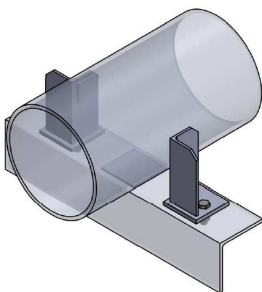
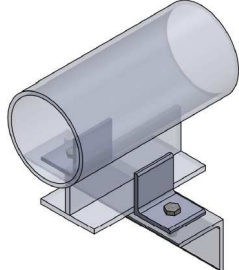
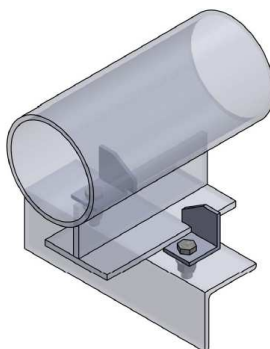
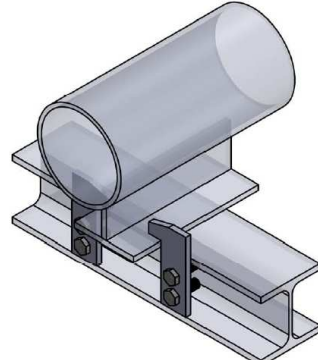
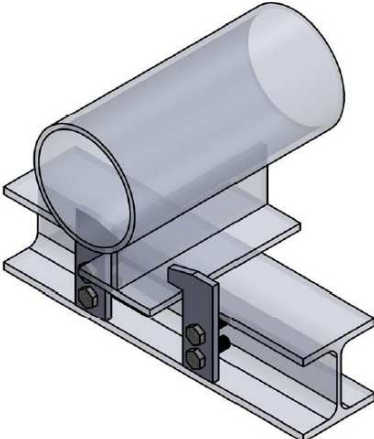
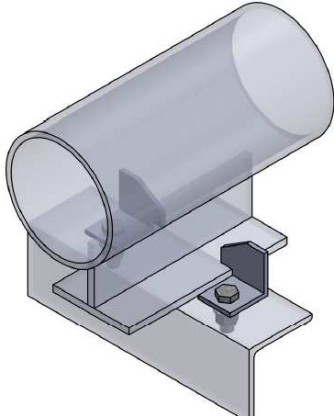
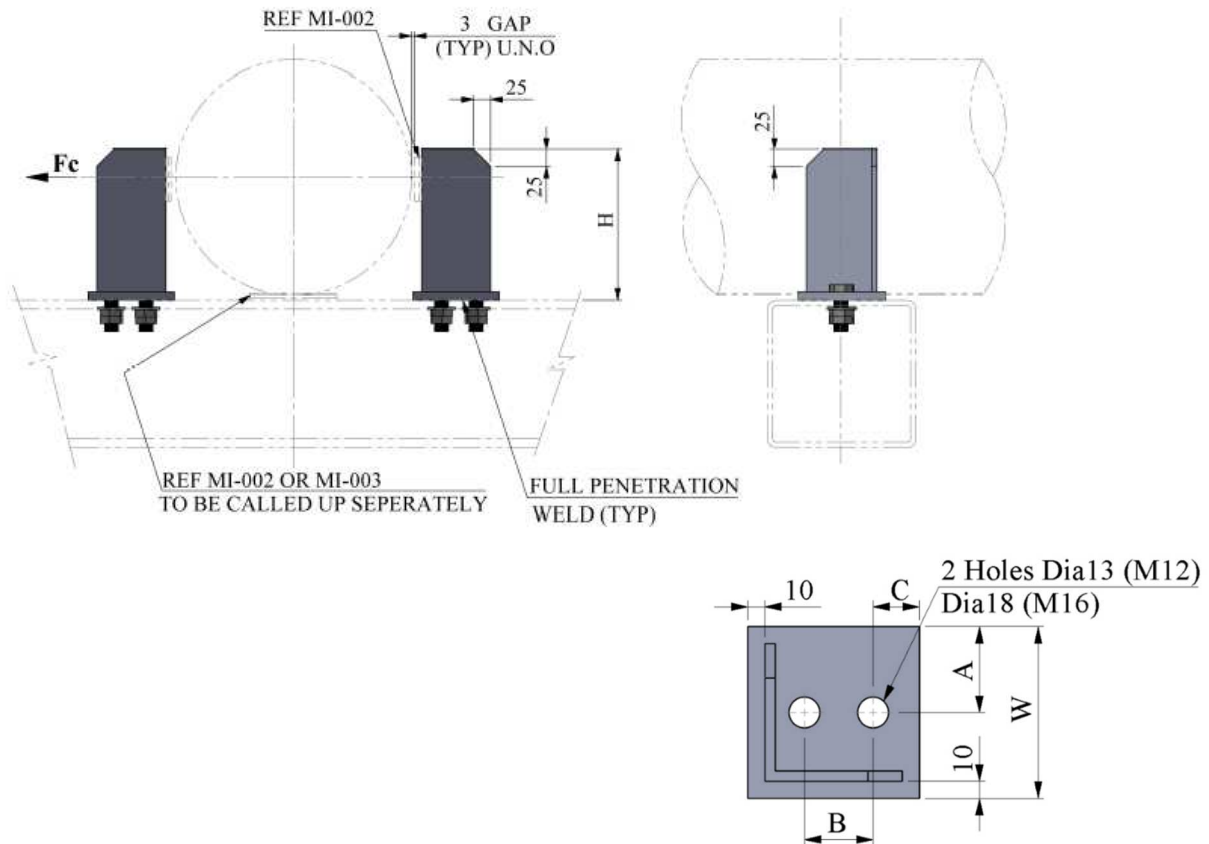


