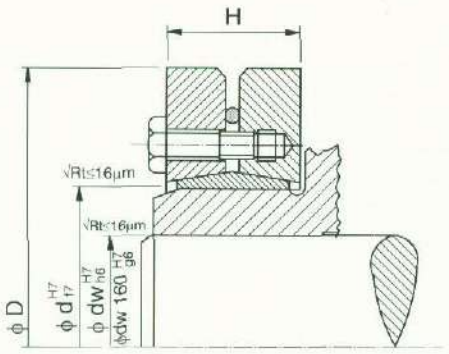
PRECISION

Shrink Disc Connection

- ☑ **High torque and axial load transmission**
  Required contact pressure between shaft and hub can be generated by using the proper number and size of screws.
- ☑ **Elimination of keys and keyways**
  Machining costs are reduced, notch effect is practically eliminated, full shaft cross section can be utilized.
- ☑ **Unaffected by fluctuating or reversing loads**
  Shrink Disc Connection is absolutely tight and free of blacklash.
- ☑ **Axial and angular adjustability**
  Precise and easy timing and positioning of the hub on the shaft.
- ☑ **This connection can be easily released by simply loosening the locking screws**
  Since the fitting tolerances are relatively large, the connection is easily broken as the hub relaxes to its original diameter. The Shrink Disc connection can be made and released as often as required.
- ☑ **Torque is transmitted directly from shaft to hub or vice versa.**
  That is in the same way as with the conventional shrink fit.
- ☑ **True running is not affected by the Shrink Disc.**
  Neither the manufacturing accuracy of the Shrink Disc nor uneven tightening of the locking screws has any effect on true running of the connection.

SHRINK DISC, SERIES 91 AND 92



EXPLANATIONS :
dw : Shaft size range (min. - max.)
Mt : Max. transmissible torque
Pax : Max. transmissible thrust
Ta : Required tightening torque per locking screw
B : Size of locking screws
Dimension H refer to relaxed condition (can be larger by approx. 5%)
H7/f7, H7/h6. H7.g6 are fit tolerances.

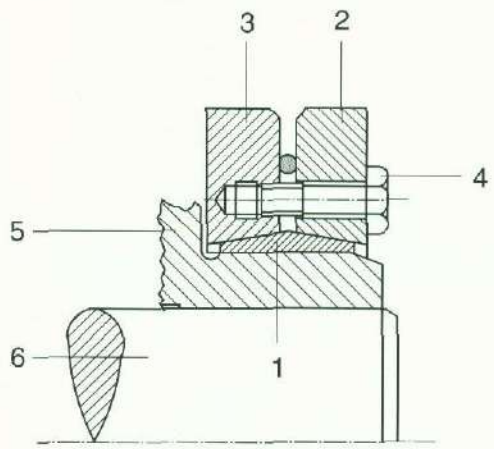
Type	d mm	dw mm	Mt Nm	Pax N	D mm	H mm	Weight kg
		19	170	17900			
24- 92	24	20	210	21000	50	18	0.2
		21	250	23800			
		24	300	25000			
30- 92	30	25	340	27200	60	20	0.3
		26	380	29200			
		28	440	31400			
36- 92	36	30	570	38000	65	22	0.4
		31	630	40650			
		34	710	41800			
44- 92	44	35	780	44600	80	24	0.6
		36	860	47800			
		38	940	49500			
50- 92	50	40	1160	58000	90	26	0.8
		42	1380	65700			
		42	1160	55300			
55- 92	55	45	1520	67600	100	29	1.1
		48	1880	78300			
		48	1750	73000			
62- 92	62	50	2000	80000	110	29	1.3
		52	2250	86500			
		50	1850	74000			
68- 92	68	55	2500	91000	115	29	1.4
		60	3150	105000			
		55	2400	87300			
75- 92	75	60	3200	106700	138	31	1.7
		65	3950	121500			
		60	3200	106700			
80- 92	80	65	3900	120000	145	31	1.9
		70	4600	131500			
		65	4750	146200			
90-92	90	70	6000	171400	155	38	3.3
		75	7250	193400			
		70	6000	171400			
100- 92	100	75	7500	200000	170	43	4.7
		80	9000	225000			
		75	7200	192000			
110- 92	110	80	9000	225000	185	49	5.9
		85	10800	254100			
		85	11000	258800			
125- 92	125	90	13000	288900	215	53	8.3
		95	15000	315800			
		95	15100	317900			
140- 91	140	100	17600	352000	230	58	10
		105	20100	382900			
		105	22000	419000			
155- 91	155	110	25000	454500	263	62	15
		115	28000	487000			
		115	31000	539000			
165- 91	165	120	35000	583000	290	68	22
		125	39000	624000			

