

Heavy vehicle specialist inspector's or manufacturing inspecting organisation's name (PRINT IN CAPS) **DON FORDHAM.** ID **HDF.**

Vehicle registration (optional) _____ VIN/chassis number **7A9B50026K1023809**

Make **DOMETT** Component being certified: Chassis Load anchorage
 Model (optional) **2-AXLE SEMI** Log bolsters Towing connection Brakes
 Certification category **HVEK.** SRT PSV stability PSV rollover
 Swept path PBS

Description of work
TO COMPLY BRAKE SYSTEM.

Code/standard/rule certified to **N.Z.H.V.B. RULE 32015.** Component load rating(s)
GUM: 9990 kg.
REAR: 9000 kg.

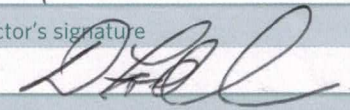
General drawing number(s) **N/A.**
 Supporting documents **N/A**

Special conditions (optional) **N/A**

Certification expiry date (if applicable) **N/A** or Hubodometer reading (whichever comes first) _____

Declaration

I the undersigned, declare that I am the heavy vehicle specialist inspector identified and I hold a current valid appointment. I certify that the above mentioned vehicle component's design, manufacture and installation, and this certification complies in all respects with the Land Transport Rule: Vehicle Standards Compliance 2002 and my appointment. To the best of my knowledge the information contained in the certificate is true and correct.

Designer's ID (if different from inspector below) **N/A.**
 Inspector's signature 
 Inspector's name (PRINT IN CAPS) **DON FORDHAM** ID number _____
 Date **18-12-2018** Number **655841**

CoF vehicle inspector ID (if applicable) _____ CoF vehicle inspector signature (if applicable) _____ Date _____

All fields are mandatory unless otherwise stated.



Company: Brakespec
Author: Don Fordham

Created: 18/12/2018
Modified: 18/12/2018
Document: 7A9B50026K1023809
Page: 1 / 7

Calculation in accordance with ECE Regulation 13 (11 Series) and EEC Directive 71/320 EEC (2002/78/EC) using Knorr-Bremse Braking System Designer software (version 15.0).
 Results based on vehicle data and components as defined by the Braking System Designer program user.
 No liability assumed by Knorr-Bremse regarding the use of non-Knorr-Bremse product data.

Vehicle

Type	2-axle Semitrailer
Calculated effective wheelbase [m]	7.80
Laden (max.) mass [kg]	9990.00
Laden (max.) axle group load [kg]	9000.00
Laden (max.) king-pin load [kg]	990.00
Laden vertical position of CoG [m]	1.65
Unladen (min.) mass [kg]	2900.00
Unladen (min.) axle group load [kg]	2500.00
Unladen (min.) king-pin load [kg]	400.00
Unladen vertical position of CoG [m]	0.68
Laden/unladen front air spring press.	[-]
Laden/unladen rear air spring press.	[bar] 2.70/0.50

Axles

Axle 1 Axle 2

Axle distances [m]	<----- 7.14 ----->		<----- 1.31 ----->	
Axle loads [kg]	Laden	4500	4500	4500
	Unladen	1250	1250	1250
Axle type		MERITOR (ROR)	MERITOR (ROR)	MERITOR (ROR)
		361-0071-04-FBKV	361-0071-04-FBKV	361-0071-04-FBKV
Tyre size		355/50 R 22.5	355/50 R 22.5	355/50 R 22.5
Dyn. tyre radius [mm]		448	448	448
Stat. tyre radius [mm]		435	435	435
Brake size or radius [mm]		Disc	Disc	Disc
and Brake type		Elsa195 LE	Elsa195 LE	Elsa195 LE
Actuator numb./axle & size		2 x 16/24	2 x 16/24	2 x 16/24
Actuator force at 6.5 bar [N]		6588	6588	6588
Slack adjuster length [mm]		-	-	-
Thresh.mom.[Nm] or force[N]		81.00	81.00	81.00
Brake Factor by Annex 19		22.0	22.0	22.0
Discbrake lever length [mm]		74	74	74
Int.br.factor (C') & Mech. eff.(Eta)		-	-	-
Int.br.factor x Mech. eff.(C' x Eta)		-	-	-
S-Cam radius [mm] or mech.ratio or wedge angle[-]		-	-	-
Friction material		ROR 8616 AF	ROR 8616 AF	ROR 8616 AF
Cam shaft length [mm]		-	-	-

