



QM-C-7.1/Air Spring/001/KNORR/407

Inspection Plan(Check Sheet)

Item: Air suspension control equipments for air spring
assembly system

Specn. : C-K407(Rev-2)

Amd.:

Drg. No. & Alt.:

Name of manufacture	M/S Knorr Bremse india P Ltd, Faridabad
Date of offer	
RDSO File No.	
Purchase Order No.	
Total Quantity Ordered	
Quantity earlier passed	
Quantity now offered	
Quantity Passed	
Consignee	
D.P. Date	
Date of Inspection	
Qty. accepted	
Qty. rejected	
Balance order	

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1. Inspection format for installation Lever

S.No.	Particulars	Unit	Specified (As per approved drawing)	Observations					
1	Finish		Smooth						
2	Cut		Nil						
3	Burrs/Flash		Nil						
4	Rust/Corrosion		Not allowed						
5	Weld/Paint Marks		Not allowed						
6	Flatness/Parallelism		As per STR						
7	Thread	mm	M10X1.5Rh						
8	Thread	mm	M10X1.5Lh						
9	Overall Length	mm	315 \pm 25						
10	Hex. Rod Length	mm	170 \pm 2						
11	Hole Diameter	mm	10 \pm 2						
STATUS: Accepted / Not Accepted									

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2. Inspection format for **LEVELLING VALVE**

S.No.	Particulars	Unit	Specified (As per approved drawing)	Observations					
1	Diameter of hole in leveling valve handle.	mm	10 \pm 0.2						
2	Center distance of mounting holes	mm	50 \pm 0.2						
3	Square Size	mm	70 \pm 1						
4	Mounting hole diameter	mm	9.5 \pm 1						
5	Overall dimension	mm	177.8/ 120 \pm 1						
6	Threading		3/4" BSPT						
7	Handle Thickness	mm	04 \pm 0.2						
8	Handle Width	mm	20 \pm 0.2						
9	Position	mm	Horizontal						
10	Handle length	mm	160 \pm 0.3						

Pressure Test: Sample checked at 10 Kg/cm² and no leakage observed.

Physical Condition: OK / Not OK

Marking: Done / Not Done

Painting: Red Done / Not Done

Remark: Found OK.

Status: Accepted / Not Accepted.

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3. Inspection format for **DUPLEX CHECK VALVE**

S.No.	Particulars	Unit	Specified (As per approved drawing)	Observations					
1	Height	mm	119 ± 0.3						
2	Width	mm	80 ± 0.3						
3	Base to hole center line	mm	61 ± 0.2						
4	Tapped hole to hole center line	mm	100 ± 0.3						
5	Depth	mm	50 ± 2						
6	Port Threading		$\frac{3}{4}$ BSPT						
7	Square size	mm	NA in Drg						
8	Square size	mm	NA in Drg						

Pressure Test: Sample checked at 10 Kg/cm^2 and no leakage observed.

Physical Condition: OK / Not OK

Marking: Done / Not Done

Painting: Red Done / Not Done

Remark: Found OK / Not OK.

Status: Accepted / Not Accepted.

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4. Name of Item :**MAIN PRESSURE TANK (150 lit.) For Mainline**

S.No.	Particulars	Unit	Specified (As per approved drawing)	Observations					
1	Overall Length	mm	826 ± 1.5						
2	Length over barrel	mm	810 ± 2						
3	Plate width	mm	50 ± 2						
4	Plate to plate length	mm	578 ± 1						
5	Outside dia. of reservoir	mm	510 ± 2						
6	C/D tapped holes		95 ± 0.4						
7	Length of pad	mm	50 ± 2						

Pressure Test: Hydraulic test at 16 Kg/cm^2 for 10 minutes and no leakage observed.

Physical Condition: OK / Not OK

Marking: Done / Not Done

Painting: Red Done / Not Done

Remark: Found OK.

Status: Accepted/ Not Accepted.

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5. Name of Item : TWO WAY DIRT COLLECTOR

S.No.	Particulars	Unit	Specified (As per approved drawing)	Observations					
1	Top to bottom distance.	mm	201 ± 1						
2	Flange to flange distance	mm	182 ± 0.5						
3	Hole diameter	mm	13.5 ± 1						
4	Center distance of hole	mm	70 ± 0.2						
5	Flange thickness	mm	15 ± 0.2						
6	Air hole	mm	$20 + 1.5/-0$						

Pressure Test: Sample checked at 10 Kg/cm^2 and no leakage observed.

Physical Condition: OK / Not OK

Marking: Done / Not Done

Painting: Red Done / Not Done

Remark: Found OK.

Status: Accepted / Not Accepted.

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6. Name of Item : **AIR RESERVOIR (20 lit.)**

S.No.	Particulars	Unit	Specified (As per approved drawing)	Observations					
1	Overall Length	mm	605 +0/-5						
2	Shell Diameter	mm	220 \pm 2						
3	End Cover Diameter	mm	210 \pm 2						
4	Pad to pad distance	mm	300 \pm 1						
5	Threaded hole		1`` BSPT						
6	Threaded hole		1/2`` BSPT						
7	Length of pad	mm	40 \pm 2						

Pressure Test: Hydraulic test at 16 Kg/cm² for 10 minutes and no leakage observed.

