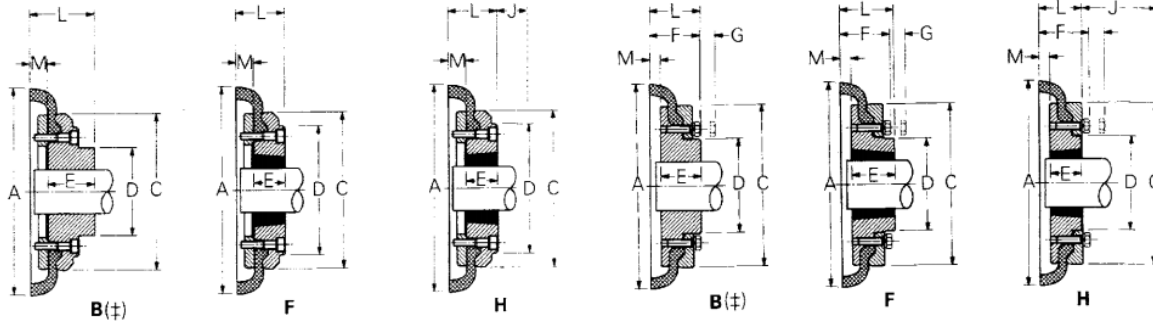
G\* is the amount by which clamping screws need to be withdrawn to release tyre.

M\*\* is the distance between flanges.

Normally shaft ends may be kept M distance apart; however, they can be kept at larger distance apart. Care being taken that sufficient shaft keyway length is covered by the Hub. The shaft length can also be brought nearer each other keeping in mind the end-play between the shafts to avoid chattering.



# Flange Coupling Types B, F and H Tyre



## Service Factors for Rubber Tyre Coupling Selection

Type of Driven Machine	Type of Driving Unit					
	Electric Motors Steam Turbines			Internal Combustion Engines Steam Engines Water Turbines		
	Hours per day duty			Hours per day duty		
	10 and under	over 10 to 16 incl.	Over 16	10 and under	over 10 to 16 incl.	Over 16
<b>CLASS 1</b> Agitators, Brewing machinery, Centrifugal compressors and pumps. Belt conveyors, Dynamometers, Line shafts, Fans up to 7.5kW. Blowers and exhausters (except positive displacement), Generators.	0.8	0.9	1.0	1.3	1.4	1.5
<b>CLASS 2*</b> Clay working machinery, General machine tools, paper mill beaters and winders, Rotary pumps, Rubber extruders, Rotary screens, Textile machinery, Marine propellers and Fans over 7.5kw.	1.3	1.4	1.5	1.8	1.9	2.0
<b>CLASS 3*</b> Bucket elevators, Cooling tower fans, Piston compressors and pumps, Foundry machinery, Metal presses, Paper mill calenders, Hammer mills, Presses and pulp grinders, Rubber calendars, Pulverizes and Positive displacement blowers.	1.8	1.9	2.0	2.3	2.4	2.5
<b>CLASS 4*</b> Reciprocating conveyors, Gyratory crushers, Mills (ball, pebble and rod), Rubber machinery (Banbury mixers and mills) and Vibratory screens.	2.3	2.4	2.5	2.8	2.9	3.0

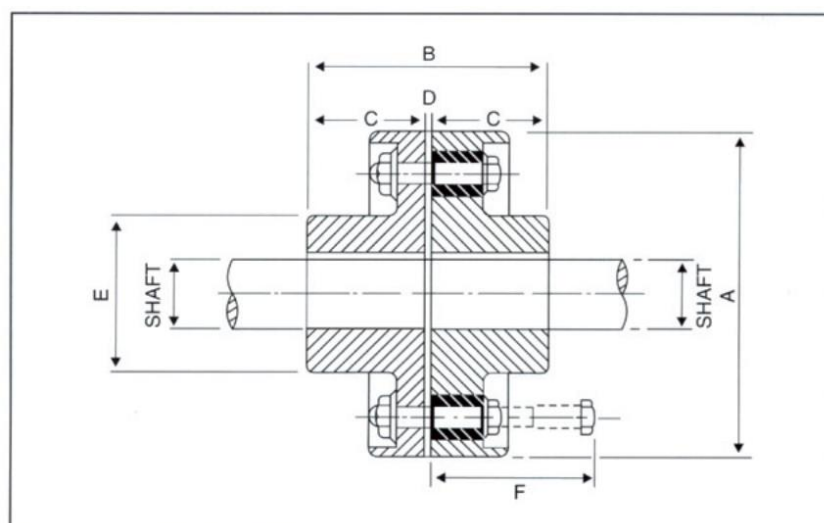
# Nomenclature of Anti-Backlash Pin Bush Coupling