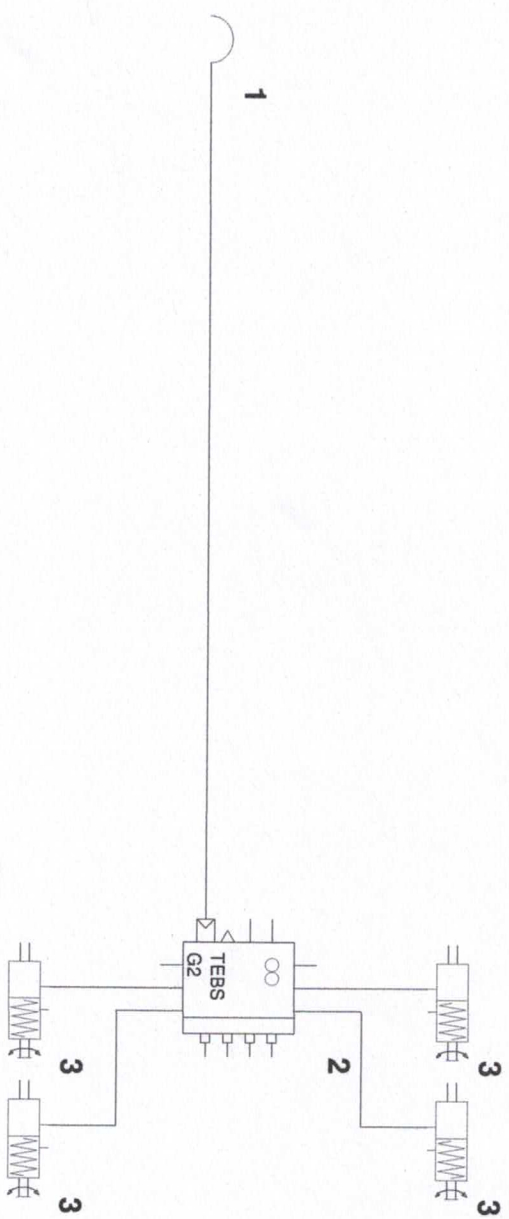
Calculation pressure [bar]: 6.5
Database version: 15.0.47

Warning! This brake calculation has been produced using information from a source not controlled by Knorr-Bremse. The results produced by this calculation are therefore dependent upon the accuracy of this information and Knorr-Bremse does not take responsibility for any resulting errors.



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Created: 18/12/2018 Document: 7A9B50026K1023809
Modified: 18/12/2018 Page: 2 / 7



Part list

No.	Name	Type	Characteristics	Qty.
1	Coupling head - brake	KU1...	-	1
2	Trailer EBS G2.x	ES206./9.	-	1
3	Spring Brake Actuator	ROR	-	4

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Created: 18/12/2018 Document: 7A9B50026K1023809
Modified: 18/12/2018 Page: 3 / 7

System components

No.	Name	Type	Characteristics
1	Coupling head - brake	KU1...	-
2	Trailer EBS G2.x	ESS206./9.	-
3	Spring Brake Actuator 16/24" stroke: 64/64	ROR	BZ 119.6 / 01/02/2001
4	Spring Brake Actuator 16/24" stroke: 64/64	ROR	BZ 119.6 / 01/02/2001
5	Spring Brake Actuator 16/24" stroke: 64/64	ROR	BZ 119.6 / 01/02/2001
6	Spring Brake Actuator 16/24" stroke: 64/64	ROR	BZ 119.6 / 01/02/2001

Axle identifiers

Axle	Axle identifier	Brake identifier	Axle load ident.	Test report identifier	Suffix	Test code
Axle 1				ID4-361-0071-04-FBKV		
Axle 2				ID4-361-0071-04-FBKV		

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 Modified: 18/12/2018
 Document: ZA9B50026K1023809
 Page: 4 / 7

