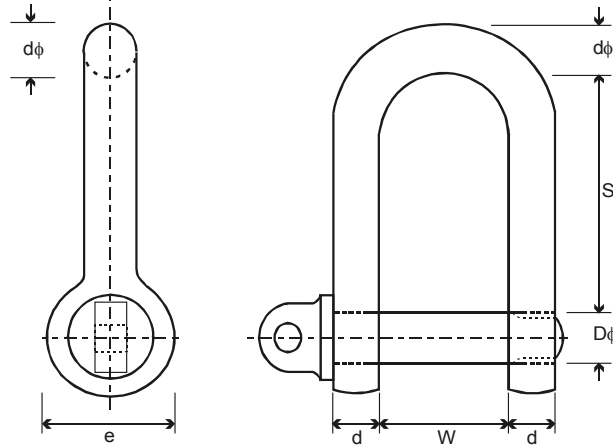


**“ DEE” Shackle IS: 6132-1971 ( Part- II )**



**DEE SHACKLE**

Jaw Inside Width	Inside Length	Body Material Diameter	Pin Diameter	Eye Outside Diameter	Safe Working Load, Tonnes			
					Grade-30	Grade-40	Grade-63	Grade-80
W	s=2.2 W	d	D <sub>min</sub>	e <sub>min</sub>				
18	40	10	12	24	----	---	1.0	----
20	44	12	14	28	----	1.0	1.25	2
22	49	14	16	32	1.0	1.25	1.6	----
25	55	16	19	38	1.25	1.6	2.0	3.25
28	62	17	20	40	1.6	2.0	2.5	----
32	70	19	22	44	2.0	2.5	3.2	4.75
34	79	22	26	52	2.5	3.2	4.0	6.5
40	88	24	28	56	3.2	4.0	5.0	8.5
45	99	27	31	62	4.0	5.0	6.3	9.5
50	110	30	35	70	5.0	6.3	8.0	12
56	124	34	39	78	6.3	8.0	10	13.5
63	139	38	44	88	8.0	10	12.5	17
70	154	43	50	100	10	12.5	16	25
80	176	48	55	110	12.5	16	20	35
90	198	54	62	124	16	20	25	42
100	220	60	69	138	20	25	32	50
107	236	66	76	152	25	32	40	65
117	258	71	82	164	32	40	50	----
130	286	79	91	182	40	50	63	83
140	308	84	97	194	50	63	80	100
153	337	93	110	220	63	80	---	----

ProofLoad = 2 x S. W. L. (upto 25 tonnes) and Proofload = 1.2 x S. W. R. + 20 (above 25 tonnes).

The Pin Diameters actually used may be based on any standard series for sizes of Bar material.

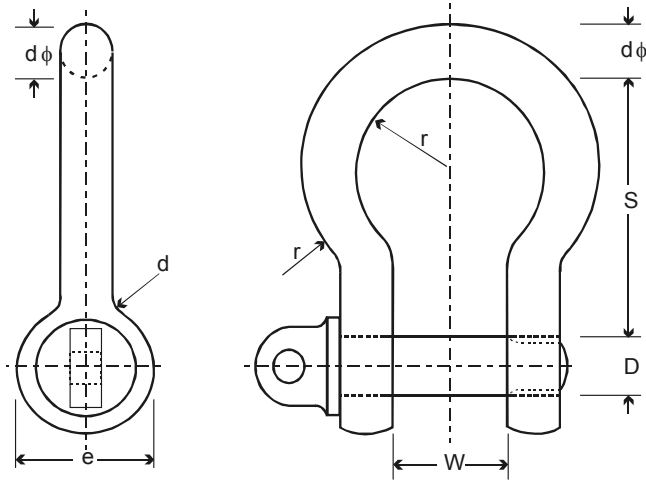
The next size above the minimum pin diameter D<sub>min</sub> as given in the table should be used.

The above shackles are hand forged by experts Blacksmiths and slight tolerance in sizes S, W and e should be permitted.

The Dimensions are for your approximate guidance only and shackle manufacture may not be necessary adhere to the above specifications.

