



Heavy Vehicle Specialist Certificate

Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's Name (PRINT IN CAPS)

MARK TERRY

ID

MRT
MT1538

Vehicle Registration*

VIN / Chassis Number

7A9D1001XB0023989

Component being certified:

- Chassis Modification
- Load Anchorage
- Log Bolsters
- Towing Connection
- Brakes
- SRT

Certification Category

HVEIK

Description of Work

To Engineer Brake System of a ~~Demmett~~ 4 Axle Drawbar Tanker to comply to NZ Heavy Brake Rule 32015

Code/Standard Certified to

HUB02

Component Load Rating(s)

32015

N/A

General Drawing Number(s)

N/A

Supporting Documents

N/A

Special Conditions

N/A

Certification Expiry Date (if applicable)

N/A

OR

Hubodometer Reading (whichever comes first)

Designer's ID (if certified by a manufacturer)

Inspector's / Delegate's Signature

*Delegate's Name (PRINT IN CAPS)

Date

2-9-2011

Number

368779

Declaration

I the undersigned, declare that I am the Heavy Vehicle Specialist Inspector identified above 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 Deed of Appointment. To the best of my knowledge the information contained in this Certificate is true and correct.

COF Vehicle Inspector ID:

COF Vehicle Inspector Signature:

Date



Company: Brake and Transmission
Author: Mark Terry

Created: 2/09/2011 **Document:** 7A9D1001XB0023989
Modified: 2/09/2011 **Page:** 1 / 6

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 (level 11 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.

Customer: Westland Milk Products

Vehicle: 4 axle drawbar trailer

Project: Dommelt Trailer

Vehicle

Type	2x2 Drawbar trailer
Calculated effective wheelbase [m]	4.80
Laden (max.) mass [kg]	26000.00
Laden (max.) front axle group load [kg]	13000.00
Laden vertical position of CoG [m]	1.74
Unladen (min.) mass [kg]	5140.00
Unladen (min.) front axle group load [kg]	2640.00
Unladen vertical position of CoG [m]	1.07
Laden/unladen front air spring press. [bar]	-/-
Laden/unladen rear air spring press. [bar]	4.00/0.40

Axles

Type	SAF	SAF	SAF	SAF
SAF	TDB 0541	TDB 0541	TDB 0541	TDB 0541
Tyre size	265/70 R 19.5	265/70 R 19.5	265/70 R 19.5	265/70 R 19.5
Dyn. tyre radius [mm]	421	421	421	421
Stat. tyre radius [mm]	401	401	401	401
Brake type	S-Cam SNK 367x180	S-Cam SNK 367x180	S-Cam SNK 367x180	S-Cam SNK 367x180
Brake size [mm] or drum/disc radius [mm]	367x180	367x180	367x180	367x180
Actuator size	24	24	24/30-L	24/30-L
Actuator force at 6.5 bar [N]	9404	9404	9010	9010
Slack adjuster length [mm]	127.0	127.0	127.0	127.0
Thresh.mom.[Nm] or force[N]	30.00	30.00	30.00	30.00
Brake Factor by Annex 19	9.7	9.7	9.7	9.7
Discbrake lever length [mm]	-	-	-	-
Internal brake factor (C*)	-	-	-	-
Mechanical efficiency (Eta)	-	-	-	-
Internal brake factor x Mech. efficiency (C* x Eta)	-	-	-	-
S-Cam radius [mm] or mech.ratio or wedge angle[°]	-	-	-	-
Friction material	REM/SKERL 6386	REM/SKERL 6386	REM/SKERL 6386	REM/SKERL 6386

Calculation pressure [bar]: 6.5
Database version: 11.0.2

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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System components