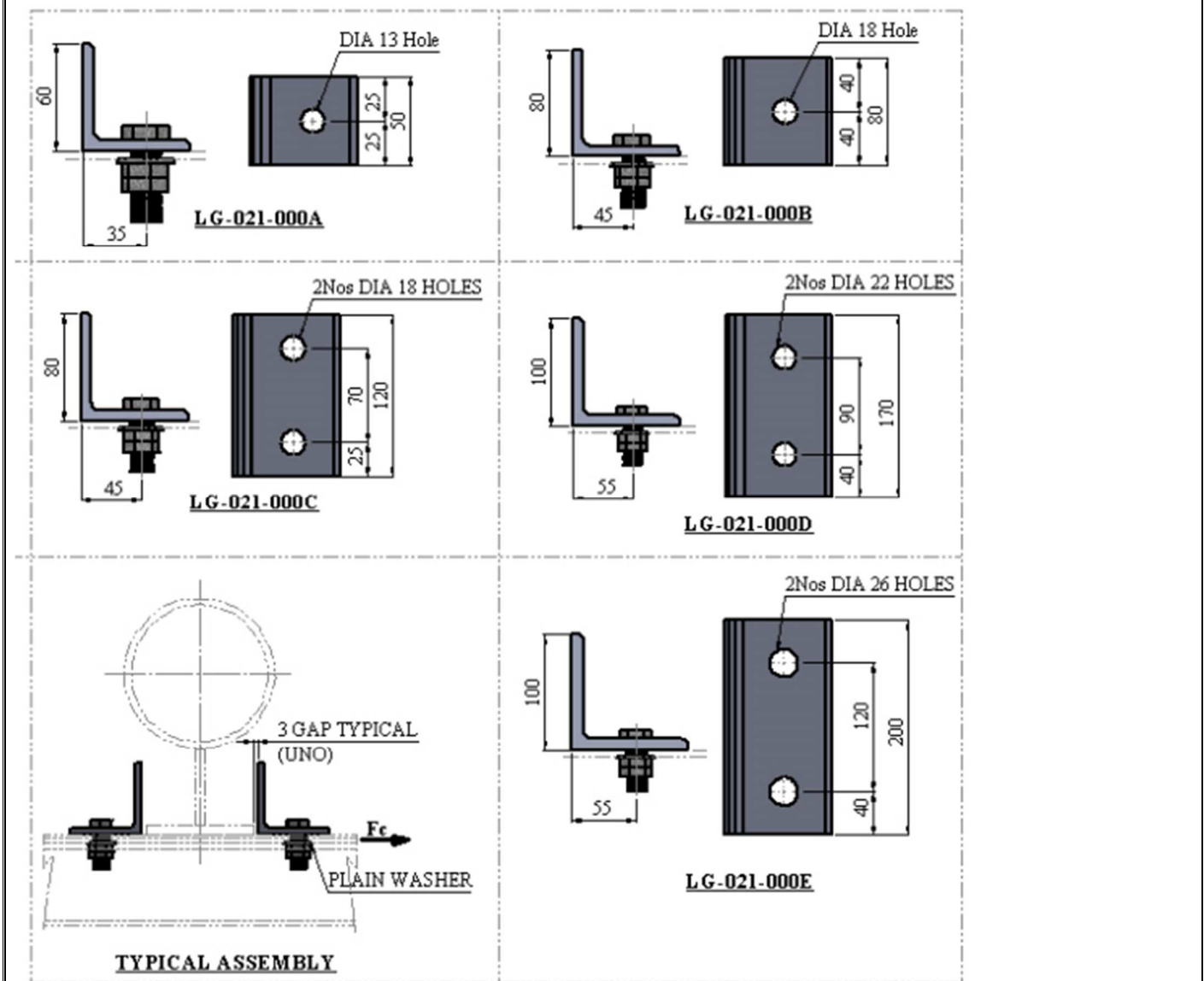
5 BOLTED LINE GUIDES	
<p>5.1</p> <p>T-LG-020 BOLTED LINE GUIDE FOR CS,SS & ALLOY LINES 50-250mm / 2" – 10"</p> 	<p>5.2</p> <p>T-LG-021 BOLTED LINE GUIDE</p> 
<p>5.3</p> <p>T-LG-022 BOLTED LINE GUIDE / HOLD DOWN</p> 	<p>5.4</p> <p>T-LG-023 BOLTED LINE GUIDE / HOLD DOWN</p> 
<p>5.5</p> <p>T-LG-024 BOLTED LINE GUIDE / HOLD DOWN (HEAVY DUTY)</p> 	<p>5.6</p> <p>T-LG-025 BOLTED LINE GUIDE / HOLD DOWN (1mm GAP)</p> 

