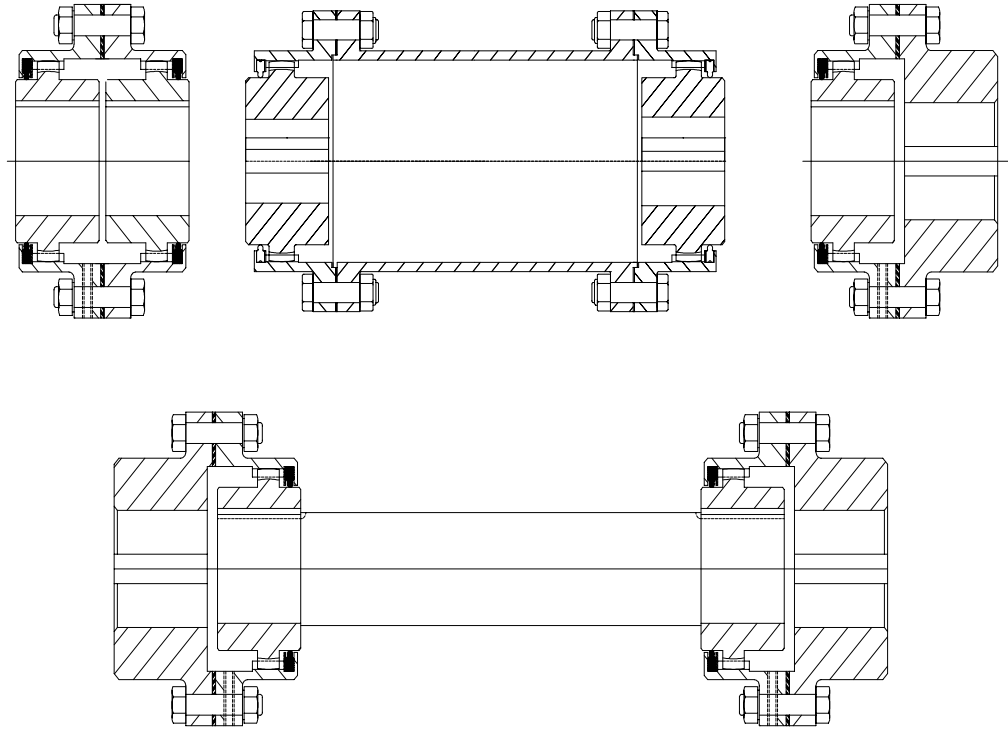


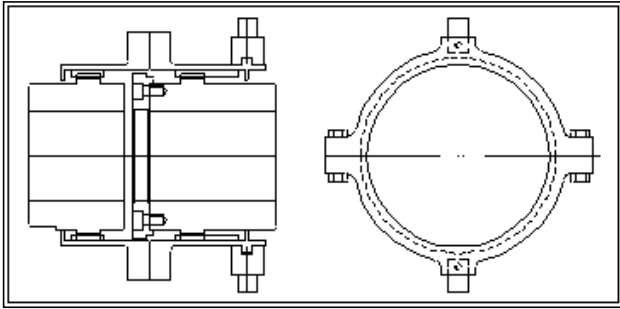
Unique GX Gear Couplings



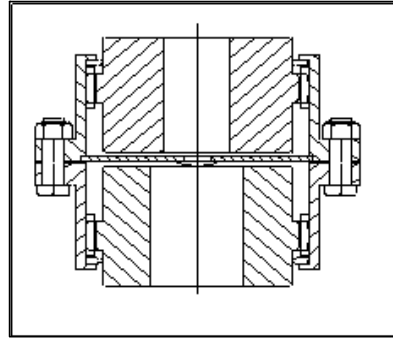
- Teeth Curved as well as bared
- Improved Seals – Perform much better than O rings
- Full Teeth engagement – Reduces uneven wear
- Piloting on Teeth OD – Ensures better dynamic balance
- Higher Bore capacities
- Compact
- Wide Range – Full Gear , Semi Gear , Spacer Couplings
- Full Floating & Semi Floating Shafts