No.	Name	Type	Characteristics
1	Coupling head	KU1...	-
2	Brake Chamber 24" stroke: 80	HALDEX	BC 0098.0 20/08/2008
3	Brake Chamber 24" stroke: 80	HALDEX	BC 0098.0 20/08/2008
4	Trailer EBS G2	ES206.	Sensors on axle 3
5	Brake Chamber 24" stroke: 80	HALDEX	BC 0098.0 20/08/2008
6	Brake Chamber 24" stroke: 80	HALDEX	BC 0098.0 20/08/2008
7	Electronic Module Premium	ES2071	-
8	Spring Brake Actuator 24/30-L" stroke: 75/75	HALDEX	KO 210.1 13/11/1998
9	Spring Brake Actuator 24/30-L" stroke: 75/75	HALDEX	KO 210.1 13/11/1998
10	Spring Brake Actuator 24/30-L" stroke: 75/75	HALDEX	KO 210.1 13/11/1998
11	Spring Brake Actuator 24/30-L" stroke: 75/75	HALDEX	KO 210.1 13/11/1998

Calculation pressure [bar]: 6.5

Database version: 11.0.2

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Service	Laden vehicle																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.34	0.88	1.38	1.88	2.37	2.86	3.36	3.85	4.36	4.86	5.37	5.87	6.38	6.89	Braking rate [%]	0.00	3.43	8.95	14.08	19.12	24.16	29.20	34.24	39.28	44.33	49.38	54.74	59.89	65.04	70.19	Axle 1 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 1 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 1 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 1 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 2 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 2 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 2 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47
Deceleration [m/s ²]	0.00	0.34	0.88	1.38	1.88	2.37	2.86	3.36	3.85	4.36	4.86	5.37	5.87	6.38	6.89	Braking rate [%]	0.00	3.43	8.95	14.08	19.12	24.16	29.20	34.24	39.28	44.33	49.38	54.74	59.89	65.04	70.19	Axle 1 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 1 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 1 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 1 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 2 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 2 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 2 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																
Braking rate [%]	0.00	3.43	8.95	14.08	19.12	24.16	29.20	34.24	39.28	44.33	49.38	54.74	59.89	65.04	70.19	Axle 1 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 1 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 1 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 1 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 2 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 2 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 2 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																
Axle 1 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 1 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 1 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 1 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 2 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 2 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 2 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																
Axle 1 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 1 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 1 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 2 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 2 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 2 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																
Axle 1 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 1 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 2 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 2 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 2 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																
Axle 1 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 2 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 2 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 2 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																
Axle 2 actuator pres. [bar]	0.20	0.67	1.12	1.57	2.01	2.46	2.91	3.36	3.81	4.26	4.70	5.15	5.60	6.05	6.50	Axle 2 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 2 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																
Axle 2 braking torque [kNm]	0.00	0.94	2.61	4.28	5.95	7.62	9.29	10.96	12.63	14.30	15.97	17.64	19.31	20.98	22.65	Axle 2 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																
Axle 2 braking force [kN]	0.00	2.24	6.20	10.17	14.13	18.10	22.07	26.03	30.00	33.96	37.93	41.90	45.86	49.83	53.79	Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																
Axle 2 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.29	0.33	0.37	0.40	0.44	0.47	0.50	0.53	0.56	Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																
Axle 3 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																
Axle 3 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																
Axle 3 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																
Axle 3 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																
Axle 4 actuator pres. [bar]	0.20	0.62	0.99	1.29	1.59	1.88	2.17	2.47	2.76	3.07	3.38	3.69	4.00	4.31	4.62	Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																
Axle 4 braking torque [kNm]	0.00	0.90	2.19	3.28	4.31	5.35	6.39	7.42	8.46	9.56	10.65	11.75	12.85	13.94	15.04	Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																
Axle 4 braking force [kN]	0.00	2.14	5.21	7.79	10.25	12.71	15.17	17.63	20.09	22.70	25.31	27.91	30.51	33.12	35.73	Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14	Service	Unladen vehicle																				Brake																					Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																
Axle 4 adhesion utilised	0.00	0.03	0.09	0.14	0.19	0.24	0.30	0.37	0.44	0.53	0.62	0.73	0.85	0.98	1.14																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Coupling head pres. [bar]	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																																																																																										
Deceleration [m/s ²]	0.00	0.61	1.53	2.37	3.18	3.99	4.81	5.62	6.44	7.28	8.12	8.96	9.79	10.63	11.47	Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																																																																																																										
Braking rate [%]	0.00	6.21	15.59	24.11	32.42	40.71	49.03	57.32	65.63	74.17	82.74	91.29	99.83	108.40	116.95	Axle 1 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																																																																																																																										
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Axle 1 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																																																																																																																																																										
Axle 1 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																																																																																																																																																																										
Axle 1 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Axle 2 actuator pres. [bar]	0.20	0.48	0.61	0.74	0.87	0.99	1.12	1.25	1.38	1.51	1.64	1.77	1.90	2.03	2.16	Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Axle 2 braking torque [kNm]	0.00	0.23	0.71	1.19	1.67	2.15	2.64	3.12	3.60	4.08	4.56	5.04	5.53	6.01	6.49	Axle 2 braking force [kN]	0.00	0.54	1.68	2.83	3.97	5.12	6.26	7.41	8.55	9.70	10.84	11.98	13.12	14.27	15.41	Axle 2 adhesion utilised	0.00	0.04	0.12	0.20	0.27	0.34	0.40	0.46	0.51	0.57	0.62	0.66	0.71	0.75	0.79	Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Axle 3 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Axle 3 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 3 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 3 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47	Axle 4 actuator pres. [bar]	0.20	0.49	0.63	0.75	0.87	0.98	1.09	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	Axle 4 braking torque [kNm]	0.00	0.43	0.95	1.37	1.77	2.15	2.52	2.97	3.37	3.79	4.22	4.65	5.07	5.50	5.92	Axle 4 braking force [kN]	0.00	1.03	2.25	3.25	4.20	5.15	6.10	7.04	7.99	9.00	10.02	11.03	12.04	13.06	14.07	Axle 4 adhesion utilised	0.00	0.09	0.20	0.30	0.40	0.52	0.64	0.78	0.93	1.11	1.32	1.55	1.81	2.12	2.47																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Calculation pressure [bar]: 6.5