5.1 BOLTED LINE GUIDE FOR CS,SS & ALLOY LINES
50-250mm / 2" – 10"
LG-020


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP.	MIN. DESIGN TEMP.
T-LG-020-000A-CS	CS	150 °C	(-) 20 °C
T-LG-020-000A-SS	SS	150 °C	(-) 46 °C

TYPE	LINE SIZE		SECTION	PLATE	A	B	C	H	W	BOLTING	MAXIMUM LOADS (kN)		INSULATING PAD	WEIGHT (in kg)
	DN (mm)	NPS in (inch)									CS	SS		CS
LG-020-0050	DN 50	2"	L60x60x6	90 x 80 x 15	40	30	20	65	80	M12 x 60	14	8	MI-002-000A	2.8
LG-020-0080	DN 80	3"	L60x60x6	90 x 80 x 15	40	30	20	65	80	M12 x 60	14	8		2.8
LG-020-0100	DN 100	4"	L60x60x6	90 x 80 x 15	40	30	20	100	80	M12 x 60	13	7		3.2
LG-020-0125	DN 125	5"	L60x60x6	90 x 80 x 15	40	30	20	100	80	M12 x 60	11	7.5		3.2
LG-020-0150	DN 150	6"	L60x60x6	90 x 80 x 15	40	30	20	150	80	M12 x 60	9	5	MI-002-000B	3.7
LG-020-0200	DN 200	8"	L80x80x8	115 x 100 x 15	50	40	27	175	100	M16 x 70	8	4.5		6.9
LG-020-0250	DN 250	10"	L80x80x8	115 x 100 x 15	50	40	27	175	100	M16 x 70	6.5	4		6.9