Unique Transmission (India) Pvt Ltd

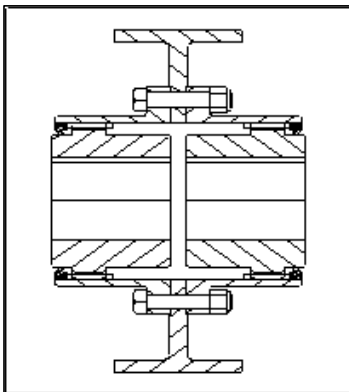
Mercantile Building , 3rd Floor , 10/1D Lal Bazar Street , Calcutta 700001
Phone – 91-33-2200366 , 2480231,2480433 , Fax 91-33-2206593
Delhi Branch office 35-36 Nehru Place N Delhi 110019 , Ph 91-11-6422983



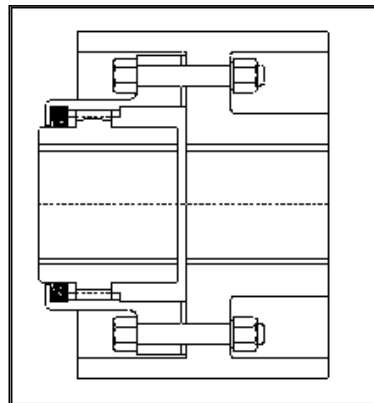
Gear Coupling with sliding arrangement for clutching/declutching.



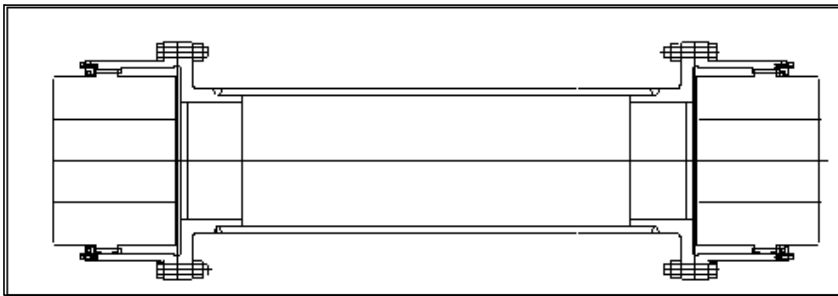
Gear coupling for Vertical application with central button. Ensures flexibility in all directions



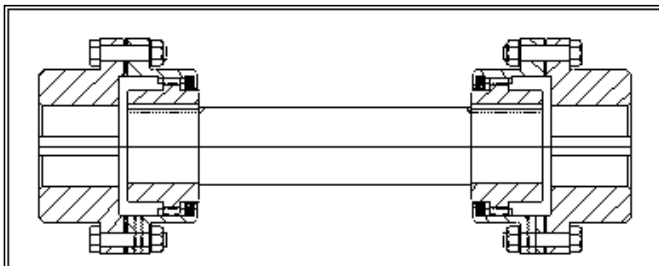
Full Gear coupling with Brake Drum



Half Gear Coupling with Brake Drum



Floating Shaft Gear Coupling - with tubular spacer shaft



**Floating Shaft Coupling with solid spacer shaft
2 no Semi Gear Coupling joined by solid shaft**

Selection Procedure Unique Gear Coupling

Step 1- Tentatively select coupling considering driving & driven shaft dia

Step 2- Determine required HP/100 RPM rating as follows :

$$\text{Required HP/100 rpm} = P \cdot 100 \cdot \text{SF} / N$$

Where P is primemover Power in HP , SF is service factor

N is operating RPM

Step 3 – if selected coupling by step 1 has HP/100 RPM > required HP/100 rpm , selection is OK . Otherwise select higher size coupling with adequate HP/100 rpm rating.

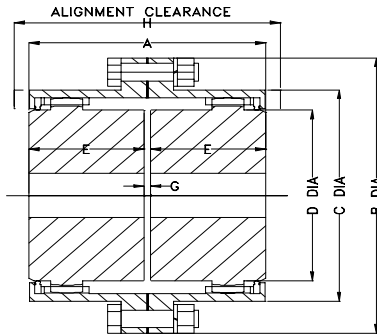
Step 4 – finally check operating rpm is less than maximum permissible rpm.

