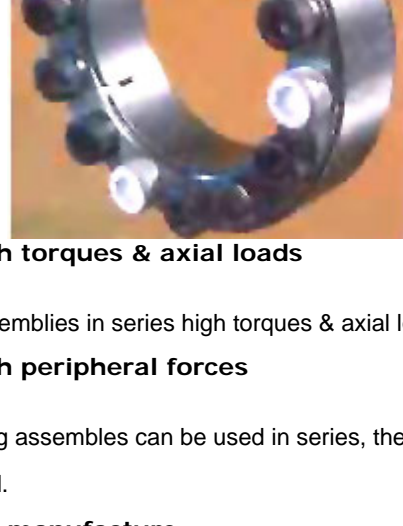


LOCK ASSEMBLIES



Transmission of high torques & axial loads

Using several locking assemblies in series high torques & axial loads can be transmitted.

Transmission of high peripheral forces

Several GSN 7012 locking assemblies can be used in series, the transmissible torques and axial loads are added.

Economics & simple manufacture

Key & keyway machining costs are reduced.

Infinitely adjustable

Bosses and hubs can therefore be located and locked at any point of the shaft.

Unlimited application range

GSN 7012 lockin assemblies are most suitable for securing all types of bosses and hubs on shaft and axles they efficiently replace shrink fits, key and polygon connections, splined shafts etc. These locking assemblies are used for the connection of gearwheels, cahn sprockets, cams, cam plates, belt pulleys, brake drums, flywheels, couplings and clutches, shaft mounted gearing, flanges, track wheels, impellers, ship and aircraft propellers etc.

Perfect true running

Forming a frictional lock connection, GSN 7012 locking assemblies have absolutely no play.

High fatigue strength under alternating torsional stress

Neither shaft nor hub have keyways. Thus notch effect is minimized and a high polar section modulus is at the disposal of the designer.

Easy mounting :

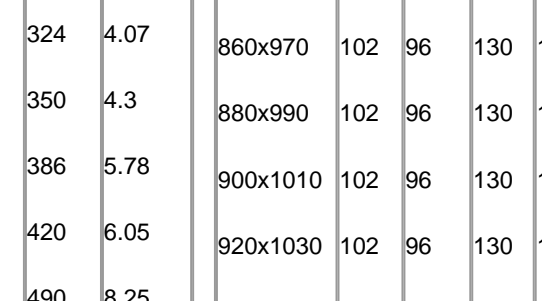
Mounting is easy, machining or fitting work is not required.

East removal :

Release the locking screws, and the GSN 7012 lacking assemblies can be removed.

Freedom from wear :

Having no moving parts, GSN 7012 locking assemblies can be tightened and released as often as required.



Locking Assemblies Dimensions		Transmissible Torques Axial Forces		Weight		
d x D mm	L mm	i mm	T Nm	Fax kN	kg	
20x47	20	17	27.5	270	27	0.24
22x47	20	17	27.5	300	27	0.23
24x50	20	17	27.5	360	30	0.26
25x50	20	17	27.5	380	30	0.25
28x55	20	17	27.5	470	33	0.3
30x55	20	17	27.5	500	33	0.29
32x60	20	17	27.5	630	40	0.34
35x60	20	17	27.5	700	40	0.32
38x65	20	17	27.5	870	46	0.36
40x65	20	17	27.5	920	46	0.34
42x75	24	20	33.5	1500	72	0.6
45x75	24	20	33.5	1650	72	0.57
48x80	24	20	33.5	1700	71	0.62
50x80	24	20	33.5	1770	71	0.6
55x85	24	20	33.5	2270	83	0.63
60x90	24	20	33.5	2470	83	0.69
65x95	24	20	33.5	3040	93	0.73
70x110	28	24	39.5	4600	132	1.26
75x115	28	24	39.5	4900	131	1.33
80x120	28	24	39.5	5200	131	1.4
85x125	28	24	39.5	6300	148	1.49
90x130	28	24	39.5	6600	147	1.53
95x135	28	24	39.5	7800	167	1.62
100x145	33	26	47	9600	192	2.01
110x155	33	26	47	10500	191	2.15
120x165	33	26	47	13100	218	2.35
130x160	38	34	52	17600	272	3.51
140x190	38	34	52	20900	196	3.85
150x200	38	34	52	24200	324	4.07
160x210	38	34	52	28000	350	4.3
170x225	44	38	60	32800	386	5.78
180x235	44	38	60	37800	420	6.05
190x250	52	46	68	46500	490	8.25
200x260	52	46	68	52500	525	8.65
220x285	56	50	74	68000	620	11.22
240x305	56	50	74	85500	715	12.2
260x325	56	50	74	104000	800	13.2
280x355	66	60	86.5	128000	915	19.2
300x375	66	60	86.5	153000	1020	20.5
320x405	78	72	100.5	210000	1310	29.6