## Torque, Max Speed, OD and Max Bore Capacity: Technical Data

Coupling Bush Size	No. of Pins	Coupling Min. Bore	Coupling Max Bore	A	B	C	D	E	F	Coupling Drive Torque Kg. M.	Motor Power per 100 REV/MIN KW	Power per 100 REV/MIN H.P.	Drive Max. Speed REV/MIN
1 B	3	12.7	28	95	79	38	3	44	58	7.84	0.81	1.09	6000
2 B	4	12.7	30	114	99	48	3	51	70	31.60	3.29	4.41	5000
2A B	6	16.0	42	130	105	51	3	68	70	52.59	5.47	7.34	4300
3 B	4	16.0	48	160	125	60	5	75	114	63.30	6.59	8.84	3500
4 B	4	20.0	65	191	145	70	5	105	114	84.70	8.81	11.82	2900
4A B	6	20.0	65	191	145	70	5	105	114	126.50	13.17	17.66	2900
5 B	6	25.0	75	225	157	76	5	120	114	169.41	17.65	23.66	2500
6 B	8	45.0	95	254	183	89	5	152	114	240.46	25.05	33.58	2200
6A B	10	45.0	95	254	183	89	5	152	114	298.87	31.13	41.74	2200
6B B	12	45.0	95	254	183	89	5	152	114	360.14	37.51	50.29	2200
7 B	12	45.0	115	290	235	115	5	185	114	423.44	44.11	59.13	1900
7A B	14	60.0	120	300	235	115	5	192	130	529.56	55.17	73.96	1850
8 B	16	65.0	130	310	255	125	5	208	130	592.86	61.76	82.80	1800
8A B	18	65.0	135	340	265	130	5	216	130	740.87	77.18	103.47	1600
8B B	12	70.0	140	360	276	135	6	224	200	889.80	92.70	124.27	1540
9 B	13	80.0	150	390	316	155	6	240	200	1012.43	105.48	141.40	1420
9A B	15	90.0	160	410	336	165	6	256	200	1353.10	140.97	188.98	1350
10 B	16	100.0	170	440	366	180	6	272	200	1469.92	153.15	205.29	1250
10A B	17	110.0	180	480	386	190	6	288	212	1839.95	191.70	256.97	1150
11 B	20	120.0	190	530	406	200	6	305	212	2424.05	252.56	338.55	1030

All dimension in mm

\* Coupling Taper Bush System also manufactured up to size B7A



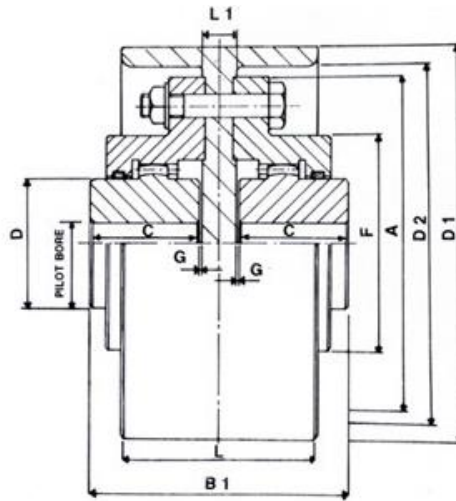
## Service Factors for flexible Pin Bush Coupling Selection

DRIVEN MACHINE	PRIME MOVER				
	Electric Motor Steam Turbine Shafting	Steam Engine Water Turbine	IC Engine Multi-Cylinder	IC Engine Single Cylinder Diesel Multi-Cylinder	Diesel Engine Single Cylinder
Even Torque Machines: Smooth Loads, Generators; Centrifugal Pumps; Blowers; Small Fans; Line Shafting.	1.00	1.25	1.50	2.00	2.50
Machine Tools (light); Beaters; Exhausters; Wood-working Machines (light); Alternators; Welding Generators; Textile Machines.	1.25	1.50	1.75	2.25	2.75
Multi-Crank Compressors and Pumps; Generators (fluctuating loads); Rotary Dryers & Screens; Rotary Compressors; Planers; Wood-Working Machines (heavy); Pulp Grinders; Shakers; Mine Fans	1.50	1.75	2.00	2.75	3.00
Wire Mills; Cement Mills; Small Printing Presses.	1.75	2.00	2.25	3.00	3.25
Single Crank Compressors & Pumps; Hammers; Ball & Tube Mills; Rolling Mills (light); Shearing Machines; Punches; Rock & Stone Crushers; Brick Making and similar Machines; Printing Presses (large); Grinders; Pulverizes; Cranes & Winches; Mechanical Shovels & Dredges; Winding Gears and Drums.	2.00	2.25	2.50	3.25	3.50
Heavy Rolling Mill Drives: Continuous, Prolonged & Reversing Drives: Severe Traction and Haulage Loads.	2.25	2.50	2.75	3.58	3.75