**We also manufacture Shackles as per IS 4690 Mooring Buoy, Shackles for Stud Link Anchor Chain and Studless Link Anchor Chain and also as per client's requirements, which are not mentioned in above specifications.**

**“ BOW ” Shackle IS: 6132-1971 ( Part- III)**



**BOW SHACKLE**

Jaw Inside Width	Inside Length	Bow Dia- meter	Body Material Diameter	Pin Diameter	Eye Outside Diameter	Safe Working Load, Tonnes			
						Grade-30	Grade-40	Grade-63	Grade-80
W	s=2.5W	2r=1.7W	d	$D_{min}$	$e_{min}$				
18	45	31	11	12	24	---	---	1.0	---
20	50	34	13	14	28	---	1.0	1.25	2.0
22	55	37	14	16	32	1.0	1.25	1.6	---
25	63	42	16	19	38	1.25	1.6	2.0	3.25
28	70	48	18	20	40	1.6	2.0	2.5	---
32	80	54	20	22	44	2.0	2.5	3.2	4.75
36	90	61	23	26	52	2.5	3.2	4.0	6.5
40	100	68	25	28	56	3.2	4.0	5.0	8.5
45	110	76	28	31	62	4.0	5.0	6.3	9.5
50	125	85	32	35	70	5.0	6.3	8.0	12
56	140	95	36	39	78	6.3	8.0	10	13.5
63	155	105	40	44	88	8.0	10	12.5	17
70	175	120	45	50	100	10	12.5	16	25
80	200	135	50	55	110	12.5	16	20	35
90	225	155	58	62	124	16	20	25	42
100	250	170	63	69	138	20	25	32	50
107	270	180	68	77	154	25	32	40	65
117	295	200	75	82	164	32	40	45	83
130	325	220	85	91	182	40	45	63	---
140	350	240	88	98	196	50	63	80	100
155	390	265	95	110	220	63	80	---	---

Proof Load = 2 x S. W. L. (upto 25 tonnes) and Proof load = 1.2 x S. W. R. + 20 (above 25 tonnes).

The Pin Diameters actually used may be based on any standard series for sizes of Bar material.

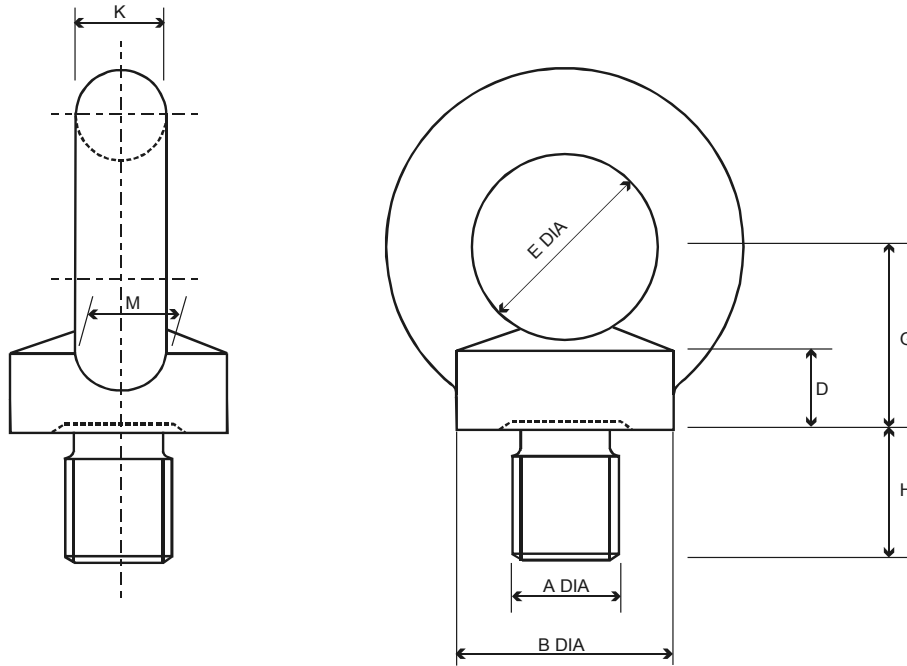
The next size above the minimum pin diameter  $D_{min}$  as given in the table should be used.

