



**Government of India
Ministry of Railways**

**CHECKSHEETS
FOR
BOGIE L.P.G. TANK WAGON (79.2 Tonnes)
TYPE – BTPGLN**

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1.	May 2012	-	First issue

ISSUED BY

**RESEARCH DESIGNS & STANDARDS ORGANISATION
MINISTRY OF RAILWAYS
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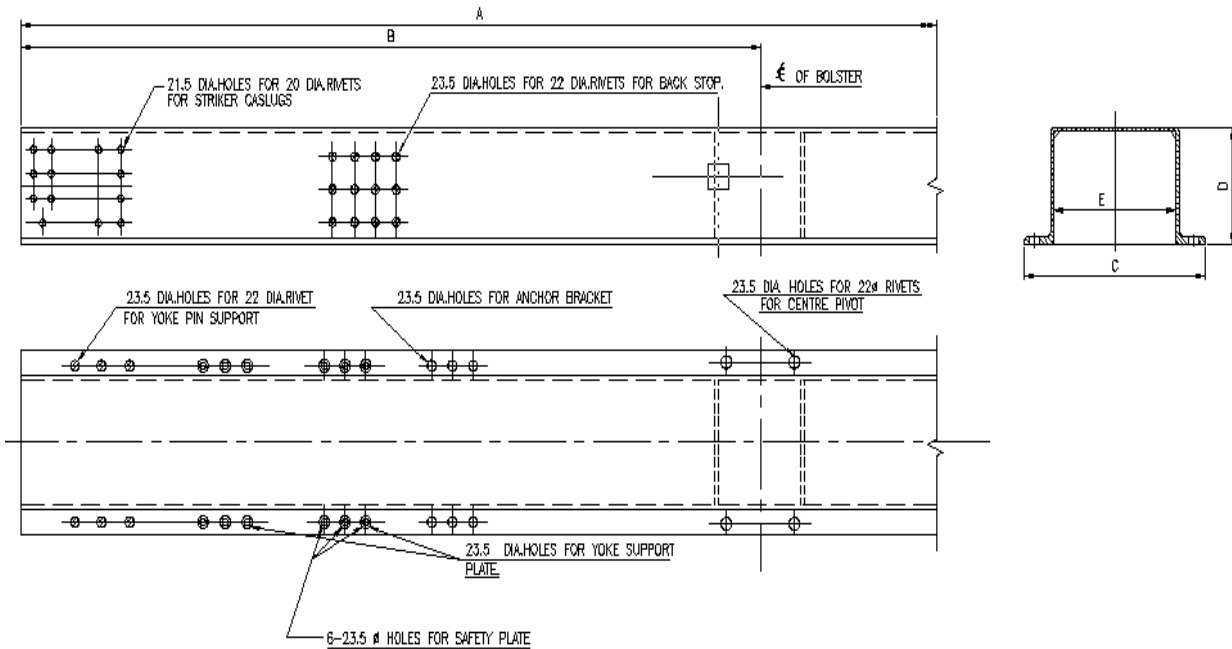
NOTE: These check sheets do not detail all the dimensions or technical requirements of respective wagon assemblies/ components. These check sheets are issued only for General Guidance & assistance of inspecting officials. Notwithstanding the above, the inspecting officials are advised to refer the relevant drawings and/ or relevant specifications to confirm conformity to the specified dimensions and technical details.

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WD-CS-01-BTPGLN (VARIANT-'A') 2011
CENTRE SILL