# Nomenclature of Brake Drum Crane Coupling

## Torque, OD and Other Dimensions Details: Technical Data

Brake Drum Gear Coupling Size	MAX. TORQUE Kgm.	PILOT BORE	DIMENSIONS IN MM									
			D1	D2	L	L1	B1	A	C	D	F	G
101 - 200 - FBD	100	20	200	180	100	17	130	170	55	65	110	1.5
101 - 250 - FBD	100	20	250	224	100	17	130	170	55	65	110	1.5
102 - 250 - FBD	250	30	250	224	100	17	160	185	70	85	125	1.5
103 - 250 - FBD	450	40	250	224	100	20	193	220	85	105	150	1.5
103 - 300 - FBD	450	40	300	276	150	20	193	220	85	105	150	1.5
104 - 300 - FBD	850	50	300	276	150	20	233	250	105	130	175	1.5
105 - 330 - FBD	1300	60	330	300	150	25	253	290	110	155	200	4
105 - 500 - FBD	1300	60	500	470	250	25	253	290	110	155	200	4



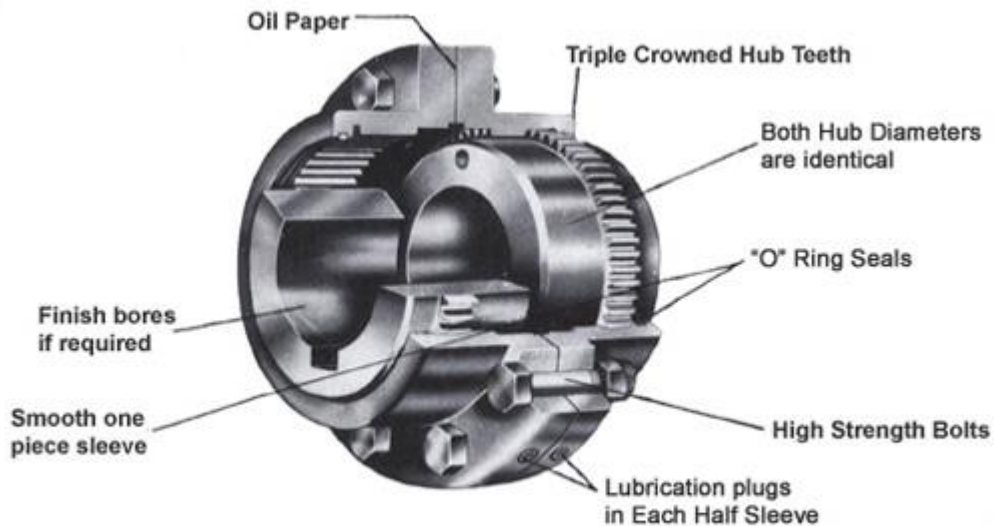
# Nomenclature of Flexible Curved Tooth Coupling FULL and HALF Gear Torque, Max Speed, OD and Max Bore Capacity: Technical Data