Service Factors

Duty		Type of Prime Mover		
Load	Driven Equipment	Motor/ turbine	Hydraulic	Recipro- cating engine
Uniform	Centrifugal Pumps - uniform load Conveyors-uniform load , Fans & Blowers- light duty, Exciters , Generators- uniform load , Mixers-liquid	1.0	1.25	1.50
Light Shock	Centrifugal pimps – pulsating loads Generators- pulsating load, kilns Grinders , Hydraulic Pumps , Line Shafting , Machine tools , Textile Machinery	1.50	1.75	2.0
Medium Shock	Rec. Air Compressors- multi cylinder Ball & Rod Mills , Cranes , Elevators , Hoists , Punch Press, REC Pumps , Shears ,Deck Machinery , Welding Generator	2.0	2.25	2.5
Heavy Shock	Air Compressor – 1 cylinder , Dredges ,Drilling rigs , Mine Machinery , Rolling Mill Drive , Rubber Mixer	2.5	2.75	3.0
Extreme Shock	Ore Crushers , Vibrating Conveyors , Bar stock Shear	3.0	3.5	4.0

For speeds less than 100 RPM , Service factprs may be reduced – Consult Unique

Unique GX Gear Coupling upto Size G420



- * Curved Teeth for Reduced wear
- * Piloted on Teeth OD for better Dynamic Balance
- * Compact
- * Higher Bore Capacity
- * Higher Ratings.

Size	HP/100 RPM	Nom Torque NM	Peak Torque Nm	Max Speed RPM	Max Bore MM	A MM	B Dia MM	C Dia MM	D Dia MM	E MM	G Dia MM	H MM
G115	10	710	1420	10000	42	87	115	85	60	42	3	105
G150	24	1710	3420	7400	55	103	150	106	78	50	3	120
G180	50	3560	5800	5900	70	127	180	132	100	62	3	150
G195	65	4630	7730	5600	80	127	195	145	113	75	5	150
G 210	90	6410	10700	5000	90	165	210	160	126	80	5	180
G 240	150	10685	16400	4300	100	185	240	180	140	90	5	205
G 250	185	13180	21100	4300	110	185	250	192	155	90	5	205
G 290	230	16380	25200	3900	125	226	290	212	170	110	6	238
G 320	428	30500	45750	3500	140	246	320	240	190	120	6	305
G 350	587	41800	62700	3200	165	278	350	270	216	135	8	360
G 390	793	56500	84750	2900	180	318	390	295	240	155	8	385
G 420	1032	73500	116000	2700	200	348	420	325	265	170	8	420

Size	Pilot Bore mm	Wt Kg	MR ² KgM ²	Max Misalignment			Grease Reqd Kg	Bolt Toghtening Torque NM
				Parallel MM	Ang Deg	Axial +-MM		

G115	15	4.0	0.006	1.1	1.5	6	0.06	9
G150	15	8.6	0.019	1.3	1.5	6	0.11	40
G180	20	15.5	0.043	1.7	1.5	6	0.16	70
G195	30	19.0	0.062	1.7	1.5	6	0.20	70
G 210	40	24.5	0.100	2.1	1.5	10	0.30	70
G 240	40	36	0.192	2.4	1.5	10	0.45	180
G 250	40	42	0.250	2.4	1.5	10	0.50	180
G 290	50	59	0.435	3.0	1.5	12	0.56	350
G 320	50	84	0.90	4.0	1.5	12	0.9	350
G 350	50	116	1.41	4.5	1.5	16	1.6	350
G 390	60	170	2.70	5.0	1.5	16	2.1	600
G 420	75	220	4.00	5.5	1.5	16	3.0	600

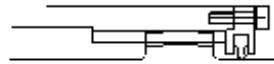
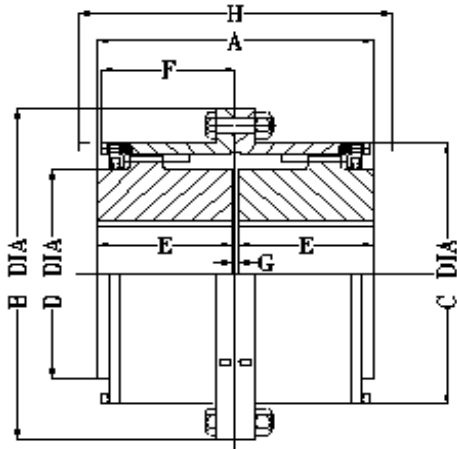
Mass and Inertia MR² are at pilot bore. Limited End Float , Extra end Float on request
Dimension H is alignment Clearance.