REF. DRG. NO. - WD-93047-S-54

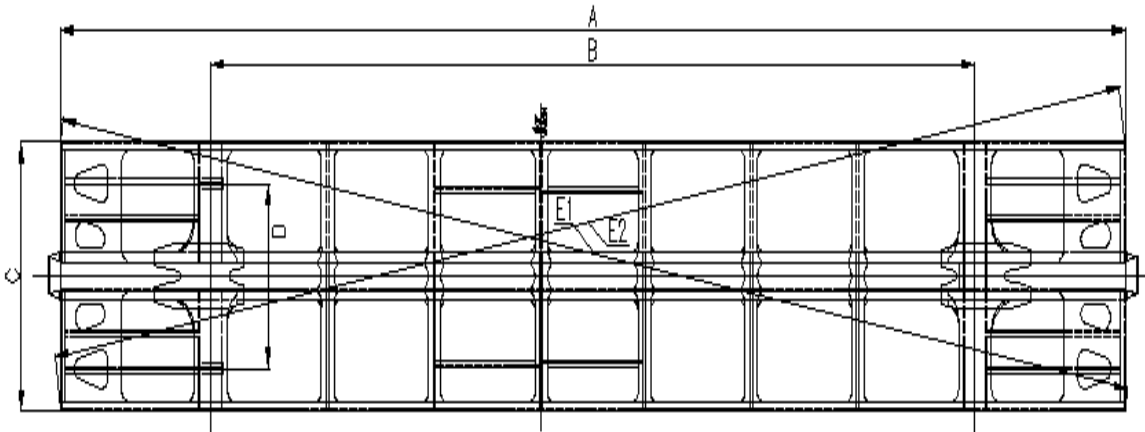
Centre Sill No.:				Date:		
SL. NO.	ATTRIBUTE	Works Inspection		RDSO Inspection		Remarks
1.	Fitment of all components					
2.	Riveting					
3.	Welding/ Huck Bolt					
4.	Dressing					
5.	Dimensions					
	LOCATION	Nominal Dimensions & Allowable Deviation		Actual Dimension		Remarks
				Works Inspection	RDSO Inspection	
1.	Length of Centre Sill	A	18000 +7 -3			
2.	Distance between headstock to bolster	B	2515			
3.	Width of Centre Sill	C	530			
4.	Height of Centre Sill	D	327 ±1.5			
5.	Inner distance of Centre Sill	E	327 +1.5 -0.0			

All dimensions are in mm

Works Inspector		RDSO Inspector	
Signature:		Signature:	
Name:		Name:	
Designation:		Designation:	
Date:		Date:	

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UNDER-FRAME



REF. DRG. NO. - WD-93047-S-53

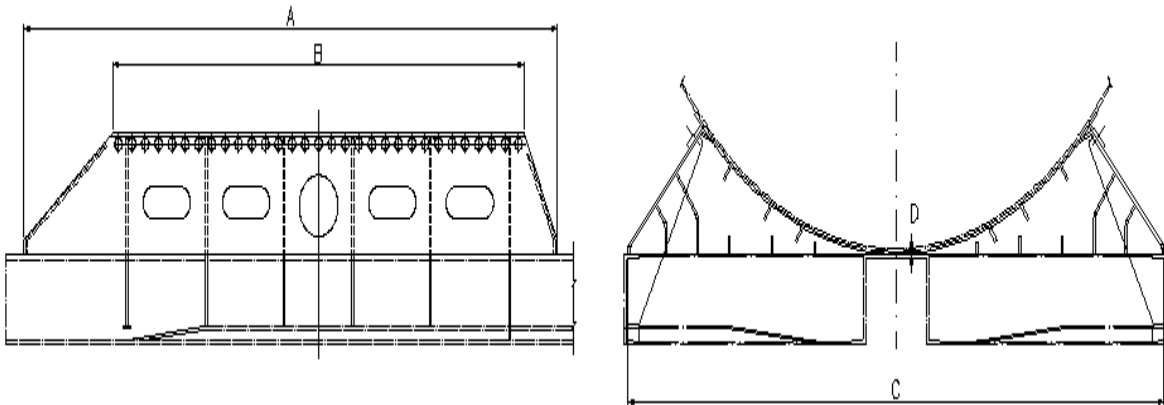
Under frame No.:			Date:			
S. No.	STAGE	Works Inspection		RDSO Inspection	Remarks	
1.	Fitment of all components					
2.	Welding/Huck Bolt					
3.	Dressing					
4.	Dimensions					
5.	Anti-corrosive paint					
6.	Manual cleaning of under frame					
	LOCATION	Nominal Dimensions & Allowable Deviation		Actual Dimension		Remarks
				Works Inspection	RDSO Inspection	
1.	Length over Head Stock	A	18000 +7 -3			
2.	Distance over Bolster center	B	12970 +5 -2			
3..	Width over Sole Bar	C	2860 ±3			
4.	Distance between Side Bearer Centre	D	1474 ±2			
5.	Diagonal Difference over Head Stock	(F1 & F2)	≤ 5			
6.	Draft gear pocket		625.5 +0 & - 1.6 X 327+1.5 & 0.0			