The above shackles are hand forged by experts Blacksmiths and slight tolerance in sizes S, W and e should be permitted.

The Dimensions are for your approximate guidance only and shackle manufacture may not be necessary adhere to the above specifications.

**We also manufacture Shackles as per client’s requirements, which are not mentioned in above specifications.**

**EYE BOLT IS: 4190-1967**



**FORGED EYE BOLT WITH COLLAR**

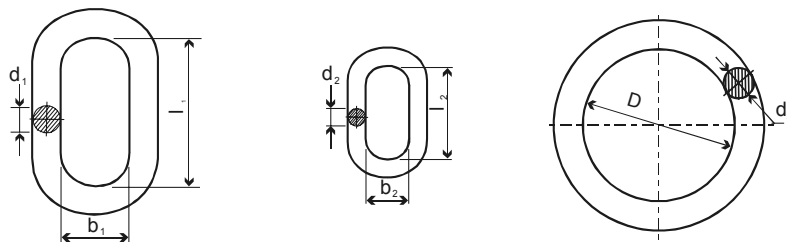
S.W.L. at Oo kg	Dia A	Coarse Pitch	B	D	E	K	G	H	M
85	8	1.25	20	6	20	8	18	12	10
150	10	1.5	25	8	25	10	22	18	12
220	12	1.75	30	10	30	12	26	22	14
380	16	2.0	35	12	35	14	30	28	16
570	20	2.5	40	14	40	16	35	30	19
810	22	2.5	45	16	45	18	40	35	21
1050	24	3.0	50	18	50	20	45	38	24
1700	30	3.5	65	22	60	24	55	45	28
2500	36	4.0	75	26	70	28	65	55	32
3400	42	4.5	85	30	80	32	75	65	38
5200	48	5.0	100	35	90	38	85	70	46
6500	56	5.5	110	38	100	42	95	80	50
8700	64		120	42	110	48	105	90	58
13000	72		150	50	140	60	130	105	72
17000	80		170	55	160	68	150	120	80
20000	100		190	60	180	75	165	130	88

The above Eye Bolts are hand forged by expert Black Smith and slight tolerance in dimensions should be permitted. The dimensions are for your approximate guidance only and manufacturer may not be necessary adhere to above specifications.

**Other threads can also be supplied to special order.**

**CHAIN SLING LINKS IS: 2760-1980**

Working Load Limit (Tonnes)				Master Link			Suspension O-Ring			Joining Link
L Gr-30	M Gr-40	S Gr-63	T Gr-80	Single Leg	Double Leg	Triple/ Four Leg	Single Leg	Double Leg	Triple/ Four Leg	
0.5	0.63	1.0	1.25	12	16	20	14	20	25	8
0.63	0.80	1.25	1.6	12	16	22	16	20	25	8
0.80	1.0	1.6	2.0	16	20	22	20	25	28	10
1.0	1.25	2.0	2.5	16	22	25	20	25	32	10
1.25	1.6	2.5	3.2	16	22	28	20	28	36	12
1.6	2.0	3.2	4.0	20	25	32	25	32	36	14
2.0	2.5	4.0	5.0	22	28	32	25	36	40	14
2.5	3.2	5.0	6.3	22	32	45	28	36	50	16
3.2	4.0	6.3	8.0	25	40	45	32	45	56	18
4.0	5.0	8.0	10	28	45	50	36	50	63	20
5.0	6.3	10	12.5	32	45	50	36	56	63	22
6.3	8.0	12.5	16	40	50	56	45	63	80	25
8.0	10	16	20	45	50	63	50	63	80	28
10	12.5	20	25	45	56	80	56	80	90	32
12.5	16	25	32	50	63	80	63	80	---	36
16	20	32	40	50	80	90	63	90	---	40
20	25	40	50	56	80	---	80	---	---	45
25	32	50	63	63	90	---	80	---	---	50