Unique Transmission (India) Pvt Ltd

Page 4

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35-36 Nehru Place , New Delhi 110019 , Fax 91-11-6472188 a/c Unique Ph 91-11-6404125/26/27

UNIQUE GX GEAR COUPLING - LARGE SIZES



SEALING DETAIL

- * CURVED TEETH FOR REDUCED WEAR
- * PILOTED ON TOOTH OD FOR BETTER DYNAMIC BALANCE
- * COMPACT
- * HIGHER BORE CAPACITY
- * HIGHER RATINGS

SIZE	HP/100 RPM	NOM TORQUE NM	PEAK TORQUE NM	MAX SPEED RPM	MAX BORE MM	A MM	B DIA MM	C DIA MM	D DIA MM	E MM	F MM
G-4600	1560	111000	222000	2400	220	388	460	377	298	190	190
G-4900	1770	126000	252000	2270	240	408	490	390	310	200	190
G-5300	1985	141500	283000	2100	270	450	530	440	355	220	195
G-5900	3650	260000	488000	1900	300	570	590	490	400	280	225
G-6400	4070	290000	580000	1800	325	597	640	518	432	292	234
G-6850	5190	370000	740000	1500	360	623	685	562	480	305	251
G-7400	6315	450000	900000	1400	400	673	740	620	530	330	269
G-8050	7860	560000	1120000	1300	450	713	805	682	594	350	283
G-8400	10100	720000	1260000	1250	470	713	840	715	625	350	283

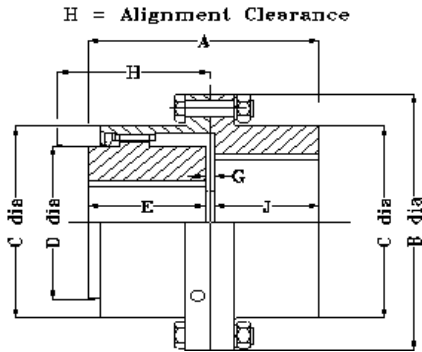
SIZE	PILOT BORE MM	H MM	WT KG	MR ² KGM ²	K BOLT QTY* DIA	MAX PAR MM	MISALIGNMENT ANG DEG	AXIAL +- MM	GREASE REQD KG	BOLT TORQUE NM
G-4600	120	520	260	5	14*25	1.5	2*0.75	8	2.5	960
G-4900	120	520	310	7	14*25	1.6	2*0.75	10	3	960
G-5300	150	530	375	9.5	16*25	1.7	2*0.75	10	3.7	960
G-5900	180	635	590	20	20*25	2	2*0.75	10	6.5	960
G-6400	200	673	760	31	18*32	2.1	2*0.75	13	7.6	1930
G-6850	220	700	950	45	24*32	2.3	2*0.75	13	11	1930
G-7400	260	750	1190	68	28*32	2.5	2*0.75	13	12	1930
G-8050	280	800	1540	105	30*32	2.7	2*0.75	13	16	1930
G-8400	300	800	1750	141	32*32	2.8	2*0.75	13	18	1930

MASS AND INERTIA ARE AT PILOT BORE. LIMITED END FLOAT ON REQUEST. DIMENSION H IS ALIGNMENT CLEARANCE.
HIGHER SPEEDS ON REQUEST

UNIQUE TRANSMISSION I PVT LTD

Head Office - 10/1D LALBAZAR STREET ,CALCUTTA 700001:FAX:2206593:PHONE:22200366,22480231,22480433
Delhi Branch - 35-36 NEHRU PLACE,2ND FLOOR,N.DELHI-110019: tel 011-51616841

Unique GX Semi Gear Coupling - Upto size SG420



- * Curved teeth for reduced wear
- * Piloted on tooth OD for better Dynamic Balance
- * Compact
- * Higher Bore Capacity
- * Higher ratings