All dimensions are in mm

Works Inspector		RDSO Inspector	
Signature:		Signature:	
Name:		Name:	
Designation:		Designation:	
Date:		Date:	

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CRADLE ASSEMBL



REF. DRG. NO.- WCS-7801-S-59

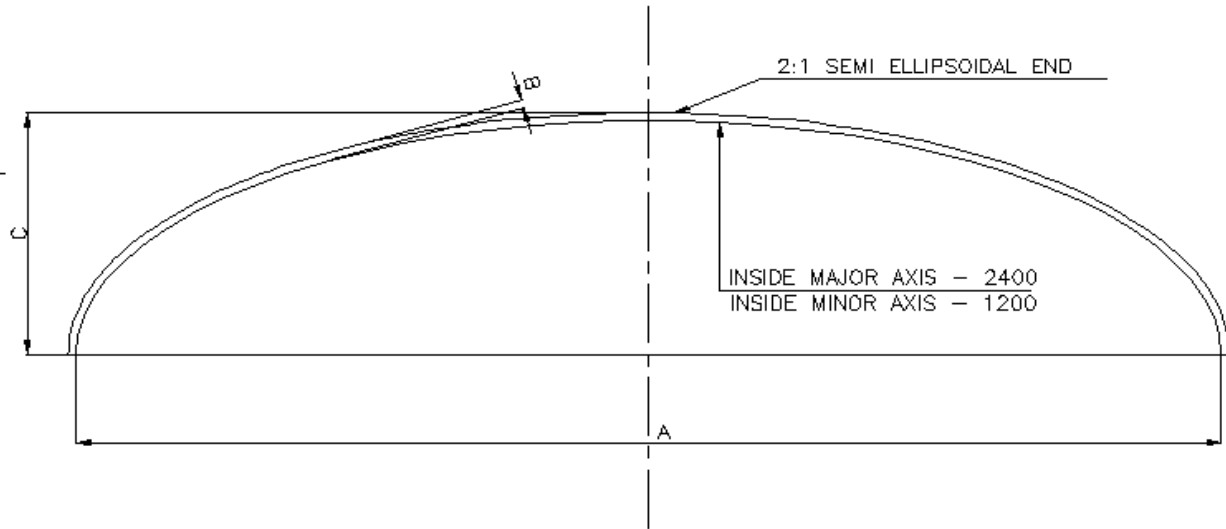
Cradle Assembly No:			Date:		
SL. NO.	STAGE	Works Inspection	RDSO Inspection		Remarks
1.	Fitment of all components				
2.	Welding/Huck Bolt				
3.	Dressing				
4.	Dimensions				
	LOCATION	Nominal Dimensions & Allowable Deviation	Actual Dimension		Remarks
			Works Inspection	RDSO Inspection	
1.	Overall Cradle length	A	5000 ±3		
2..	Cradle Head Length	B	3920 ±3		
3.	Width of cradle	C	2820 ±2		
4.	Clearance between top of center sill to bottom of barrel	D	50		

All dimensions are in mm

Works Inspector		RDSO Inspector	
Signature:		Signature:	
Name:		Name:	
Designation:		Designation:	
Date:		Date:	