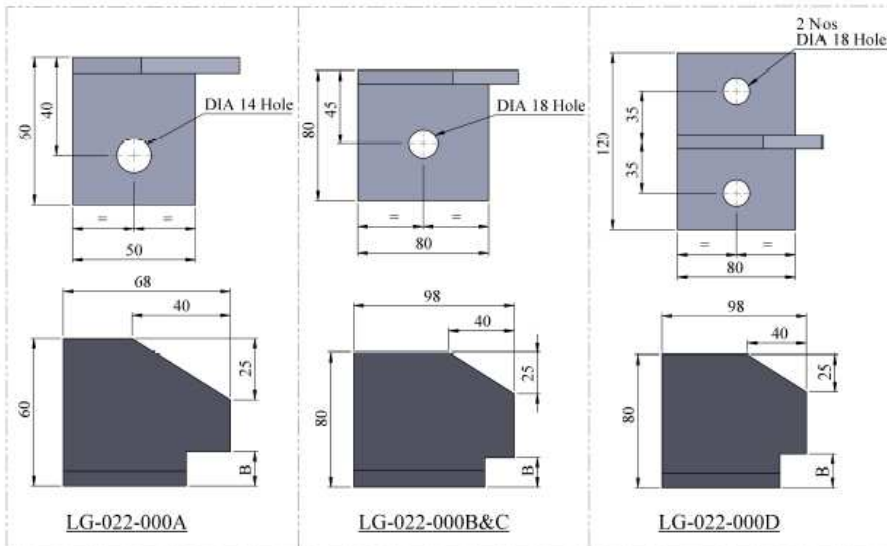
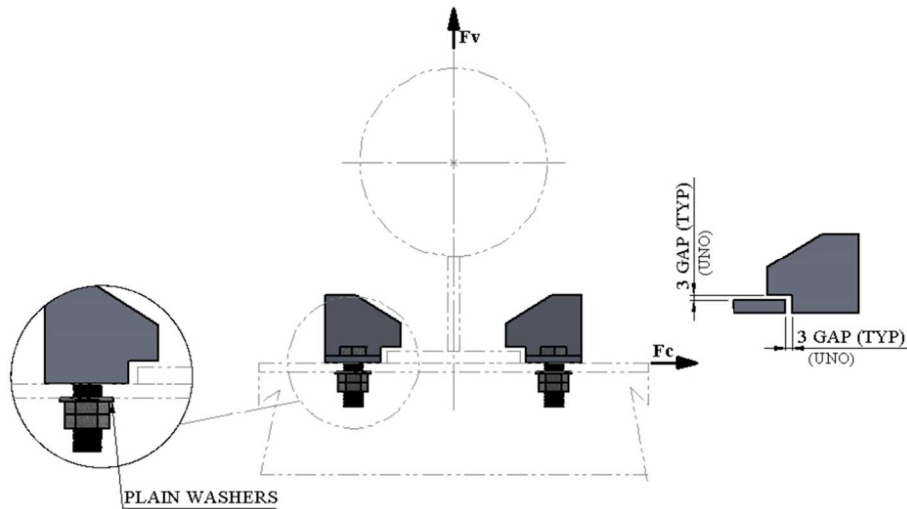
All Welds to be a = 0.7 x WT, but max 4 mm CFW.
 Standard type includes fully threaded bolts , plain washers and double nuts .
 Bolts to have a minimum overlength of 3 Threads.
 All bolting to be of same material as details u.n.o.

5.2 BOLTED LINE GUIDE
LG-021


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD. DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP.	MIN. DESIGN TEMP.
T-LG-021-000A-CS	CS	350 °C	-196°c (-105°c) (Refer Note)
T-LG-021-000A-SS	SS	350 °C	(-) 46 °C

TYPE	B SECTION	LINE SIZE	BOLTING	MAX. LOADS Fc (kN)		WEIGHTS (in kg)	
				CS	SS	CS	SS
T-LG-021-000A	L60 x 60 x 6	2" TO 48"	M12 x 60	10	10	0.7	0.8
T-LG-021-000B	L80 x 80 x 8	2" TO 48"	M16 x 70	18	18	2	2.1
T-LG-021-000C	L80 x 80 x 8	2" TO 48"	M16 x 70	36	36	3.3	3.3
T-LG-021-000D	L100 x L100 x 10	2" TO 48"	M20 x 75	56	56	6.7	6.9
T-LG-021-000E	L100 x L100 x 10	2" TO 48"	M24 x 90	80	80	7.4	7.5

Allowable Loads are based on shear force in Bolt. Does Not allow Lift Off with Guide Forces.
 Standard type includes fully threaded bolts , plain washers and double nuts .
 Bolts to have a minimum overlength of 3 Threads.
 All bolting to be of same material as details u.n.o.
 Impact Test reqd. for Matl. Code SS with design temp. (-)196° c.