Locking Assemblies Dimensions		Transmissible Torques Axial Forces		Weight		
d x D mm	L mm	i mm	T Nm	Fax kN	kg	
340x425	78	72	100.5	224000	1310	31.1
360x455	90	84	116	294000	1630	42.2
380x475	90	84	116	308000	1620	44
400x495	90	84	116	322000	1610	46
420x515	90	84	116	374000	1780	50
440x545	102	96	130	455000	2060	64.5
460x565	102	96	130	470000	2040	67.4
480x585	102	96	130	515000	2160	71
500x605	102	96	130	560000	2240	72.6
520x630	102	96	130	600000	3220	80
540x650	102	96	130	630000	2340	82
560x670	102	96	130	660000	2440	85
580x690	102	96	130	735000	2540	88
600x710	102	96	130	775000	2580	91
620x730	102	96	130	825000	2660	93
640x750	102	96	130	865000	2700	96
660x770	102	96	130	925000	2800	99
680x790	102	96	130	956000	2840	102
700x810	102	96	130	1030000	2960	104
720x830	102	96	130	1070000	2980	107
740x850	102	96	130	1140000	3080	110
760x870	102	96	130	1210000	3180	113
780x890	102	96	130	1250000	3220	116
800x910	102	96	130	1300000	3260	118
820x930	102	96	130	1370000	3340	121
840x950	102	96	130	1450000	3460	124
860x970	102	96	130	1520000	3540	127
880x990	102	96	130	1590000	3620	129
900x1010	102	96	130	1650000	3560	132
920x1030	102	96	130	1710000	3720	135
940x1050	102	96	130	1790000	3820	138
960x1070	102	96	130	1870000	3900	140
960x1090	102	96	130	1940000	3960	143
1000x1110	102	96	130	2000000	4000	145

FITS, SURFACES

GSN 7012 locking assemblies can bridge relatively large clearances without significant losses. All clearances between k-11 and h-11 resp. N11 and H11 are possible. However the difference between both deviation of normal dimensions should not exceed It 9 (with regard to d).

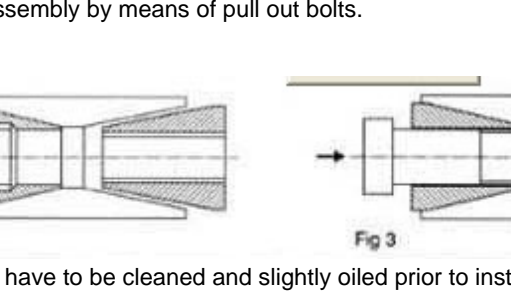
The running accuracy depends exclusively on the fit between shaft and hub bored as the claiming element has no centering effect!