Type	d mm	dw mm	Mt Nm	Pax N	D mm	H mm	Weight kg
		125	40000	640000			
175- 91	175	130	44000	677000	300	68	22
		135	48000	711000			
		135	55000	815000			
185- 91	185	140	60000	857000	330	85	37
		145	65000	896000			
		140	65000	928000			
195- 91	195	150	76000	1013000	350	85	41
		155	81500	1052000			
		150	78000	1040000			
200- 91	200	155	84000	1084000	350	85	41
		160	90000	1125000			
		160	100000	1250000			
220- 91	220	165	108000	1309000	370	103	54
		170	116000	1365000			
		170	120000	1412000			
240- 91	240	180	138000	1533000	405	107	67
		190	156000	1642000			
		190	164000	1726000			
260- 91	260	200	184000	1840000	430	119	82
		210	204000	1943000			
		210	217000	2062000			
280- 91	280	220	245000	2227000	460	132	102
		230	273000	2374000			
		230	262000	2278000			
300- 91	300	240	293000	2442000	485	140	118
		245	308000	2514000			
		240	306000	2550000			
320- 91	320	250	340000	2720000	520	140	131
		260	374000	2877000			
		250	394000	3152000			
340- 91	340	260	430000	3308000	570	155	186
		270	466000	3452000			
		270	458000	3393000			
350- 91	350	280	500000	3572000	590	159	204
		285	521000	3656000			
		280	507000	3622000			
360- 91	360	290	550000	3793000	590	159	204
		295	572000	3878000			
		290	590000	4069000			
380- 91	380	300	640000	4267000	645	163	239
		310	690000	4452000			
		300	660000	4900000			
390- 91	390	310	710000	4580000	660	163	260
		320	760000	4750000			
		330	780000	4727000			
420- 91	420	340	840000	4940000	690	184	316
		350	900000	5143000			
		340	890000	5235000			
440- 91	440	350	960000	5486000	750	192	408
		360	1030000	5722000			
		360	1000000	5556000			
460- 91	460	370	1070000	5784000	770	192	420
		380	1140000	6000000			
		380	1200000	6316000			
480- 91	480	390	1270000	6513000	800	213	505
		400	1340000	6700000			
		400	1440000	7200000			
500- 91	500	410	1520000	7415000	850	213	575
		420	1600000	7619000			

INSTALLATION

1. The contact area for the Shrink Disc on the hub extension has to be cleaned and greased.
2. Distance pieces which have been used for shipping purposes only must be removed.
3. Do not tighten screws before the Shrink Disc is positioned on the hub extension.
4. Before the Shrink Disc and hub are positioned on the shaft, do not start to tighten the screws. Otherwise deformations may occur.
5. For easy positioning the contact surfaces of the shaft and hub (dia. d_w) should be oiled. (On these surfaces no MoS_2 should be used.)
6. Before final tightening of the screws both thrust rings should be squarely positioned by preloading the locking screws.
7. Finally the locking screws have to be tightened clockwise (not in a diametrically opposite sequence). The screws have to be tightened in two, three or more stages up to the indicated tightening torque T_A.

1 - Inner ring
2 - Front thrust ring
3 - Rear thrust ring
4 - Locking Screw
5 - Hub
6 - Shaft



Tightening Torques for Bolts

Bolt Size	M5	M6	M8	M10	M12	M16	M20	M24	M24
TA (Nm)	4	12	30	59	100	250	490	840	1250

REMOVAL

1. For dismantling the screws should be released clockwise in several stages to avoid tilting of the thrust rings. Under no circumstances the locking screws should be taken out of the threads, as due to pretensioning the Shrink Disc could jump apart.
2. The shaft can be taken out of the hub i.e. the hub can be withdrawn from the shaft. For easier dismantling the shaft should be cleaned and oiled.
3. The Shrink Disc can now be removed from the hub extension.