Size	HP/100 RPM	Nominal Torque Nm	Peak Torque Nm	Max Speed RPM	Max Bore Gear mm	Max Bore rigid mm	A mm	B Dia mm	C Dia mm	D Dia mm	E mm	G mm
SG 115	10	710	1420	10000	42	60	87	115	85	60	42	3
SG 150	24	1710	3420	7400	55	75	103	150	106	78	50	3
SG 180	50	3560	5800	5900	70	90	127	180	132	100	62	3
SG 195	65	4630	7730	5600	80	100	127	195	145	113	75	5
SG210	90	6410	10700	5000	90	110	165	210	160	126	80	5
SG 240	150	10685	16400	4300	100	125	185	240	180	140	90	5
SG 250	185	13180	21100	4300	110	140	185	250	192	155	90	5
SG 290	230	16380	25200	3900	125	150	226	290	212	170	110	6
SG 320	428	30500	45750	3500	140	160	246	320	240	190	120	6
SG 350	587	41800	62700	3200	165	185	278	350	270	216	135	8
SG 390	793	56500	84750	2900	180	205	318	390	295	240	155	8
SG 420	1032	73500	116000	2700	200	230	348	420	325	265	170	8

Size	Pilot Bore mm	H mm	J mm	Weight Kg	MR ² Kg.m ²	Max Misalignment Parallel mm	Max Misalignment Angular degree	Axial +- mm	Grease required Kg	Bolt Torque Nm
SG 115	15	53	39	4	0.006	1.1	1.5	3	0.03	9
SG 150	15	60	47	8.6	0.019	1.3	1.5	3	0.06	40
SG 180	20	75	57	15.5	0.043	1.7	1.5	3	0.08	70
SG 195	20	75	57	19	0.062	1.7	1.5	3	0.1	70
SG210	30	90	74	24.5	0.1	2.1	1.5	5	0.15	70
SG 240	40	103	85	36	0.192	2.4	1.5	5	0.23	180
SG 250	40	103	85	42	0.25	2.4	1.5	5	0.24	180
SG 290	50	119	98	59	0.435	3	1.5	6	0.26	350
SG 320	50	152	113	84	0.9	4	1.5	6	0.45	350
SG 350	50	180	127	116	1.41	4.5	1.5	8	0.8	350
SG 390	60	192	146	170	2.7	5	1.5	8	1.1	600
SG 420	75	210	155	220	4	5.5	1.5	8	1.5	600

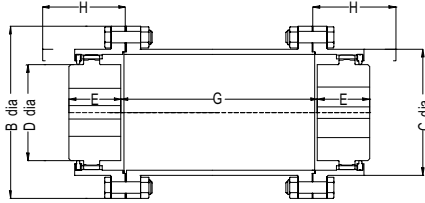
Mass and Inertia are at pilot bore. Limited end float on request.

H is alignment clearance

Unique Transmission (India) Pvt Ltd

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 35-36 Nehru Place , 2nd Floor , N. Delhi - 110019: PHONE: 91-11-6422983

Unique GX Spacer Gear Coupling



- * Curved Teeth for reduced wear
- * Piloted on tooth OD for better dynamic balance
- * Compact
- * Higher Bore capacity
- * Higher Ratings

SIZE	HP/100 RPM	Nominal Torque Nm	Peak Torque Nm	Max Speed RPM	Max Bore mm	B Dia mm	C Dia mm	D Dia mm	E mm	<-----G-----> mm			H mm
SP 115	10	710	1420	10000	42	115	85	60	42	100	140	180	53
SP 150	24	1710	3420	7400	55	150	106	78	50	100	180	250	60
SP 180	50	3560	5800	5900	70	180	132	100	62	140	180	250	75
SP 195	65	4630	7730	5600	80	195	145	113	75	140	180	250	75
SP 210	90	6410	10700	5000	90	210	160	126	80	140	180	250	90
SP 240	150	10685	16400	4300	100	240	180	140	90	140	180	250	103
SP 250	185	13180	21100	4300	112	250	192	155	90	140	180	250	103
SP 290	230	16380	25200	3900	125	290	212	170	110	140	180	250	119
SP 320	428	30500	45750	3500	140	320	240	190	120	180	250	300	152
SP 350	587	41800	62700	3200	165	350	270	216	135	180	250	300	180
SP 390	793	56500	84750	2900	180	390	295	240	155	180	250	300	192
SP 420	1032	73500	116000	2700	200	420	325	265	170	180	250	300	210
SP 4600 & Larger Sizes - Data on Request													