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DISH - END



REF. DRG. NO.- WD-85029-S-04

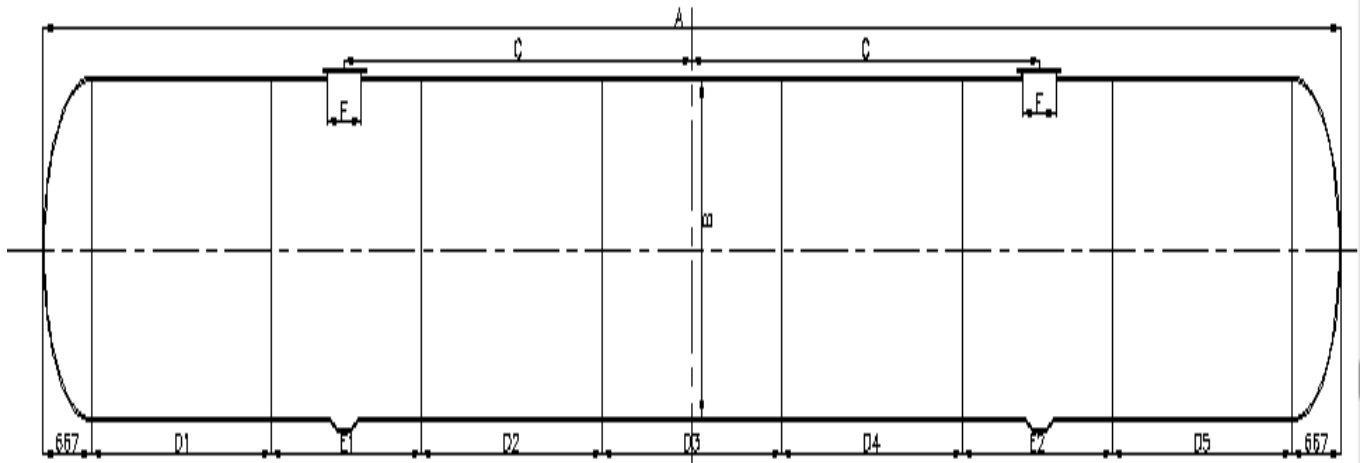
Barrel End No.:			Date:			
SL. No.	STAGE	Works Inspection		RDSO Inspection	Remarks	
1.	Fitment of all components					
2.	Dressing					
3.	Dimensions					
	LOCATION	Nominal Dimensions & Allowable Deviation		Actual Dimension		Remarks
				Works Inspection	RDSO Inspection	
1.	Inner Diameter of Semi Ellipsoidal Barrel End	A	2400 ±3			
2.	End plate Thickness	B	17 (Min.)			
3.	Depth of Semi Ellipsoidal Barrel End	C	667 ±2			

All dimensions are in mm

Works Inspector		RDSO Inspector	
Signature:		Signature:	
Name:		Name:	
Designation:		Designation:	
Date:		Date:	