CLEANING AND RE- LUBRICATION

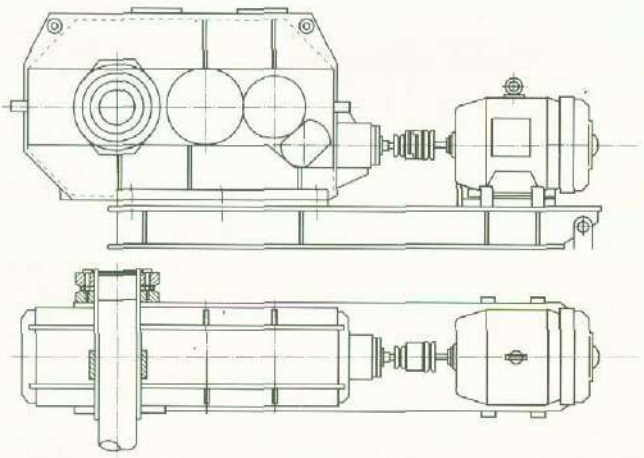
After having been in use Shrink Discs should dismantled and cleaned. The cones have been lubricated with greases containing MoS_2 (e.g. Molykote G Rapid). If the working surfaces are not damaged, they have to be relubricated with Molykote BR 2. Also the screws (threads and contact areas for the heads) have to be lubricated with Molykote BR 2.

Technical Assistance

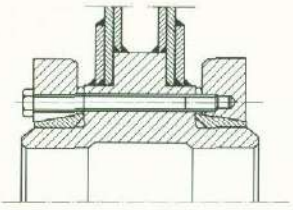
Please let us know what your specific shaft- hub connection problems are and we shall be very happy to work out detailed recommendations without any obligation. Just a sketch with your requirements and specifications, including following information :

a Maximum torque and axial load to be transmitted
b Shaft diameter (dw)
c Shaft speed
d Grade of shaft and hub material
e Operating temperature

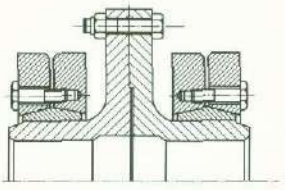
APPLICATIONS



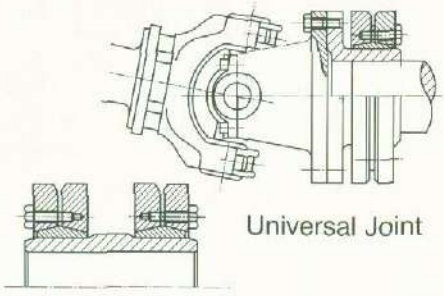
Shrink - Disc Connection of hollow gear shaft and a motor mounted on a swinging arm.



Fastening of a large gear by a divided Shrink - Disc

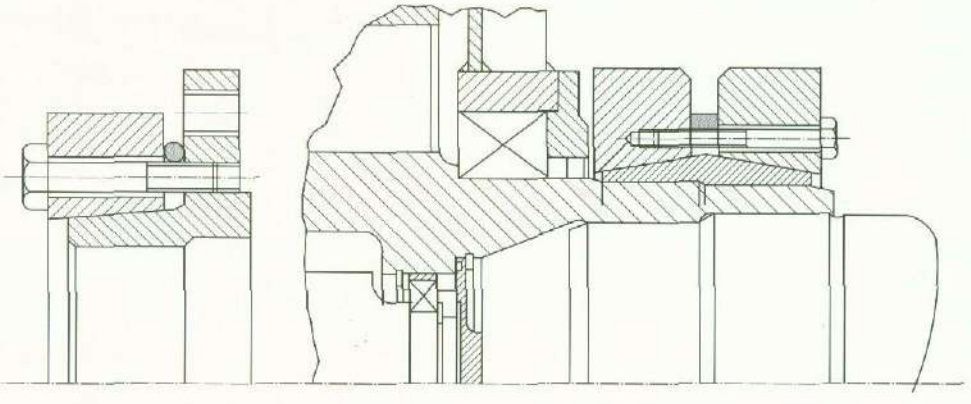


Flange Couplings



Universal Joint

Drive Shaft Joint



Fastening of a shaft mounted speed reducer on a hollow shaft

PRECISION

TRANSMATIC DEVICES PVT. LTD.

B-48, OLD MIDC, SATARA 415 004
INDIA
TEL : 02162 + 44454, 46245 FAX : 02162 + 44204

SEAGULL COMPUTERS, PUNE, PH 474210