Service Laden vehicle

Service	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5
Coupling head pres. [bar]	0.00	0.19	0.76	1.34	1.91	2.49	3.06	3.64	4.22	4.79	5.37	5.94	6.52	7.10	7.67
Deceleration [m/s ²]	0.00	1.89	7.77	13.64	19.51	25.37	31.24	37.11	42.97	48.84	54.71	60.57	66.44	72.32	78.19
Braking rate [%]	0.00	1.90	7.91	14.06	20.37	26.86	33.52	40.37	47.41	54.66	62.11	69.78	77.69	85.85	94.25
Br.rate with dynamic axle load [%]	0.00	0.53	0.87	1.2	1.53	1.87	2.2	2.53	2.87	3.2	3.53	3.87	4.2	4.53	4.87
Axle 1 actuator pres. [bar]	0.00	0.37	1.54	2.70	3.86	5.02	6.18	7.34	8.50	9.66	10.82	11.98	13.14	14.30	15.46
Axle 1 braking torque [kNm]	0.00	0.83	3.43	6.02	8.61	11.20	13.79	16.38	18.97	21.56	24.15	26.74	29.33	31.93	34.52
Axle 1 adhesion utilised	0.00	0.02	0.08	0.14	0.20	0.27	0.34	0.40	0.47	0.55	0.62	0.70	0.78	0.86	0.94
Axle 2 actuator pres. [bar]	0.00	0.53	0.87	1.2	1.53	1.87	2.2	2.53	2.87	3.2	3.53	3.87	4.2	4.53	4.87
Axle 2 braking torque [kNm]	0.00	0.37	1.54	2.70	3.86	5.02	6.18	7.34	8.50	9.66	10.82	11.98	13.14	14.30	15.46
Axle 2 adhesion utilised	0.00	0.02	0.08	0.14	0.20	0.27	0.34	0.40	0.47	0.55	0.62	0.70	0.78	0.86	0.94
Min. presc. brake force [kN]	0.00	0.02	0.08	0.14	0.20	0.27	0.34	0.40	0.47	0.55	0.62	0.70	0.78	0.86	0.94

Service Unladen vehicle

Service	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5
Coupling head pres. [bar]	0.00	0.28	1.37	2.46	3.55	4.64	5.73	6.82	7.91	9.00	10.09	11.18	12.27	13.37	14.46
Deceleration [m/s ²]	0.00	2.84	13.96	25.08	36.21	47.33	58.39	69.51	80.64	91.76	102.88	114.00	125.13	136.25	147.37
Braking rate [%]	0.00	2.85	14.11	25.58	37.24	49.11	61.12	73.42	85.94	98.69	111.67	124.90	138.37	152.10	166.10
Br.rate with dynamic axle load [%]	0.00	0.47	0.65	0.82	1	1.17	1.35	1.52	1.7	1.87	2.05	2.22	2.4	2.58	2.75
Axle 1 actuator pres. [bar]	0.00	0.16	0.77	1.38	1.99	2.60	3.21	3.82	4.43	5.04	5.65	6.26	6.87	7.48	8.10
Axle 1 braking torque [kNm]	0.00	0.35	1.71	3.08	4.44	5.80	7.16	8.52	9.89	11.25	12.62	13.98	15.34	16.71	18.07
Axle 1 adhesion utilised	0.00	0.03	0.14	0.26	0.37	0.49	0.61	0.73	0.86	0.99	1.12	1.25	1.38	1.52	1.66
Axle 2 actuator pres. [bar]	0.00	0.47	0.65	0.82	1	1.17	1.35	1.52	1.7	1.87	2.05	2.22	2.4	2.58	2.75
Axle 2 braking torque [kNm]	0.00	0.16	0.77	1.38	1.99	2.60	3.21	3.82	4.43	5.04	5.65	6.26	6.87	7.48	8.10
Axle 2 adhesion utilised	0.00	0.03	0.14	0.26	0.37	0.49	0.61	0.73	0.86	0.99	1.12	1.25	1.38	1.52	1.66
Min. presc. brake force [kN]	0.00	0.03	0.14	0.26	0.37	0.49	0.61	0.73	0.86	0.99	1.12	1.25	1.38	1.52	1.66

Calculation pressure [bar]: 6.5

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Created: 18/12/2018 Document: ZA9B50026K1023809
Modified: 18/12/2018 Page: 5 / 7

