

LR-1 1/4

3/4" Stud, 1 1/4" Nut

Flange Size	Number of Bolts	Approximate length of extended tension bolt for spacing between each backup unit.
5" ANSI 150	8	1 3/8"
6" ANSI 150	8	1 3/4"
8" ANSI 150	8	2 5/8"
1 1/2" ANSI 300	4	1 1/8"
2 1/2" ANSI 300	8	3/8"
3" ANSI 300	8	3/4"
3 1/2" ANSI 300	8	7/8"
4" ANSI 300	8	1"
5" ANSI 300	8	1 1/2"
6" ANSI 300	12	1/2"
1 1/2" ANSI 400	4	1 1/8"
2 1/2" ANSI 400	8	3/8"
3" ANSI 400	8	7/8"
1 1/2" ANSI 600	4	1 1/8"
2 1/2" ANSI 600	8	3/8"
3" ANSI 600	8	7/8"
1/2" ANSI 900	4	1/8"
3/4" ANSI 900	4	1/4"
1/2" ANSI 1500	4	1/8"
3/4" ANSI 1500	4	1/4"

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Flange Size	Number of Bolts	
1/2" ANSI 2500	4	1/4"
3/4" ANSI 2500	4	3/8"
1 13/16"-10M	8	1/4"
2 1/16"-10M	8	1/2"
2 9/16"-2M	8	1/4"
3 1/8"-2M	8	7/8"

LR-1 7/16

7/8" Bolts, 1 7/16" Nut

Flange Size	Number of Bolts	Approximate length of extended tension bolt for spacing between each backup unit.
10" ANSI 150	12	1 1/2"
12" ANSI 150	12	2 1/4"
8" ANSI 300	12	1 1/8"
3 1/2" ANSI 400	8	1"
4" ANSI 400	8	1 1/4"
5" ANSI 400	8	1 5/8"
6" ANSI 400	12	5/8"
3 1/2" ANSI 600	8	1"
4" ANSI 600	8	1 3/8"
1" ANSI 900	4	3/8"
1 1/4" ANSI 900	4	1/2"

LR-1 7/16 Continued

2" ANSI 900	8	3/4"
3" ANSI 900	8	1 5/8"
1" ANSI 1500	4	3/8"
1 1/4" ANSI 1500	4	1/2"
2" ANSI 1500	8	3/4"
1" ANSI 2500	4	1/2"
1 13/16"-15M	8	5/8"
2 1/16"-5M	8	3/4"
2 1/16"-15M	8	7/8"
2 9/16"-10M	8	1"
3 1/8"-3M	8	1"
4 1/16"-2M	8	1 3/8"

LR-1 5/8

1" Stud, 1 5/8" Nut

Flange Size	Number of Bolts	Approximate length of extened tension bolt for spacing between each backup unit.
14" ANSI 150	12	2 1/2"
16" ANSI 150	16	1 5/8"
10" ANSI 300	16	1/2"
8" ANSI 400	12	1 1/8"
5" ANSI 600	8	2 1/4"
6" ANSI 600	12	3/4"
2 1/2" ANSI 900	8	1 1/4"

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1 1/2" ANSI 1500	4	3/4"
2 1/2" ANSI 1500	8	1 1/4"
1 1/4" ANSI 2500	4	7/8"
2" ANSI 2500	8	3/4"
1 13/16" 2M	8	1 1/4"
2 9/16" 5M	8	1 1/8"
2 9/16" 15M	8	1 1/4"
3 1/16" 10M	8	1 3/8"
7 1/16" 2M	12	5/8"

LR-1 13/16

Flange Size	Number of Bolts	Approximate length of extended tension bolt for spacing between each backup unit.
1 1/8" Stud, 1 13/16" Nut		
18" ANSI 150	16	1 1/8"
20" ANSI 150	20	5/8"
12" ANSI 300	16	3/8"
14" ANSI 300	20	1/8"
10" ANSI 400	16	1/4"
8" ANSI 600	12	3/4"
4" ANSI 900	8	1 1/4"
6" ANSI 900	12	1/2"
3" ANSI 1500	8	7/8"
1 1/2" ANSI 2500	4	3/4"

LR-1 13/16 Continued

2 1/2" ANSI 2500	8	3/4"
2 1/16" 20M	8	1 1/8"
3 1/8" 5M	8	7/8"
3 1/16"-15M	8	1 1/8"
4 1/16" 3M	8	1 1/4"
4 1/16" 10M	8	1 3/8"
5 1/8"-10M	12	3/16"
7 1/16" 3M	12	1/2"
9" 2M	12	3/4"

LR-2

Flange Size	Number of Bolts	Approximate length of extended tension bolt for spacing between each backup unit.
1 1/4" Stud, 2" Nut		
24" ANSI 150	20	1 1/2"
16" ANSI 300	20	5/8"
18" ANSI 300	24	3/8"
20" ANSI 300	24	1/2"
12" ANSI 400	16	7/8"
14" ANSI 400	20	1/4"
10" ANSI 600	16	5/8"
12" ANSI 600	20	1/4"
5" ANSI 900	8	1 1/2"
4" ANSI 1500	8	1 1/4"