5.3 BOLTED LINE GUIDE / HOLD DOWN
LG-022


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD. DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP.	MIN. DESIGN TEMP.
T-LG-022-000A-SS	SS	350 °C	-196°c (-105°c) (Refer Note)
T-LG-022-000A-CS	CS	350 °C	(-) 20 °C

TYPE	SHOE THICKNESS	B	DIM HOLE	SECTION	BOLTING	MAXIMUM LOADS (kN)				WEIGHTS (in kg)	
						CS		SS		CS	SS
						Fc	Fv	Fc	Fv		
T-LG-022-000A	10	13	13	L60 x 60 x 6	M12 x 60	10	4	6	2.3	0.77	0.79
T-LG-022-000B	15	18	18	10mm Plate	M16 x 70	36	7	21	4	3.09	3.15
T-LG-022-000C	20	23	18	10mm Plate	M16 x 70	36	7	21	4	2.57	2.62
T-LG-022-000D	20	23	18	10mm Plate	M16 x 70	50	18	30	10	4.28	4.38

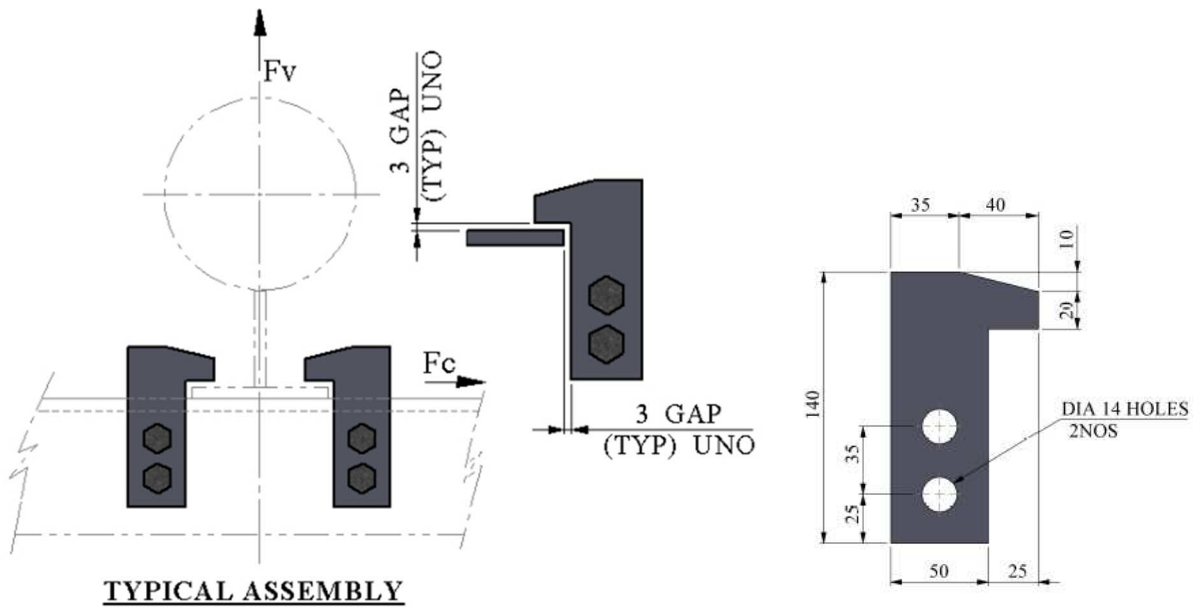
Allowable loads are based on shear force in Bolt. Guide and Hold -Down loads are non-concurrent.

Standard. Type includes fully threaded bolts , plain washers and double nuts .

Bolts to have a minimum overlength of 3 Threads.

All bolting to be of same material as details u.n.o.