Physical Condition: OK / Not OK

Marking: Done / Not Done

Painting: Red Done / Not Done

Remark: Found OK.

Status: Accepted / Not Accepted.

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7. Name of Item : **CHECK VALVE (NRV)**

S.No.	Particulars	Unit	Specified (As per approved drawing)	Observations					
1	Flange to flange distance	mm	100 ± 2 Min						
2	Top to center distance	mm	100 max						
3	Flange thickness	mm	15 ± 0.2						
4	Flange width	mm	52 ± 1 Min						
5	Hole diameter (Port size)	mm	20.0 ± 2						
6	Mounting Hole diameter	mm	13.5 ± 0.2						
7	Center distance of holes	mm	70 ± 0.2						
8	Flange length	mm	96 ± 2 Min						

Pressure Test: Sample checked at 10 Kg/cm^2 and no leakage observed.

Physical Condition: OK / Not OK

Marking: Done / Not Done

Painting: Red Done / Not Done

Remark: Found OK.

Status: Accepted / Not Accepted.

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8. Name of Item : **ISOLATING COCK**

S.No.	Particulars	Unit	Specified (As per approved drawing)	Observations					
1	Flange to flange distance	mm	85 ± 0.1						
2	Top to center distance	mm	70 ± 0.2						
3	Flange thickness	mm	15 ± 2						
4	Centerline to handle end	mm	125 ± 2						
5	Mounting hole diameter	mm	13.5 ± 1						
6	Center distance of holes	mm	70 ± 0.4						

Pressure Test: Sample checked at 10 Kg/cm^2 and no leakage observed.

Physical Condition: OK / Not OK

Marking: Done / Not Done

Painting: Red Done / Not Done

Remark: Found OK.

Status: Accepted / Not Accepted.

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9. Name of Item :**MAIN PRESSURE TANK (150 lit.) For EMUs**

S.No.	Particulars	Unit	Specified (As per approved drawing)	Observations					
1	Overall Length	mm	1288 ± 1.5						
2	Length over barrel	mm	1006 ± 2						
3	Plate width	mm	50 ± 2						
4	Plate to plate length	mm	908 ± 1						
5	Outside dia. of reservoir	mm	410 ± 2						
6	C/D tapped holes		95 ± 0.4						
7	Length of pad	mm	50 ± 2						

Pressure Test: Hydraulic test at 16 Kg/cm^2 for 10 minutes and no leakage observed.

Physical Condition: OK / Not OK

Marking: Done / Not Done

Painting: Red Done / Not Done

Remark: Found OK.

Status: Accepted/ Not Accepted.

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10. Name of Item : **AIR RESERVOIR (40 lit.)**

S.No.	Particulars	Unit	Specified (As per approved drawing)	Observations					
1	Overall Length	mm	600 +0/-5						
2	Shell Diameter	mm	302 +0/-2						
3	End Cover Diameter	mm	292 \pm 2						
4	Pad to pad distance	mm	300 \pm 2						
5	Threaded hole at 180 degree	mm	1 1/4`` BSPT						
6	Threaded hole at 90 degree		1/2`` BSPT						
7	Length of pad	mm	40 \pm 2						

Pressure Test: Hydraulic test at 16 Kg/cm² for 10 minutes and no leakage observed.

Physical Condition: OK / Not OK

Marking: Done / Not Done

Painting: Red Done / Not Done

Remark: Found OK.

Status: Accepted / Not Accepted.

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11. Pressure Differential Test on DCV

Pressure differential should be within $1.5 \pm 0.12 \text{ Kg/cm}^2$

S.No.	DCV's No.	Single Direction			Reverse Direction			Remarks
		P ₁ (Bar)	P ₂ (Bar)	Differential	P ₁ (Bar)	P ₂ (Bar)	Differential	
1.								
		4			4			
		6			6			
2.								
		4			4			
		6			6			
3.								
		4			4			
		6			6			
4.								
		4			4			
		6			6			
5.								
		4			4			
		6			6			
6.								
		4			4			
		6			6			
7.								
		4			4			
		6			6			
8.								
		4			4			
		6			6			
9.								
		4			4			
		6			6			
10.								
		4			4			
		6			6			

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12. Characteristic Test Of Levelling Valve

S.No.	Levelling Valve No.	DB Angle (0.67° - 1.33°) or ($40''$ - $1^{\circ}20''$)	Charging (2 to 6 bar)		Discharging (2 to 6 bar)	
			At 4° (15 to 45 sec.)	At 10° (4 to 14 sec.)	At 4° (33 to 93 sec.)	At 10° (5 to 25 sec.)
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						
16.						
17.						
18.						
19.						
20.						

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