Database version: 11.0.2

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.



Miscellaneous

Company: Brake and Transmission

Created: 2/09/2011

Document: 7A9D1001XB0023989

Author: Mark Terry

Modified: 2/09/2011

Page: 4 / 6

Coupling head pressure where z = 22.5% (laden case)

Pressure [bar]: 2.80

~~Brake chamber pressure [bar] where z = 22.5% (laden case)~~

Axle1 : 2.28 Axle2 : 2.28 Axle3 : 1.76 Axle4 : 1.76

Automatic braking performance (at 6.0 [bar], laden case)

Deceleration [m/s^2] : 2.92

Braking rate [%] 29.8

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

Front axle group

Rear axle group

Deceleration [m/s^2] : -

Deceleration [m/s^2] : 5.87

Braking rate [%] -

Braking rate [%] 59.9

Parking brake

Laden vehicle

Unladen vehicle

Max slope [%]	Up	Down	Up	Down
(must be > 18%)	-33.99	31.78	-48.57	33.87

(max. spring force = 6700 N at 30 mm strok

Required spring force at 18% slope

Axle 1 [N]	-	-	-	-
Axle 2 [N]	-	-	-	-
Axle 3 [N]	3699	3699	922	922
Axle 4 [N]	3699	3699	922	922

Calculation pressure [bar]: 6.5

Database version: 11.0.2

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Company: Brake and Transmission
 Author: Mark Terry

Created: 2/09/2011 Document: 7A9D1001XB0023989
 Modified: 2/09/2011 Page: 5 / 6

Trailer EBS parameters

Axle and Tyre information

Number of axles: 4

Dynamic tyre radius [mm]: 421

3rd modulator logic is LS characteristic

3rd Modulator parameters:

Coupling head pressure [bar]	Brake chamber pressure [bar]	
	Unladen	Laden
Pneu.:0.70, CAN:0.70	0.40	
1.6	0.66	1.06
6.5	1.80	4.00

Low-range comp. at 1.6 bar	0.04	0.10
High-range comp. at 4.5 bar	0.00	0.00

Air spring pressure [bar]	Unladen :		Laden :	
		0.40		4.00

Axle boogie load [kg]	Unladen		Laden	
		2500		13000

Pressure limitation [bar] -
 Slip differential [%] 0.00 from 3.00 [bar]

Coupling head pressure [bar]	Brake chamber pressure [bar]	
	Unladen	Laden
Pneu.:0.70, CAN:0.70	0.40	
1.6	0.63	1.21
6.5	1.90	5.60

Compen- at 1.6 bar	0.00	0.00
sations : at 4.5 bar	0.00	0.00

Air spring pressure [bar]	Unladen :		Laden :	
		To be defined!		To be defined!