Gear Coupling Size	GEAR COUPLINGS DIM.( COMMON FOR BOTH)											FULL FLEXIBLE GEAR TYPE					HALF GEAR					
	H.P. capacity AT 100 R.P.M.	Max. Torque Kg. M.	Max. R.P.M.	Bore Min.	A	C	D	F	M	G	H	Bore Max.	J	B	WR2 Kgm2	Weight Kg.(Approx)	K	Q	Bore Max.	F1	WR2 Kgm2	Weight Kg.(Approx)
100-GC	7	50	8000	10	120	45	50	75	55	1.5	1.5	32	40	93	0.03	4.5	93	46.5	45	70	0.04	5
101-GC	14	100	6300	20	170	55	65	110	65	2.5	17	45	49	115	0.14	11	115	57.5	60	85	0.15	11
102-GC	35	250	5000	30	185	70	85	125	80	2.5	27	60	62	145	0.20	15	145	72.5	75	110	0.24	15
103-GC	63	450	4000	40	220	85	105	150	105	2.5	20	75	78	175	0.48	25	175	87.5	90	130	0.51	20
104-GC	119	850	3350	50	250	105	130	175	125	2.5	20	90	96	215	0.95	39	215	107.5	110	160	1.0	40
105-GC	182	1300	2800	60	290	110	155	200	140	5	25	110	106	230	1.90	57	230	115	130	185	2.0	60
106-GC	280	2000	2500	75	320	125	175	230	155	5	25	125	117	260	3.00	85	260	130	150	215	3.3	80
107-GC	490	3500	2100	90	350	140	205	260	175	5	25	140	134	290	5.25	103	290	145	170	240	5.8	106
108-GC	630	4500	1900	105	380	155	230	290	190	5	25	160	147	320	8.50	138	320	160	200	285	9.5	149
109-GC	784	5600	1700	125	430	165	250	330	205	5	27	180	156	340	15.00	210	340	170	220	315	16.8	170
110-GC	1148	8200	1400	140	490	180	310	390	220	5	27	220	171	370	30.50	277	370	185	260	370	35.0	264
111-GC	1536	11000	1250	160	545	200	350	445	240	5	30	260	192	410	58	550						
112-GC	2053	14700	1120	180	590	240	400	490	280	5	30	300	231	490	88	710						
113-GC	2793	20000	1000	200	680	260	440	555	310	7.5	35	330	242	535	138	980						
114-GC	3994	28600	900	220	730	280	500	610	330	7.5	35	370	266	575	291	1320						
115-GC	4852	34750	800	250	780	320	540	660	370	7.5	35	410	305	655	353	1700						

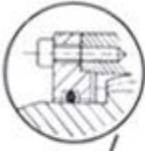
Note:  $HP \times \text{Service Factor} \times 100 / RPM = HP / 100 RPM$ ; Choose coupling size according to OD Accommodation

# Dynamic balancing & Heat Treatment also undertaken on order

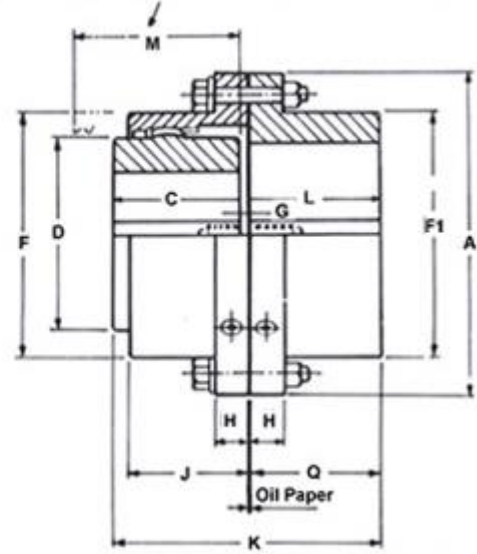
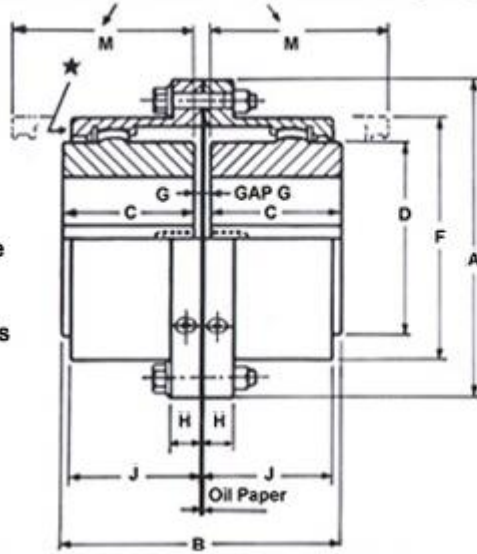
## Grease (till 80° c Drive) or Oil (Above 80° C Running Condition) be filled in gear coupling during installation and periodic lubrication.