Miscellaneous

Coupling head pressure where $z = 22.5\%$ (laden case)
Pressure[bar] 2.75

Brake chamber pressure where $z = 22.5\%$ (laden case)
Pressure[bar] Axle1 : 1.73 Axle2 : 1.73

Automatic braking performance (laden case) at 6.5 bar
Deceleration [m/s²] : 12.13 Braking rate [%] 123.6

Vehicle performance in case of a load sensing device
control failure (laden case) at 6.5 bar

Front axle group

Deceleration [m/s²] : - Rear axle group
Braking rate [%] - Deceleration [m/s²] : 6.52
Braking rate [%] 66.4

Parking brake Laden vehicle

Maximum slope [%]:	Up	Down
	-46.9	62.3

Spring force [N] maximum: at 18%:
Axle 1 7605 1189
Axle 2 7605 1189

Max.landing-leg to
king-pin dist.[m]: 6.42

Calculation pressure [bar]: 6.5

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Modified: 18/12/2018 Page: 6 / 7

Trailer EBS parameters

Coupling head pressure [bar]	Brake chamber pressure [bar]	
	Unladen	Laden
0.8	0.4	
1.6	0.68	0.93
6.5	2.4	4.2
Low-range comp. at 1.6 bar	0	0
High-range comp. at 4.5 bar	0	0

Air suspension	Unladen	Laden
Axle boogie load [kg]	2500	9000
voltages [V]	-	-
pressures [bar]	0.5	2.7

defined by vehicle manufacturer
Pressure limitation [bar] -

Slip differential [%] - from - [bar]

Axle and Tyre information

Number of axles: 2
Dynamic tyre radius [cm]: 44.8

Calculation pressure [bar]: 6.5

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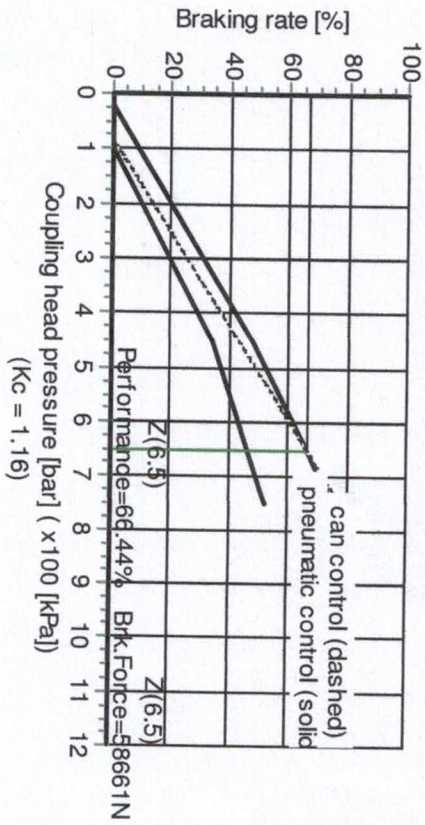


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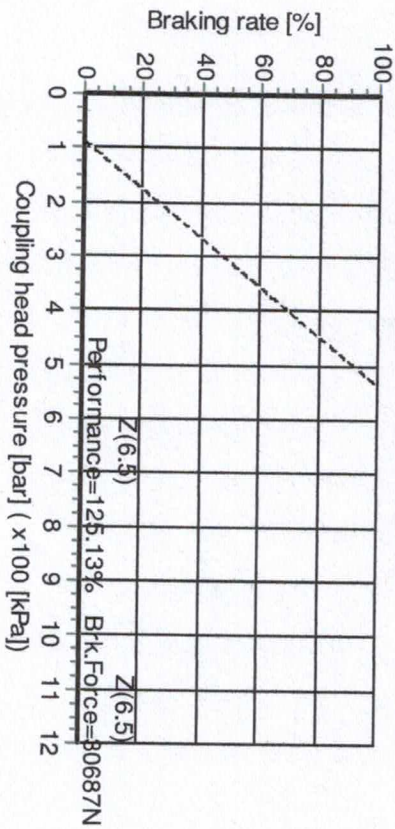
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Document: 7A9B50026K1023809
Page: 7 / 7

Laden vehicle - compatibility with Pneumatic and CAN control



Unladen vehicle - compatibility with Pneumatic and CAN control



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