Size	Pilot Bore mm	Weight KG	MR ² Kg.m ²	Max Misalignment Axial +- mm	Misalignment Ang Deg	Grease reqd Kg	Bolt Torque Nm	Weight Change per cm Kg/cm	MR ² Change per cm KgM ² /cm
SP 115	15	6	0.009	6	1.5	0.06	9	0.08	0.0001
SP 150	15	12.6	0.033	6	1.5	0.11	40	0.14	0.0003
SP 180	20	20.8	0.076	6	1.5	0.16	70	0.22	0.0007
SP 195	20	28	0.11	6	1.5	0.2	70	0.27	0.001
SP 210	30	34.3	0.19	10	1.5	0.3	70	0.31	0.0014
SP 240	40	59.3	0.33	10	1.5	0.45	180	0.41	0.0025
SP 250	40	69.2	0.43	10	1.5	0.5	180	0.45	0.003
SP 290	50	86.3	0.82	12	1.5	0.56	350	0.55	0.0047
SP 320	50	113	1.13	12	1.5	0.9	350	0.6	0.007
SP 350	50	149	1.74	16	1.5	1.6	350	0.73	0.01
SP 390	60	217	3.33	16	1.5	2.1	600	0.96	0.017
SP 420	75	273	4.88	16	1.5	3	600	1.16	0.024
SP 4600 & Larger Sizes - Data on Request									

Mass and Inertia are at pilot bore & smallest spacer length. Dimension H is alignment Clearance
 Other spacer lengths / limited end float on request
 Special Gear couplings - spacer joining two sizes of half gear coupling - on request

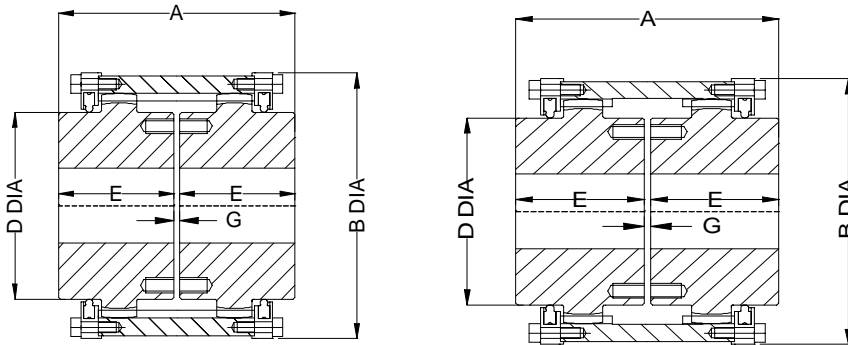
Unique Transmission (India) Pvt Ltd

10/D Lal Bazar Street ,Calcutta 700001

Tel No - 91-33-2200366,2480433,2480231

Fax -91-33- 2206593

Unique Sleeve Gear Coupling upto Size SL420



UPTO SIZE SL195

SIZE SL210 & LARGER

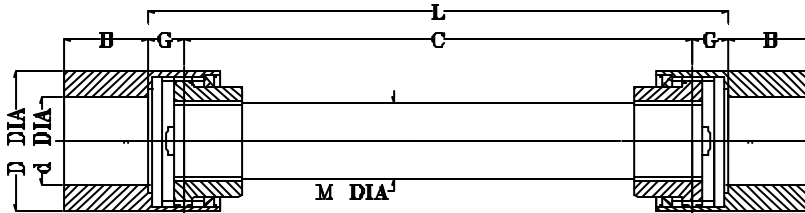
Size	HP/100 RPM	Nom Torque NM	Peak Torque Nm	Max Speed RPM	Max Bore MM	A MM	B Dia MM	D Dia MM	E MM	G MM
SL100	12	855	1710	10000	40	87	82	57	42	3
SL100M	12	855	1710	10000	42	87	85	60	42	3
SL150	24	1710	3420	7400	55	103	120	78	50	3
SL180	50	3560	5800	5900	70	127	140	100	62	3
SL195	65	4630	7730	5600	80	127	160	113	75	5
SL210	90	6410	10700	5000	90	165	175	126	80	5
SL240	150	10685	16400	4300	100	185	195	140	90	5
SL250	185	13180	21100	4300	110	185	210	155	90	5
SL290	230	16380	25200	3900	125	226	240	170	110	6
SL320	428	30500	45750	3500	140	246	275	190	120	6
SL350	587	41800	62700	3200	165	278	300	216	135	8
SL390	793	56500	84750	2900	180	318	330	240	155	8
SL420	1032	73500	116000	2700	200	348	360	265	170	8