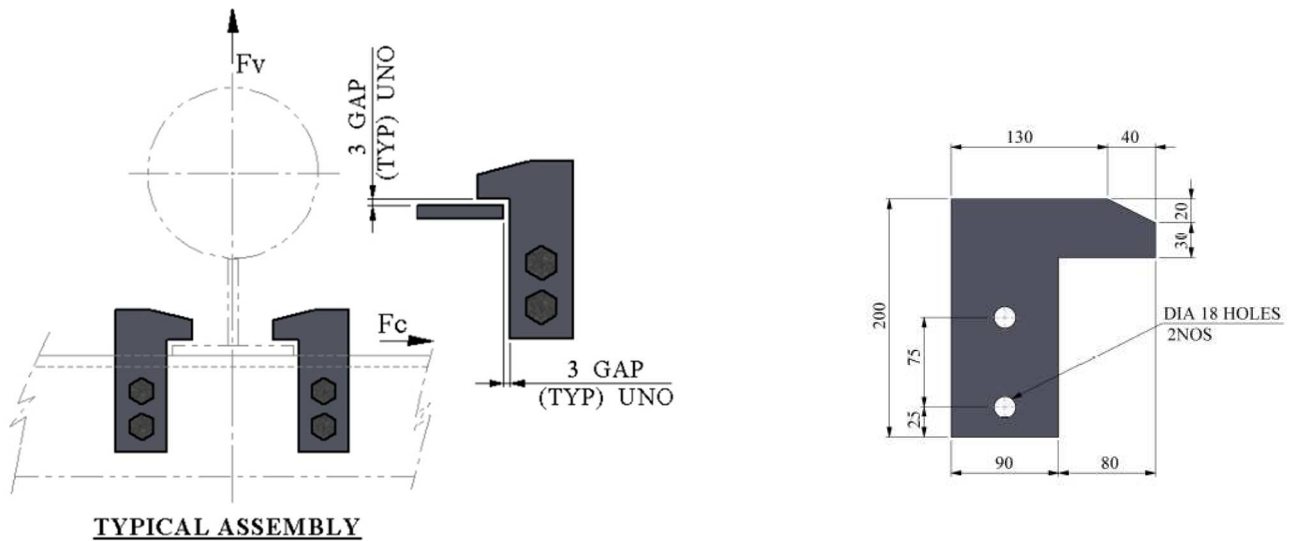
Impact Test reqd. for Matl. Code SS with design temp. (-)196° c.

5.4 BOLTED LINE GUIDE / HOLD DOWN
LG-023


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD. DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP.	MIN. DESIGN TEMP.
T-LG-023-000A-SS	SS	350 °C	-196°c (-105°c) (Refer Note)
T-LG-023-000A-CS	CS	350 °C	(-) 20 °C

TYPE	SECTION	BOLTING	MAX. LOADS (kN)				WEIGHTS (in kg)	
			CS		SS		CS	SS
			Fc	Fv	Fc	Fv		
T-LG-023-000A	PLATE 10mm	M12 x 60	46	28.8	40	16.8	1.0	1.3