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BARREL



REF. DRG. NO.-WD-85029-S-04

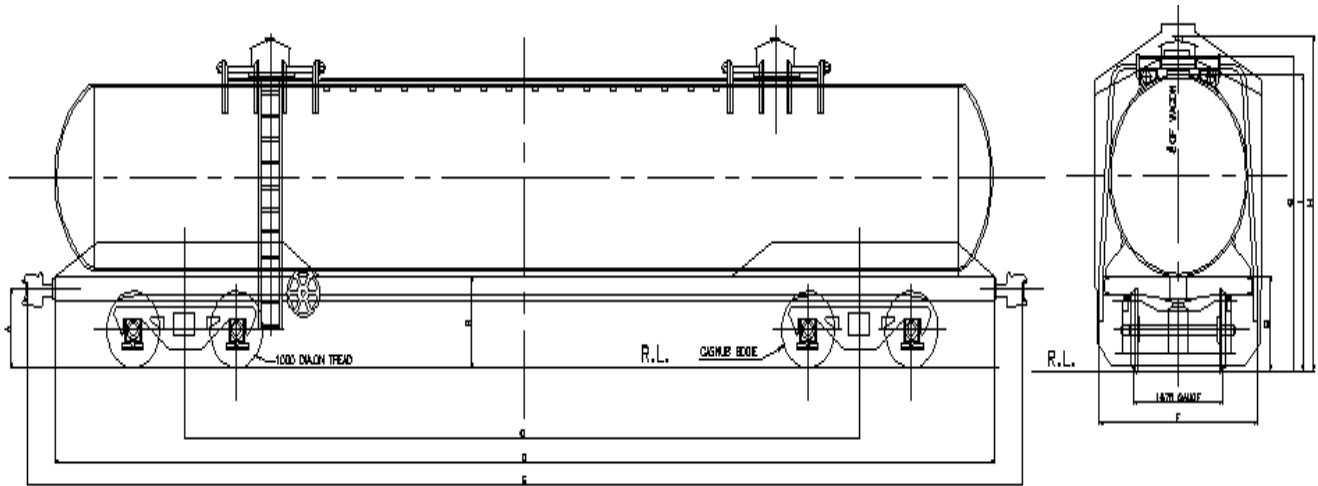
Barrel No.:			Date:		
S. No.	STAGE	Works Inspection	RDSO Inspection		Remarks
1.	Fitment of all components				
2.	Welding/Huck Bolt				
3.	Dressing				
4.	Dimensions				
	LOCATION	Nominal Dimensions & Allowable Deviation	Actual Dimension		Remarks
			Works Inspection	RDSO Inspection	
1.	Overall length of the barrel (outside)	A 17994 +10 -3			
2.	Inside diameter of barrel	B 2400			
3.	Distance of Manhole from center line	C 4820			
4.	Barrel Shell Width	D1, D2, D3, D4 & D5 2500			
5.	Barrel Shell Width	E1 & E2 2080			
6.	Inside diameter of manhole	F 460 ±2			

All dimensions are in mm

Works Inspector		RDSO Inspector	
Signature:		Signature:	
Name:		Name:	
Designation:		Designation:	
Date:		Date:	

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WD-CS-01-BTPGLN (VARIANT-'A') 2011
FINAL ASSEMBLY



REF. DRG. NO.-WD-93047-S-51

Wagon No.		Under frame No.		Date:		
S. No.	STAGE	Works Inspection		RDSO Inspection		Remarks
1.	Fitment of all components					
2.	Riveting					
3.	Welding/ Huck Bolt					
4.	Operation of dome					
5.	Operation of coupler					
6.	Brake Test i)Air brake Testing. ii)Hand brake Testing.					
7.	Painting					
8.	Lettering					
4.	Dimensions					
	LOCATION	Nominal Dimensions & Allowable Deviation		Actual Dimension		Remarks
				Works Inspection	RDSO Inspection	
1.	Coupler height from rail level	A	1105 +0 -5			
2.	Height of top of sole bar from rail level	B	1269			
3.	Bogie center	C	12970 +5 -2			
4.	Length over head stock	D	18000 +7 -3			
5.	Length over coupler faces	E	18929 +7 -3			
6.	Overall width over hand brake wheel	F	3049 ±3			

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7.	Height of top of platform from rail level.	G	4004			
8.	Overall height (from R.L. to top of dome)	H	4285 ±3			
9.	Height of top of barrel from R.L.	I	3749 ±3			

All dimensions are in mm

Works Inspector		RDSO Inspector	
Signature:		Signature:	
Name:		Name:	
Designation:		Designation:	
Date:		Date:	

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CHECK SHEET FOR BARREL OF BTPGLN WAGON**ATTACH THIRD PARTY INSPECTION CERTIFICATE FOR THE FOLLOWING**