Size	Pilot	Wt Kg	MR ² KgM ²	Max Misalignment			Grease Reqd Kg
	Bore mm			Parallel MM	Ang Deg	Axial +-MM	
SL100	15	3.0	0.003	0.8	1.5	3	0.05
SL100M	15	3.2	0.004	0.8	1.5	3	0.06
SL150	15	7.7	0.014	0.9	1.5	3	0.11
SL180	20	14.0	0.034	1.1	1.5	3	0.16
SL195	30	17.0	0.054	1.2	1.5	5	0.20
SL210	40	22.0	0.084	1.4	1.5	5	0.30
SL240	40	32	0.152	1.6	1.5	5	0.45
SL250	40	37	0.203	1.7	1.5	5	0.50
SL290	50	53	0.380	1.8	1.5	6	0.56
SL320	50	75	0.71	2.0	1.5	6	0.9
SL350	50	104	1.16	2.4	1.5	8	1.6
SL390	60	153	2.10	2.8	1.5	8	2.1
SL420	75	198	3.20	3.0	1.5	8	3.0

Mass and Inertia MR² are at pilot bore. Limited End Float , Extra end Float on request
Dimension H is alignment Clearance.

Unique Transmission (India) Pvt Ltd

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UNIQUE SPINDLE GEAR COUPLING

SIZE	DIA , D MM	Nominal Torque Rating NM	Peak Torque Rating Nm	DIA ,M MM	MAX BORE , d MM	C (MIN) CENTRES MM	G MM	B MM	L WITH MIN C MM
85	85	710	1420	40	60	95	16	50	127
110	110	1710	3420	50	70	116	20	60	156
135	135	3560	5800	65	90	142	25	75	192
160	160	6410	10700	75	105	164	30	90	224
180	180	10685	16400	85	125	190	35	100	260
195	195	13180	21100	90	130	202	35	110	272
215	215	16380	25200	100	145	222	35	120	292
240	240	30500	45750	120	165	250	40	130	330
270	270	41800	62700	130	190	280	40	140	360
295	295	56500	84750	145	205	305	45	160	395
325	325	73500	116000	160	225	335	45	180	425
360	360	111000	222000	185	250	360	50	200	460
420	420	141500	283000	200	290	400	50	230	500

SIZE	WEIGHT AT MIN C KG	WEIGHT CHANGE PER 100 MM OF C KG	MR ² AT MIN C KG.M ²	MR ² CHANGE PER 100 MM OF C KG.M ²	MAX MIS- ALIGNMENT ANGULAR DEGREE
85	7	1.00	0.008	0.0002	1.5
110	12	1.86	0.021	0.0007	1.5
135	24	2.60	0.070	0.0014	1.5
160	38	3.47	0.144	0.0024	1.5
180	55	4.45	0.27	0.0040	1.5
195	68	5.00	0.37	0.0062	1.5
215	90	6.16	0.60	0.0077	1.5
240	120	8.88	1.00	0.0160	1.5
270	170	11.23	1.80	0.0256	1.5
295	230	13.00	2.90	0.0342	1.5
325	310	15.80	4.70	0.0505	1.5
360	410	21.10	7.70	0.0902	1.5
420	625	24.70	16.00	0.1234	1.5