**MASTER LINK                      JOINING LINK                      SUSPENSION O-RING**

Master Link A			Joining on Intermediate Links			O-Ring	
Nomi- nal size d1	Pitch l1	Width b1	Nomi- nal size d2	Pitch l2	Width b2	Nomi- nal size d3	Inside Dia D
12	95	54	7	30	16	14	95
16	95	54	10	40	20	16	95
20	135	75	12	60	30	20	95
22	135	75	14	70	35	25	135
25	135	75	16	80	40	28	135
28	160	90	18	80	40	32	135
32	160	90	20	100	50	36	160
40	200	110	22	110	55	40	160
45	250	125	25	120	60	45	200
50	250	125	28	120	60	50	250
56	275	140	32	140	70	56	250
63	325	165	36	160	80	63	250
80	360	200	40	180	90	80	325
90	380	220	45	200	100	90	365
---	---	---	50	220	110	---	---

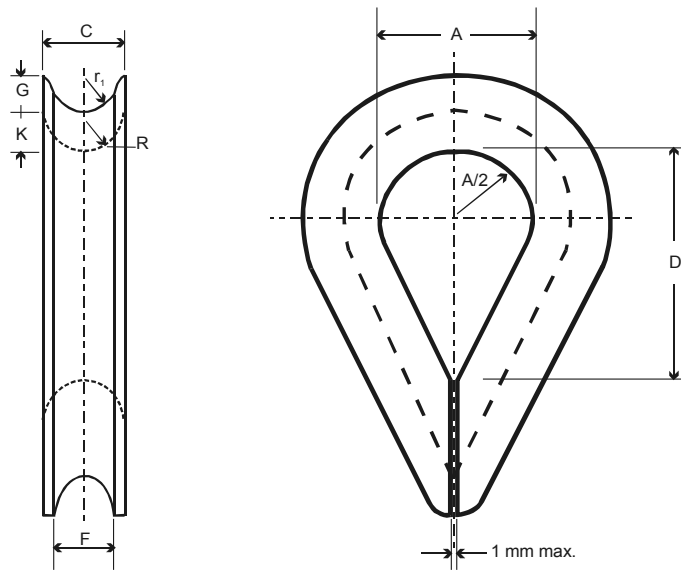
Proof Load = 2 x S. W. L. (upto 25 tonnes) and Proof load = 1.2 x S. W. R. + 20 (above 25 tonnes).

Next Standard sizes for  $d_1$ ,  $d_2$ , and  $d_3$  will be used as per availability of Standard Series for sizes of Bar Material in India.

The above Rings are hand forged by expert Black Smith and slight tolerance in dimensions should be permitted.

The dimensions are for your approximate guidance only and manufacturer may not be necessary adhere to above specifications.