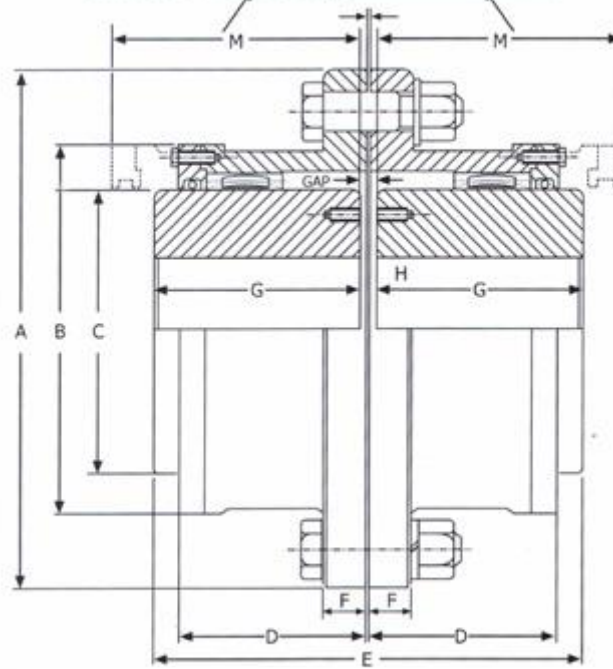
Minimum clearance Required for Aligning Minimum clearance Required for Aligning



This cover plate construction for sizes GC-105 onwards



MINIMUM CLEARANCE REQUIRED FOR ALIGNING



Full Gear Coupling



## Service Factor for Flexible Gear Coupling Selection

SERVICE FACTOR	PRIME MOVER		
	Electric Motor or Steam Turbine	Gasoline or Diesel Engine 4 or more Cyl.	Gasoline or Diesel Engine more than 6 Cyl.
Driven Unit (Machinery)			
<b>LIGHT</b>			
Uniform of Steady load never exceeding horse rating, Infrequent starting: Agitators, Blowers, Can Filling Machines, Conveyors, Fans, Generators, Pumps, Steering Gear, Stokers.	1.0	1.5	2.0
<b>MODERATE</b>			
Heavy inertia, moderate shock, frequent starting: peak loads do not exceed 125 percent average horsepower. Uneven load: Conveyors, Feeders, Welding Laundry Washers, Mixers Paper Mills, Printing Presses, Screens, Textile Industry, Car Pullers.	1.5	2.0	2.5
<b>HEAVY</b>			
Heavy shock conditions or frequent reversing peak loads do not exceed 150 percent average horse power. Uneven load • Cranes & Hoists, Crushers, Dredges, Elevators, Hammer Mills, Lumber Industry. Machine Tools,, Metal Mills, Oil Industry, Rubber Industry Windlass.	2.0	2.5	3.0

**Disclaimer:** Information's, written and verbal are provided by HIC, relative to its products which it determines to be reliable & no liabilities of whatsoever nature in regards to its uses. The purchaser of UNIVERSAL brand industrial products should determine for itself the suitability of such products.







# Selection of Flexible Shaft Coupling

*Design Torque or Power, Bore size, OD accommodation, Size and Class of Drive HIC Couplings Guide\**

Follow simple steps for as to How to select flexible shaft coupling for drive rotating shafts connection:-

**Step 1 of HIC Universal flexible couplings Selection:**

**Nominal Torque calculation**- Torque, Nm =  $\frac{kw \times 9550}{RPM}$  , will give torque requirements of flexible coupling subjected to shock.

**Step 2 of HIC Universal flexible couplings Selection:**

**Design Torque or Power as selection Base for flexible coupling**- Multiply Nominal Torque by Application Service Factor, matching driving motor or engine and driven machine class type to arrive design power for right selection purpose.

**Step 3 of HIC Universal flexible couplings Selection:**

**Bore diameter Size and OD accommodation possibility of chosen flexible coupling**- Choose flexible shaft coupling type and size to mount or fit within the corresponding maximum bore size possibility and better selection would be one next higher size of coupling for future expandability.

**Step 4 of HIC Universal flexible couplings Selection:**

**Size and Class Type of shaft coupling final Selection**- Maximum RPM value be checked for torque capability of drive coupling intended for the application.

\*check Disclaimer, please



## Purchase Enquiry Info

**Spider or Tyre or Pin Bush or Gear Shaft Coupling Min. Information to Be Sent**

(Email at: [belts@universaldelhi.org](mailto:belts@universaldelhi.org) ; [universal@hic-india.com](mailto:universal@hic-india.com) or Call +91 11 2874 5120)

HIC ships pump marine drive Shaft couplings conforming IS 12405 tailor-made to buyer's order specifications to different countries including India. Please send following information in English to quote prices:

1. Shaft coupling **Size**
2. Coupling class **Type**, jaw spider or spacer jaw or pin bush or tyre rubber or gear or HRC or brake drum
3. **Bore** size MM, pilot or finished and keyway-w-d-h dimensions
4. **Usage** application x **Quantity**- Numbers



## Shipment Handling and Delivery Time

Bulk quantity orders are packed in sea-worthy Jute Bags or Corrugated Boxes shipped via sea in less than container loads (LCL) /FCL or by air. Sea freight (BL) or Air freight (AWB) charges payable at destination.