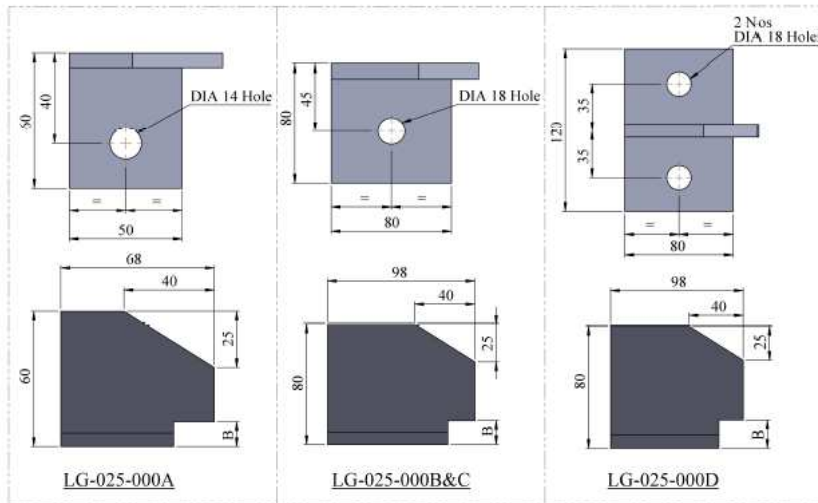
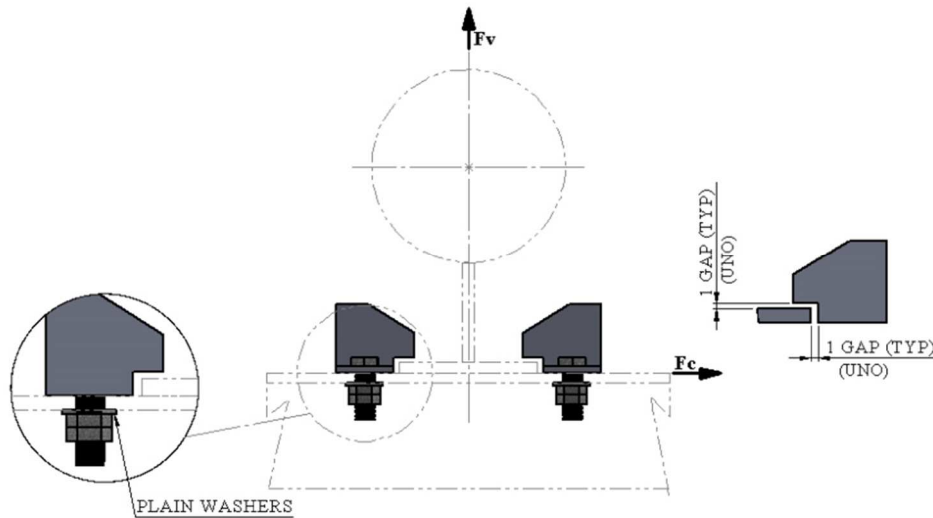
Standard. Type includes fully threaded bolts , plain washers and double nuts .
 Bolts to have a minimum overlength of 3 Threads.
 All bolting to be of same material as details u.n.o.
 Impact Test reqd. for Matl. Code SS with design temp. (-)196° c.

5.5 BOLTED LINE GUIDE / HOLD DOWN (HEAVY DUTY)
LG-024


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD. DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP.	MIN. DESIGN TEMP.
T-LG-024-000A-SS	SS	350 °C	-196°c (-105°c) (Refer Note)
T-LG-024-000A-CS	CS	350 °C	(-) 20 °C

TYPE	SECTION	BOLTING	MAX. LOADS (kN)				WEIGHTS (in kg)	
			CS		SS		CS	SS
			Fc	Fv	Fc	Fv		
T-LG-024-000A	PLATE 20mm	M16 x 80	25	45	15	26	7.1	7.24

Standard. Type includes fully threaded bolts , plain washers and double nuts .
 Bolts to have a minimum overlength of 3 Threads.
 All bolting to be of same material as details u.n.o.
 Impact Test reqd. for Matl. Code SS with design temp. (-)196° c.

5.6 BOLTED LINE GUIDE / HOLD DOWN 1mm GAP
LG-025


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STANDARD TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP.	MIN. DESIGN TEMP.
T-LG-025-000A-CS	CS	350 °C	-196°C (-105°C) (Refer Note)
T-LG-025-000A-SS	SS	350 °C	(-) 20 °C

TYPE	SHOE THICK	B	DIM. HOLE	PLATE	BOLTING	MAXIMUM LOADS (kN)				WEIGHTS (in kg)	
						CS		SS		CS	SS
						Fc	Fv	Fc	Fv		
T-LG-025-000A	10	11	13	L60 x 60 x 6	M12 x 60	10	4	6	2.3	0.77	0.79
T-LG-025-000B	15	16	18	10mm Plate	M16 x 70	36	7	21	4	3.09	3.15
T-LG-025-000C	20	21	18	10mm Plate	M16 x 70	36	7	21	4	2.57	2.62
T-LG-025-000D	20	21	18	10mm Plate	M16 x 70	50	18	30	10	4.28	4.38

Allowable loads are based on shear force in Bolt. Guide and Hold-Down loads are non-concurrent.
 Standard type includes fully threaded bolts , plain washers and double nuts.
 Bolts to have a minimum overlength of 3 threads.
 All bolting to be of same material as details u.n.o.
 Impact Test reqd. for Matl. Code SS with design temp. (-)196° c.