S. No.	DESCRIPTION	WHETHER ATTACHED
1.	NAME OF INSPECTION AGENCY.	
2.	APPROVING AUTHORITY.	
3.	CERTIFICATION OF MATERIAL.	
4.	CERTIFICATION THAT FABRICATION OF BARREL IS AS PER IS: 2825 -1969 (WITH LATEST AMENDMENT).	
5.	CERTIFICATION OF RADIOGRAPHY.	
6.	CERTIFICATION OF STRESS RELIEVING OF BARREL.	
7.	CERTIFICATION OF PNEUMATIC TESTS.	
8.	CERTIFICATION OF HYDRAULIC TESTS.	
9.	CERTIFICATION OF ALL DOME FITTINGS FUNCTIONING.	
10.	CERTIFICATION OF MATERIAL AND FABRICATION OF CRADLE.	
11.	CERTIFICATION OF PROPER MOUNTING AND RIVETTING OF BARREL AND UNDER FRAME.	
12.	CERTIFICATION AND APPROVAL OF ALL DRAWINGS SUBMITTED BY THE MANUFACTURER.	
13.	DATE OF BARREL CLEARANCE BY THIRD PARTY INSPECTION.	
14.	DIMENSION OF BARREL.	
15.	INSPECTION REPORT OF DISHED END.	

Works Inspector		RDSO Inspector	
Signature:		Signature:	
Name:		Name:	
Designation:		Designation:	
Date:		Date:	

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FINAL WAGON CHECK SHEET TYPE BTPGLN

1.	Wagon No.		2.	Date of offer	
3.	Underframe No.		4.	Name of the Wagon Manufacturer:	
5.	Contract/P.O. placed by		6.	Contract/P.O. No. and date	
7.	Delivery period (upto)		8.	Return Date	
9.	Running Gear				
	a) Bearing Make			i)	j)
				ii)	ii)
				iii)	iii)
				iv)	iv)
	b) Wheel Make			i)	i)
				ii)	ii)
				iii)	iii)
				iv)	iv)
	c) Axle Make & Serial Nos.			i)	i)
				ii)	ii)
	d) Bogie Make & Sr. Nos.	i)		e) Air Brake Make	
		ii)			
	f) DV Make & Sr. no.			g) SAB Make & Sr. No.	
	h) Date of air brake testing			i) Date of SWTR unit calibration	
10.	Date of pneumatic test		11.	Date of Hydraulic test	
12.	Name of Inspection authority of Barrel & date of acceptance.				
13.	Coupler Make & Sr. Nos.	i)	14.	Draft Gear Make & Sr. Nos.	i)
		ii)			ii)
15.	Tare Weight		16.	Shot blasting/manually cleaned	
17.	D.M. Issue date		18.	TXR fit memo issue date	
19.	RAD Aailed				
20.	Defects observed				

Works Inspector		RDSO Inspector	
Signature:		Signature:	
Name:		Name:	
Designation:		Designation:	
Date:		Date:	

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CHECK SHEET FOR MARKING, COUPLER, HAND BRAKE and AIR BRAKE