Small orders are shipped overseas via **DHL** or **FedEx** or **Aramex courier**, for which your Authorization Account number be sent to be booked on "Freight To Collect" basis, together with complete acceptable physical address and phone or mobile number.

**Domestic orders** are dispatched to any destination in **India** by Road Transport, Gati or TCI or ARC or Jaipur Golden on **COD** basis.

**Shipping Time**, generally within 3-4 weeks or as stipulated in quote and accepted order.

## Installation Method of Shaft Couplings

*Rotate Shaft Break-Free, HIC Zero Backlash Torque Transmission Tips*



- **Fitment** is easy requiring simple tools like Spanner, Allen key.
- **Lighter Machinery** suited Star Coupling 'L' type sizes are ideal for max. 100mm bore handling being compact, maintenance is difficult when rubber spider breaks and if not replaced in time, and complete coupling gets damaged.
- **Misalignment Manageability** of Tyre Coupling TC, F, PH, HRC type sizes makes maintenance easy due to quality flexible rubber tire used available as spare, ideal for max. 220mm bore handling.
- **Problem Free Running** of Pin Bush Coupling 'B' type sizes have good torque & misalignment manageability are ideal for max. 190mm bore handling made of graded FG250 CI & Pins of EN9 material makes easy to maintain as bush & pins set can be replaced.
- **Superb Torque Maintenance Free** built of Gear Coupling Rigid Flexible 'S' type sizes have best misalignment manageability that can run slowly below 300 rpm up to 13930 kg-m load capacity are ideal for max. 310mm bore handling made of forged alloy steel EN 24 material is just fit and forget for years.

\* Size Variation (+,-1mm Outer Dia , Hub/Boss , Width) as per mfg tolerance should be acceptable.

## Organization Structure

Industrial supply manufacturing company having dedicated team of 63 skilled work forces includes Rubber Technologist, Chemists, Engineers and Skilled Labor's, Management Experts viz., Plant Manager, Quality Control Inspector, Lab In charge and I.T specialists. Majority of operations are automatic.

## Production Capacity of Machinery Drive Products

	<a href="#">Approximate Qty. per annum</a>
<p>1. Spider Jaw Couplings, Rubber Tyre Coupling, Flexible Gear Coupling, Pin Bush Coupling Taper Bush System</p> <p><a href="http://www.rubber-steel-industrial-products.com/motor-coupling-manufacturer/index.htm">http://www.rubber-steel-industrial-products.com/motor-coupling-manufacturer/index.htm</a>  <a href="http://www.rubber-steel-industrial-products.com/shaft-coupling-manufacturer/index.htm">http://www.rubber-steel-industrial-products.com/shaft-coupling-manufacturer/index.htm</a>  <a href="http://www.rubber-steel-industrial-products.com/gear-coupling-manufacturer/index.htm">http://www.rubber-steel-industrial-products.com/gear-coupling-manufacturer/index.htm</a>  <a href="http://www.rubber-steel-industrial-products.com/bush-coupling-manufacturer/index.htm">http://www.rubber-steel-industrial-products.com/bush-coupling-manufacturer/index.htm</a></p>	75,000 nos.
<p>2. Classical V Belts, Cogged Belts, Wedge Belt, Poly v Belt, Banded Belt, Harvester Combine Belt , Narrow Section Belt</p> <p><a href="http://www.rubber-steel-industrial-products.com/v-belts-manufacturer/index.htm">http://www.rubber-steel-industrial-products.com/v-belts-manufacturer/index.htm</a></p>	2,50,000 nos.
<p>3. Nylon Sandwich Belt, Leather Transmission Belting, Flat Rubber Transmission Belt</p> <p><a href="http://www.rubber-steel-industrial-products.com/rubber-belting-manufacturer/index.htm">http://www.rubber-steel-industrial-products.com/rubber-belting-manufacturer/index.htm</a></p>	60,000 mts
<p>4. V Belt Pulley Sheaves, Timing Pulley, Taper Bush Pulley, Weld on Hubs</p> <p><a href="http://www.rubber-steel-industrial-products.com/belt-pulley-manufacturer/index.htm">http://www.rubber-steel-industrial-products.com/belt-pulley-manufacturer/index.htm</a></p>	5,000 nos.