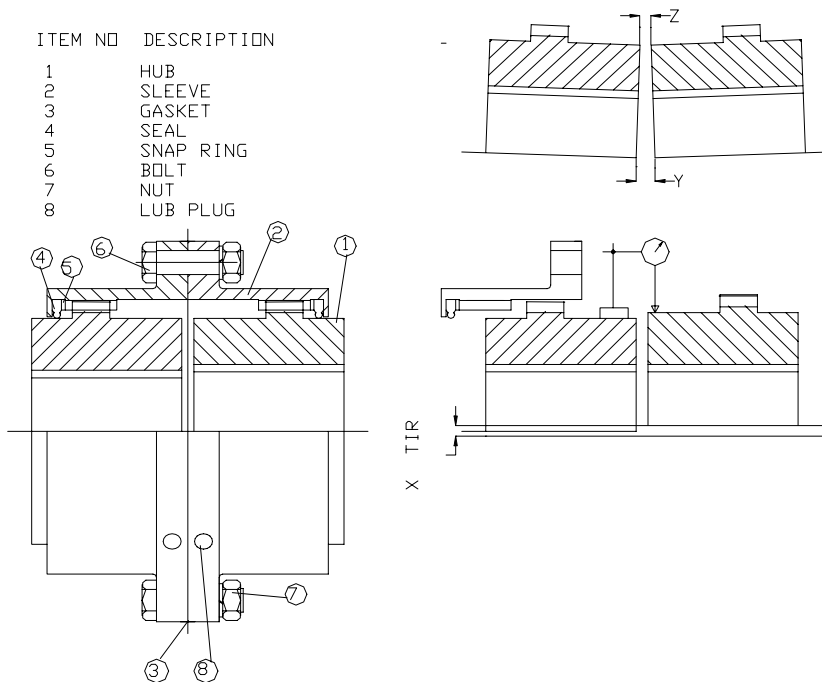
NOTE - WEIGHT AND INERTIA ARE WITH MINIMUM C AND MAX BORE.
 SHAFT DIA M MAY BE CHANGED TO SUIT OPERATING SPEED
 REQUIRED LENGTH CAN BE SUPPLIED.HUB LENGTHS CAN BE CHANGED
 TO SUIT CUSTOMER REQUIREMENT.

UNIQUE TRANSMISSION I PVT LTD
 10/ID LAL BAZAR STREET ,CALCUTTA 700001
 TEL NO - 2200366,2480433,2480231 FAX -2200366,TLX 0217187

Operation & Maintenance - Unique Gear Coupling

Assembly

- 1.1 - Ensure all parts are clean
- 1.2 - Apply light coat of grease to the seals
- 1.3 - Place sleeves over shaft ends - taking care that seals are not damaged.
- 1.4- Install hubs on respective shafts .Hub face should be normally flush with shaft ends. In case of doubt consult us .Hubs may be heated in oil upto 200 deg C . In no case these should be hammered in.
- 1.5 - Install the units in place and check gap G between shaft ends. Gap should be as per catalogue - may vary as follows from catalogue.
 for sizes up to G 180 + - 1 mm.
 for sizes G 215 to G 320 gap may vary + - 2 mm
 for larger sizes gap may vary + - 3 mm from catalogue
- 1.6 - Align the two shafts .Alignment should be within these limits



Size	Upto 500 rpm		Upto 1500 rpm		Upto 3000 rpm	
	X max TIR mm	Y-Z mm	X max TIR mm	Y-Z mm	X max TIR mm	Y-Z mm
Upto G210	0.25	0.25	0.15	0.20	0.08	0.10
Upto G390	0.50	0.60	0.15	0.20	0.08	0.10
> G390	0.50	0.75	0.15	0.20		

For higher speeds consult Unique

For Unique SP Spacer Gear Couplings , Parallel misalignment should be within 25 % of catalogue figures

- 1.7 - Coat hub & sleeve gearings with grease & slide sleeves over hubs.
 - 1.8 - Insert gasket & bolts, tighten uniformly to torque as per catalogue
 - 1.9 - Remove lube plugs . and fill with lithium base grease suitable for temperatures upto 100 deg C. Grease Indian Oil Servogem -EP1 or equivalent.
- For heavy duties grease with MOS2 should be used for reduced wear.

2 . Maintenance

Every 3000 hours - Grease as per 1.9 above.

3. Disassembly & Inspection

Every 8000 hours or every 2 years

- 3.1 - Remove bolts & gasket
- 3.2 - If necessary remove grease and fill new grease/ do not mix two different type of greases. Change seals if required.
- 3.3 - Check alignment - rectify if beyond recommended limits.