LR-2 Continued

3" ANSI 2500	8	1 1/8"
11" 2M	16	5/8"
13 5/8" 2M	20	1/4"
2 9/16" 20M	8	1 5/8"
4 1/16" 5M	8	1 3/8"

LR-2 3/16

1 3/8" Stud, 2 3/16" Nut

Flange Size	Number of Bolts	Approximate length of extended tension bolt for spacing between each backup unit.
16" ANSI 400	20	1/2"
18" ANSI 400	24	1/4"
14" ANSI 600	20	3/8"
8" ANSI 900	12	1 1/2"
10" ANSI 900	16	7/8"
12" ANSI 900	20	3/8"
6" ANSI 1500	12	7/8"
7 1/16" 5M	12	7/8"
3 1/16" 20M	8	2 1/2"
4 1/16" 15M	8	1 3/8"
9" 3M	12	1 1/2"
11" 3M	16	1"
13 5/8" 3M	20	3/8"

LR-2 3/8

1 1/2" Stud, 2 3/8" Nut

Flange Size**Number of Bolts****Approximate length of extended tension bolt for spacing between each backup unit.**

24" ANSI 300

24

3/4"

20" ANSI 400

24

1/4"

16" ANSI 600

20

5/8"

14" ANSI 900

20

1/4"

6" ANSI 1500

8

1 3/4"

4" ANSI 2500

8

1 1/2"

5 1/8" 5M

8

1 3/4"

5 1/8"-15M

12

1/2"

7 1/16" 10M

12

1"

7 1/16" 15M

16

1/4"

9" 10M

16

1/2"

16 3/4" 2M

20

1/2"

LR-2 9/16

1 5/8" Stud, 2 9/16" Nut

Flange Size**Number of Bolts****Approximate length of extended tension bolt for spacing between backup unit.**

18" ANSI 600

20

1/2"

20" ANSI 600

24

1/4"

16" ANSI 900

20

1/4"

8" ANSI 1500

12

7/8"

9"-5 M

12

7/8"

LR-2 9/16 Continued

13 5/8" 5 M	16	1"
16 3/4" 3 M	20	1/4"
21 1/4" 2 M	24	3/16"

LR-2 3/4

Flange Size	Number Of Bolts	Approximate length of extended tension bolt for spacing between each backup unit.
1 3/4" Stud, 2 3/4" Nut		
5" ANSI 2500	8	3/4"
24" ANSI 400	24	1/4"
11"-10 M	16	1/2"
16 3/4" 5 M	16	1 1/4"
26 3/4" 2 M	20	1 3/4"
30"-300 (Series MSS)	28	3/8"

LR-2 15/16

Flange Size	Number of Bolts	Approximate length of extended tension bolt for spacing between each backup unit.
1 7/8" Stud, 2 15/16" Nut		
24" ANSI 600	24	1/2"
18" ANSI 900	20	1/2"
10" ANSI 1500	12	1 5/8"
26" ANSI 600	28	1/4"
9"-15M	16	3/4"
11" -5M	12	1 5/8"
13 5/8"-10M	20	3/8"

LR-2 15/16 Continued

16 3/4"-5M	16	1 1/4"
16 3/4"-10M	24	1/4"

LR-3 1/8

		Approximate length of extended tension bolt for spacing between each backup unit.
Flange Size	Number of Bolts	
2" Stud, 3 1/8" Nut		
20" ANSI 900	20	5/8"
12" ANSI 1500	16	3/4"
6" ANSI 2500	8	1"
8" ANSI 2500	12	3/8"
28" ANSI 600	28	3/8"
30" ANSI 600	28	3/8"
7 1/16"-20M	16	3/8"
11"-15M	20	5/8"
18 3/4"-5M	20	1"
20 3/4"-3M	20	5/8"
21 1/4"-5M	24	1/2"
26 3/4"-3M	24	1 1/8"

LR-3 1/2

		Approximate length of extended tension bolt for spacing between each backup unit.
Flange Size	Number of Bolts	
2 1/4" Stud, 3 1/2" Nut		
14" ANSI 1500	16	7/8"
32" ANSI 600	28	3/8"

LR-3 1/2 Continued

34" ANSI 600	28	5/8"
38" ANSI 600	28	1/2"
40" ANSI 600	32	1/4"
13 7/8"-15M	20	5/8"
14"-5M	16	7/8"
18 3/4"-10M	24	3/8"

LR-3 7/8

Flange Size	Number of Bolts	Approximate length of extended tension bolt for spacing between each backup unit.
2 1/2" Stud, 3 7/8" Nut		
24" ANSI 900	20	7/8"
16" ANSI 1500	16	3/4"
10" ANSI 2500	12	1 1/4"
36" ANSI 600	28	1/2"
42" ANSI 600	28	3/4"
44" ANSI 600	32	1/4"
46" ANSI 600	32	1/2"
24 1/4"-10M	24	1/2"