Visakhapatnam Steel Plant (721354), NALCO (3072),  
 Subhash Projects (EM-10,18), Heavy Engg. Corp.(6003),  
 Bokaro Steel (72621), Salem Steel(000155),  
 Gujarat State Road(000118), ACC (944),  
 Army Base(512/ABW-LP/76), NTPC(H8267), etc.

\* Price List & terms on specific enquiry please.

## Quality Assurance Plan

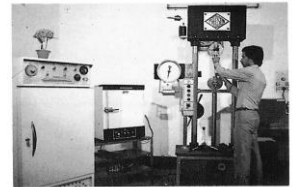
### *HIC Flexible Shaft Couplings Testing Parameters*

Quality shaft flexible couplings manufactured in ISO 9001 certified HIC factories in India with Production Supervisors conducting routine pre-manufacture checks and post-manufacture tests as to:

- 100% Physical checks with respect to dimensions,
- 100% Chemical checks w.r.t. MOC,
- 20% Random physical tests



Load Testing Machine



Tensile Strength & Elongation Testing Machine

## Test Certificate & Warranty

### *HIC Manufacturer's Lab TC of Drive Shaft Coupling Supplied*

Quality drive shaft couplings conforming IS 12405, IS 12427, BS 4235, BS 3170, DIN 7190, DIN 6885, ISO 4863, ISO 286 - HIC manufacturers modern in-house Lab Test Certificate issued with respect to Overall length, Bore and keyway size, besides other tests such as Flexibility retention without crumble or crack after removing from high temperature exposure, Flange dimensions, Shore Hardness of rubber element or elastomeric component, Torsional soft and stiffness, Full Load test with maximum misalignment of shaft, etc.

Warranty of one year against any manufacturing defects in HIC manufactured shaft coupling product.

**Third Party Inspections** by DNV, RITES, EIL, QSS, SGS, also arranged in HIC's couplings factory or by Government Approved Laboratory, Test Certificate issue fee charges directly reimbursed by buyers.

**Legalization** by Embassy or Chambers of Commerce **Attestation** of export shipping Invoice and other documents also provided towards export of Indian Origin machinery parts products if demanded on actual fee remitted by importers directly to HIC and or cost added up in Invoice.

## Manufacturing & Testing Equipments



**Belt Press**

Exporters-Importers of industrial products having latest manufacturing machinery and advanced testing equipments.

## Power Transmission Products Production Machinery



**Belting Calander**

Banbury Rubber Mixer, Dispersion Kneader(s), Mixing Mill(s) 2 Roll, Calander Machine (3Roll), Jointing Machine, Rubber Bale Cutter, Hydraulic Presses (2 daylight), Hydraulic Press (single daylight), Hydraulic Finishing Press, Belt Endlessing M.C.(Vulcaniser), Sundry Machines viz. Lathes, Shaper, Generator sets, Hydraulic Jacks, etc.

## Steel Products Quality Testing Apparatus as per ISO :



**Manufacturing Hydraulic Press**

B.O.D. Incubator (seasoning chamber), Hot Air Ageing Oven, Physical Balance, Tensile Testing Machines, Abrasion Tester(as per DIN), Drum Friction Tester (as per Canadian stds), Scott Flex Tester (as per railways), Dumbbell Dies, Yarn Testing Machine, etc. **Calibrated** periodically. Indigenous technology with latest technical Indian knows how, however, no collaboration made so far.

## Quality Control

It is in between process checks that are strongly checked & lodged in register to ensure finished rubber product meeting quality standards.

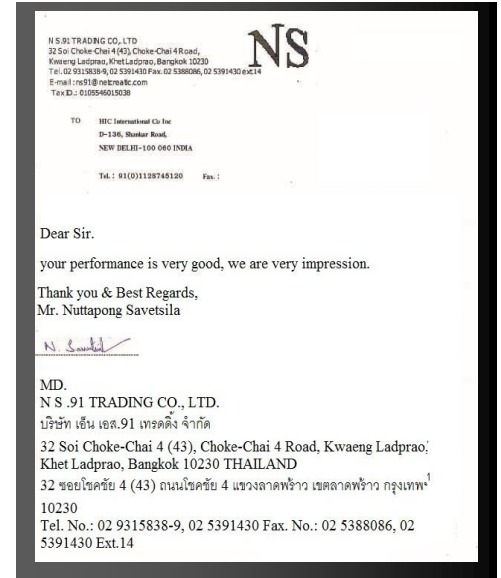
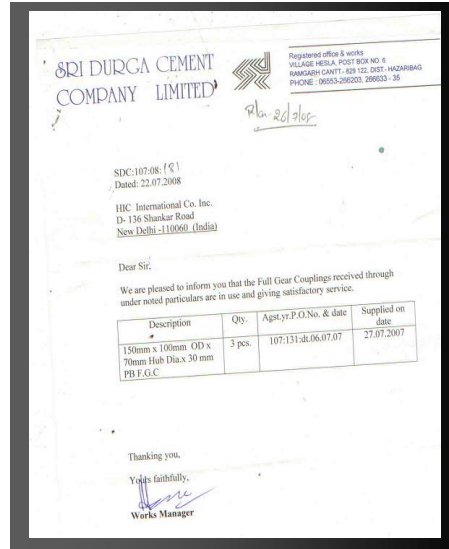
Test Certificate (TC) of our Lab, wherever, applicable, is **forwarded** along with the supply.