The mean peak to valley height R on the pressure surfaces of shaft and hub should be Rs.5.16pm

INSTALLATION

Since the force is transmitted by contact pressure and friction between functional surfaces, condition of contact surfaces and proper tightening of the locking screws are of great importance (see point 1)

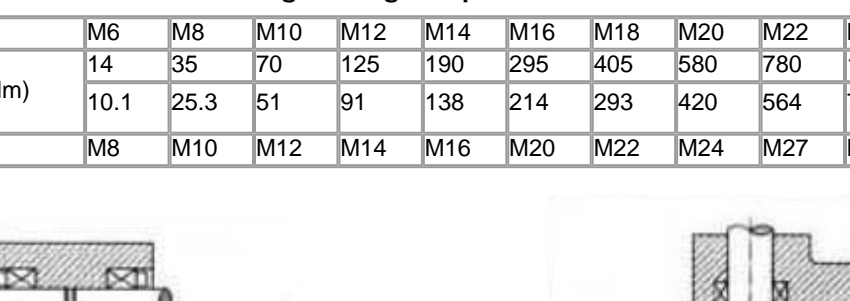
1. All contact surfaces including screw threads and screw head bearing surface, must be clean and slightly oiled. In this condition, the shaft, hub and Locking Assemblies are to be assembled.
2. Tighten locking screws lightly and along hub.
3. Tighten screws evenly in diametrically opposite sequence and do this in two or three stages up to the indicated tightening torque (T)
4. Re check lightening torque by applying it to all screws all the way around, when no screw will turn any more, the assembly is completed.



REMOVAL

1. Loosen locking screws in several stages and in diametrically opposite sequence
2. Now the loosened connection can be readjusted or dis-assembled.

If necessary, the front and rear thrust ring are to be dis-assembled as shown in fig 2 & 3 The removal threads have only 3-5 threads and are not suitable for high pulling forces. They are to be used only for removal of the Locking Assembly by means of pull out bolts.



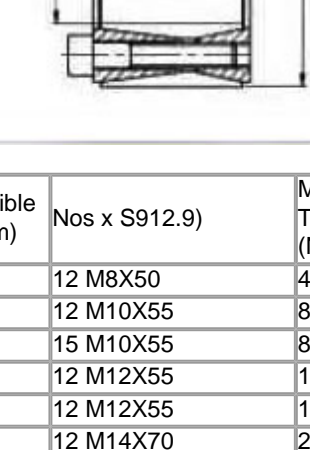
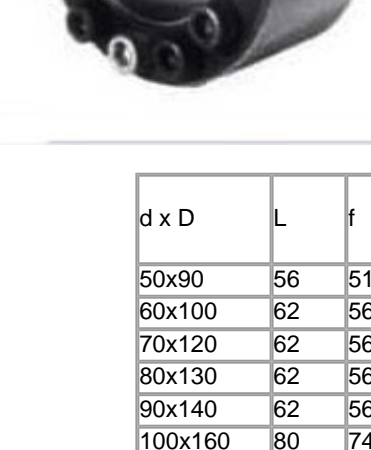
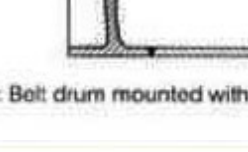
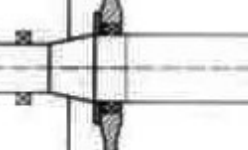
Used Locking Assemblies have to be cleaned and slightly oiled prior to installation and assembled according to fig 1 The special marked screws are to be fitted with a washer and placed in the holes of front thrust ring which have the pull out threads (d).

Important

1. Locking screws must be sufficiently oiled. Do not use oils containing Moly
2. Do not interchange components of two Locking Assemblies.