## THIMBLE



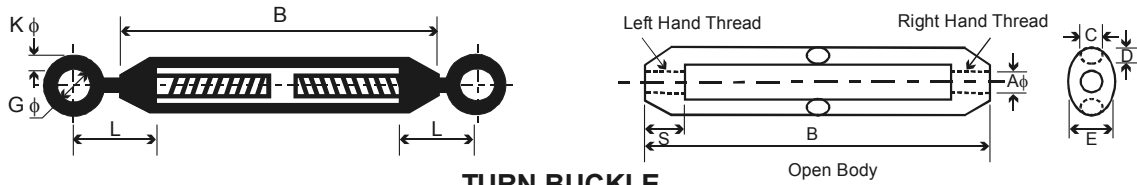
## OPEN-TYPE THIMBLES

Nomi- nal size of rope	A	C	D	F Min	G	K	r1	R
8	27	13	45	9	5	7	4.4	6.5
10	30	15	50	11	7	8	5.5	7.5
12	35	17	58	13	8	11	6.6	8.5
14	41	19	68	15	9	12	7.7	9.5
16	46	22	77	17	10	13	8.8	11.
18	52	25	86	19	11	15	9.9	12.5
20	57	27	95	22	12	16	11.	13.5
22	64	31	106	24	14	18	12.1	15.5
24	73	36	122	26	16	21	13.2	18.
25	73	36	122	27	16	21	13.75	18
29	82	39	135	31	17	23	15.95	19.5
32	92	43	152	34	19	26	19.2	21.5
35	98	46	162	38	21	28	21	23
38	110	52	185	41	23	32	22.8	26
41	124	57	208	44	26	36	24.6	28.5
44	124	57	208	47	26	36	26.4	28.5
48	138	62	230	51	29	40	28.8	31.0
51	148	66	248	55	31	43	30.6	33.
54	162	70	270	58	34	46	32.4	35
57	162	70	270	61	34	46	34.2	35
64	190	78	315	69	39	52	38.4	39

The above Open-Type Thimbles are hand forged by expert Black Smith and slight tolerance in dimensions should be permitted. The dimensions are for your approximate guidance only and manufacturer may not be necessary adhere to above specifications.

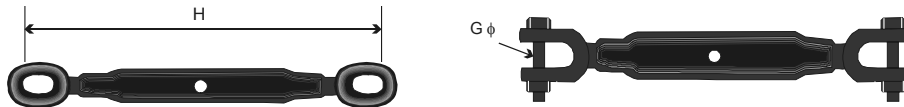
**Note :** For wire ropes of intermediate size, the next larger size of thimble should be used.

## TURN BUCKLE      RIGGING/BOTTLE SCREW IS: 3121-1981



**TURN BUCKLE**

Nominal Size <b>A</b>	Assembly and Body						Screw Eyes		Proof Load <b>Kn</b>	Safe Working Load <b>Kn</b>
	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>L</b>	<b>S</b>	<b>G</b>	<b>K</b>		
M6	100	6	5	12	32	10	9	6	2.0	1.0
M8	125	8	6	16	35	13	13	8	3.0	1.5
M10	160	10	8	19	45	15	16	10	6.0	3.0
M12	200	12	10	22	54	18	19	12	9.0	4.5
M14	225	15	12	25	60	21	22	12	12.0	6.0
M16	250	18	14	29	66	24	24	14	15.2	7.6
M20	315	20	16	33	80	30	30	16	22.4	11.4
M22	355	22	18	41	88	32	33	18	32.4	16.2
M24	400	24	20	43	100	35	36	18	40.0	20.0
M30	450	30	22	50	120	42	44	24	63.0	31.5
M36	450	36	28	60	135	50	52	28	90.0	45.0
M45	450	40	36	75	165	60	67	35	142.0	71.0
M52	450	45	40	100	190	70	80	42	190.0	95.0



**RIGGING SCREW / BOTTLE SCREW**

Nominal Size <b>A</b>	Dia of Rope	Nominal dia of Bolt <b>G</b>	H		Proof Load <b>Kn</b>	Safe Working Load <b>Kn</b>
			Closed	Open		
M12	8	M12	330	525	10.0	5.0
M16	10	M14	370	550	18.0	9.0
M20	12	M16	400	570	28.0	14.0
M24	14	M20	475	700	36.0	18.0
M27	16	M22	550	825	44.0	22.0
M30	18	M27	550	825	63.0	31.5
M33	20	M30	600	875	75.0	37.5
M36	22	M30	600	875	86.0	43.0
M39	25	M33	660	960	100.0	50.0
M45	29	M39	700	960	112.0	56.0
M52	32	M45	750	1000	144.0	72.0
M56	35	M52	775	1025	194.0	97.0
M60	38	M52	800	1050	214.0	107.0
M64	41	M58	1070	1450	286.0	143.0
M68	44	M64	1120	1590	342.0	171.0
M75	48	M70	1270	1700	400.0	200.0
M80	51	M76	1360	1760	500.0	250.0
M90	54	M85	1440	1860	624.0	312.0

The above Turn Buckles and Rigging Screw are hand forged by expert Black Smith and slight tolerance in dimensions should be permitted.

The dimensions are for your approximate guidance only and manufacturer may not be necessary adhere to above specifications.