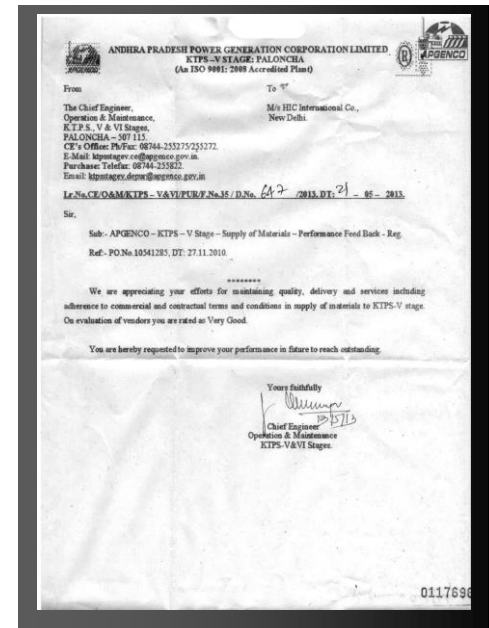
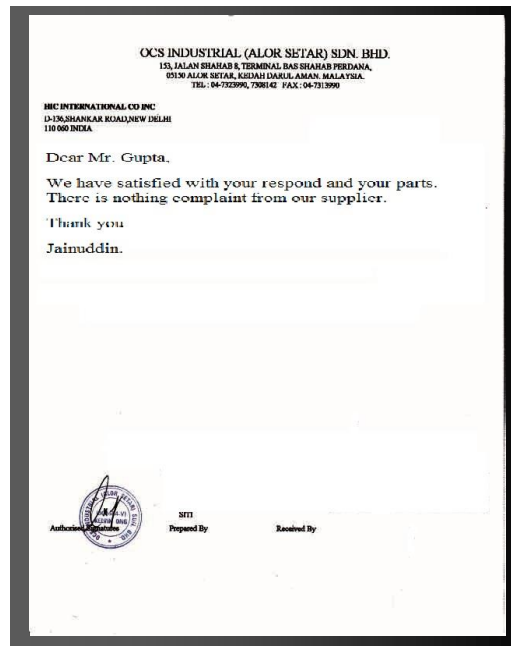
# Performance Certificates



Export Excellence Award during Feb 1997



ISO Certificate



# Many more certificates available as feedbacks are constantly monitored for providing highest customer's satisfaction.

## Total Quality Management Principles Followed





# Hi-Torque Drive. Shock Absorbing. Zero Backlash.

## Steel Flexible Couplings

*TRUSTED BY MACHINERY OEMs OF Industrial Pump, Diesel Engine, Crane, Turbine, Crusher, Mixer SINCE 1988*

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### HIC International Co Inc

D-136, Shankar Road

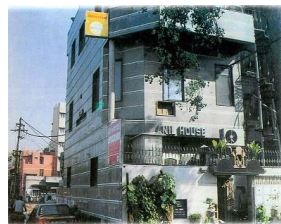
New Delhi 110060 India | Asia

**Phone:** + 91 (011) 2874 5120, 6547 2400, 3296 1400

**Fax:** 009111 28742791

**E-mail:** [universal@hic-india.com](mailto:universal@hic-india.com), [belts@universaldelhi.org](mailto:belts@universaldelhi.org)

**Contact Person:** Mr Anil Gupta - President, Ms Priyum - Exports Head



*HIC India Headquarters*

**Vendor Data:** [www.hic-india.com](http://www.hic-india.com) | **Customers List:** [www.universaldelhi.org](http://www.universaldelhi.org) | **Catalogue:** [www.rubber-steel-industrial-products.com](http://www.rubber-steel-industrial-products.com)