Tightening Torques for Bolts

d2	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
T (Nm)	14	35	70	125	190	295	405	580	780	1000
d2	M8	M10	M12	M14	M16	M18	M20	M22	M24	M30

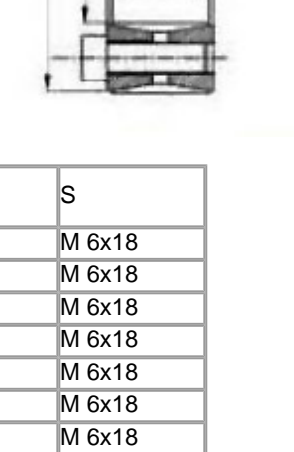


d x D	L	f	Transmissible Torque(Nm)	Nos x S912.9)	Moment of Tension (Nm)
50x90	56	51	3600	12 M8X50	41
60x100	62	56	5700	12 M10X55	83
70x120	62	56	3820	15 M10X55	83
90x130	62	56	11560	12 M12X55	145
90x140	62	56	12890	12 M12X55	145
100x160	80	74	19630	12 M14X70	230
110x170	80	74	22350	15 M14X70	230
120x180	80	74	28790	15 M14X70	230
130x190	80	74	30970	18 M14X70	230
140x200	80	74	39930	18 M14X70	230
150x210	80	74	42560	18 M14X70	230
160x230	94	88	63630	18 M16X80	355
170x240	94	88	67590	18 M16X80	355
180x250	94	88	83370	20 M16X80	355
190x260	94	88	87530	20 M16X80	355
200x270	94	88	104570	24 M18X80	355
220x300	116	110	121900	24 M18X100	485
240x320	116	110	151500	24 M18X100	485
260x340	116	110	185450	27 M18X100	485

Other sizes on request.

Dimensions/Design subject to modifications.

All Dimensions are in m.m.

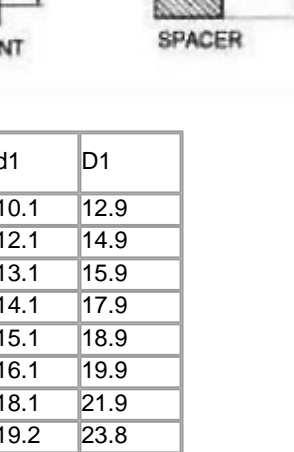


dxD	L	f	T mm	S
20x47	20.5	17.5	255	M 6x18
22x47	20.5	17.5	285	M 6x18
24x50	20.5	17.5	350	M 6x18
25x50	20.5	17.5	375	M 6x18
28x55	20.5	17.5	460	M 6x18
30x55	20.5	17.5	485	M 6x18
32x60	20.5	17.5	625	M 6x18
35x60	20.5	17.5	690	M 6x18
38x65	20.5	17.5	810	M 6x18
40x65	20.5	17.5	960	M 6x18
42x75	24.5	20.5	1490	M 8x20
45x75	24.5	20.5	1595	M 8x20
48x80	24.5	20.5	1690	M 8x20
50x80	24.5	20.5	1760	M 8x20
55x85	24.5	20.5	2260	M 8x20
60x90	24.5	20.5	2450	M 8x20
65x95	24.5	20.5	3025	M 8x20
70x110	28.5	24.5	4590	M 10x25
75x115	28.5	24.5	4885	M 10 x25

Other sizes on request.

Dimensions/Design subject to modifications.

All Dimensions are in m.m.



d x D mm	L mm	i mm	T mm	d1	D1
10x13	4.5	3.7	7	10.1	12.9
12x15	4.5	3.7	10	12.1	14.9
13x16	4.5	3.7	12.0	13.1	15.9
14x18	6.3	5.3	20.0	14.1	17.9
15x19	6.3	5.3	22.0	15.1	18.9
16x20	6.3	5.3	25.0	16.1	19.9
18x22	6.3	5.3	32.0	18.1	21.9
19x24	6.3	5.3	36	19.2	23.8
20x25	6.3	5.3	40	20.2	24.8
22x26	6.3	5.3	48	22.2	25.8
24x28	6.3	5.3	58	24.2	27.8
25x30	6.3	5.3	62	25.2	29.8
28x32	6.3	5.3	78	28.2	31.8
30x35	6.3	5.3	90	30.2	34.8
32x36	6.3	5.3	102	32.2</	