Wagon No.:		U/F No.:	Date:	
S. No.	ATTRIBUTES	ACCEPTANCE LIMIT	WORKS INSPN.	RDSO INSPN.
1.	Check for paint, thickness & finish	Thickness ≥ 80 (Shot Blasted) ≥ 110 microns (manual cleaning). Paint surface shall be free from blistering brush marks & peeling		
2.	Lettering & marking for size, location & punch mark.	As per Drg. No.WD-93047-S-60 (latest Alteration).		
3.	COUPLER			
3.1	Height from Rail Level	1105 +0 -5		
3.2	Operation of knuckle with operating handle	Full knuckle throw lock to lock.		
3.3	Articulation of coupler body	Free movement.		
4.	HAND BRAKE			
4.1	Apply hand brake (by one person only) and striking all wheels with a Hammer.	There should not be ringing sound.		
4.2	Release the hand brake and apply crow bar on one end of brake block to take up all slack.	All brake blocks must be released. Gap between the brake block and wheel tread not to be less than 23.6 mm (5.9 x 4)		
5.	AIR BRAKE & SLACK ADJUSTER			
5.1	Distance between the control rod head and adjuster barrel (A)	Must be 70 +2 - 0		
5.2	Dimension (E) i.e. the distance between the end of protection tube and a fixed mark on the slack adjuster pull rod.	575 \pm 10		
5.3	Apply air brake and then release the same. Apply crow bar on one end of brake block to take up all slack	Gap should not be less than 23.6 mm. (5.9 x4)		
5.4	Rotate the brake slack adjuster in clock-wise direction (looking from control rod end) to decrease the slack. Apply and release the air brake twice.	Gap between the brake block and wheel tread as measured should be 23.6 +1 - 0		
5.5	Now rotate the barrel in anticlockwise direction. Apply and release the air brake once	Gap between the brake block and wheel tread as measured should be 23.6 +1 - 0		
6.	AIR BRAKE EQUIPMENT			
	Full service application			
6.1	Pressure in BP	5.0 \pm 0.1 Kg/ cm ²		
6.2	Pressure in AR	5.0 \pm 0.1 Kg/ cm ²		
6.3	Leakage from the system	0.1 Kg/cm ² in 1 minute		
6.4	Brake cylinder filling time			
	a) Empty (pressure rise from 0 to 2.1 Kg/ cm ²)	Empty 18 to 30 Sec.		
	b) Loaded (pressure rise from 0 to 3.6 Kg/ cm ²)	Loaded 18 to 30 Sec.		
6.5	Maximum B.C. pressure in Kg/ cm ²	Empty 3.8 \pm 0.1 Kg/ cm ² Loaded 3.8 \pm 0.1 Kg/ cm ²		
6.6	Reduction in B.P. pressure required for full service application.	1.3 to 1.6 Kg/ cm ²		

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S. No.	ATTRIBUTES	ACCEPTANCE LIMIT	WORKS INSPN.	RDSO INSPN.
7.	RELEASE AFTER FULL SERVICE APPLICATION			
7.1	Draining time: B.C pressure to fall from 2.8 ± 0.1 to 0.4 Kg/cm^2 .	a) Empty 45 to 60 sec. b) Loaded 45 to 60 sec.		
7.2	Piston stroke in mm	a) Empty 85 ± 10 b) Loaded 130 ± 10		
8.	EMERGENCY APPLICATION			
8.1	Brake cylinder filling time (pressure rise from 0 to 3.6 Kg/cm^2).	a) Empty 18 to 30 sec. b) Loaded 18 to 30 sec.		
8.2	Maximum B.C pressure in Kg/cm^2 .	a) Empty $3.8 \pm 0.1 \text{ Kg/cm}^2$ b) Loaded $3.8 \pm 0.1 \text{ Kg/cm}^2$		
9.	Leakage from Brake Cylinder after Emergency application.	0.1 Kg/cm^2 within 5 minutes.		
10.	SENSITIVITY OF BRAKES			
10.1	Isolate brake pipe from mainline, Check the response of brakes when brake pipe pressure is reduced at the most equal to 0.6 Kg/cm^2 in 6 seconds	Brake should apply within 6 seconds.		
11.	INSENSITIVITY OF BRAKES			
11.1	Isolate brake pipe from main line, Check the response of brakes when brake pipe pressure is reduced at least equal to 0.3 Kg/cm^2 in 60 seconds	Brake should not apply		
12	QUICK RELEASE AND ISOLATION			
12.1	Apply emergency brakes (i.e. $\text{BP}=0 \text{ Kg/cm}^2$) Check the brake cylinder pressure after giving a brief pull to release hook.	Brake cylinder and control reservoirs should exhaust automatically.		
12.2	Bring isolating valve of D.V. to off position.	Auxiliary reservoir should also exhaust.		
12.3	Check any (minimum) twenty number of APD fittings.	Both legs of cotter are split at 90 degree (approx). Split pin legs are opened at 180 degrees (approx). Tack welding of cotter/split pin with washer/nut with bolts is adequate.		

Works Inspector		RDSO Inspector	
Signature:		Signature:	
Name:		Name:	
Designation:		Designation:	
Date:		Date:	

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