Axle boogie load [kg]	Unladen		Laden	
		2640		13000

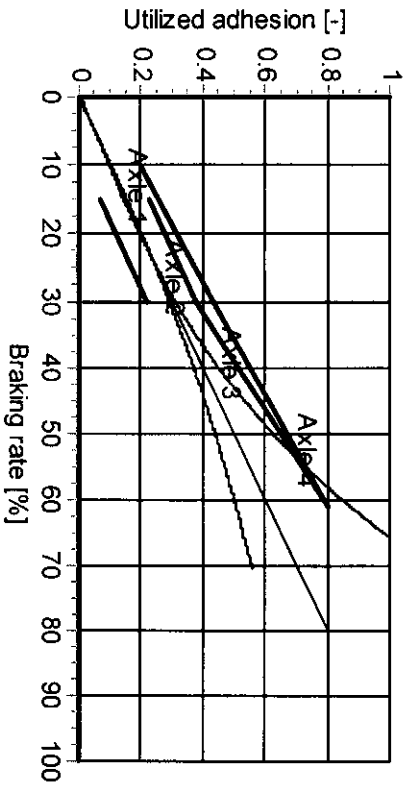
Calculation pressure [bar]: 6.5

Database version: 11.0.2

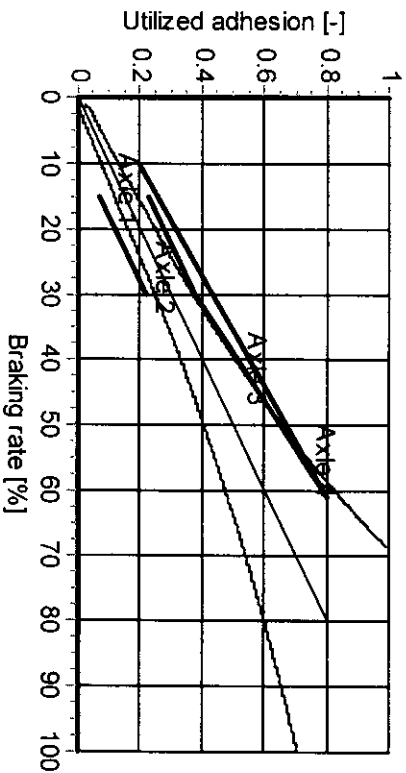
Warning! This brake calculation has been produced using information from a source not controlled by Knorr-Bremse. The results produced by this calculation are therefore dependant upon the accuracy of this information and Knorr-Bremse does not take responsibility for any resulting errors.



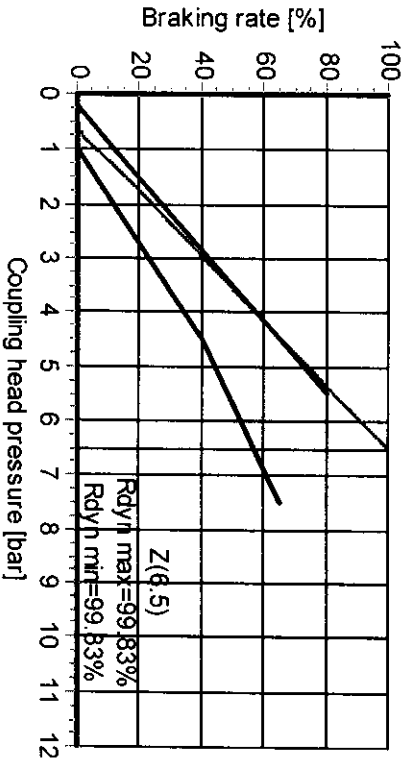
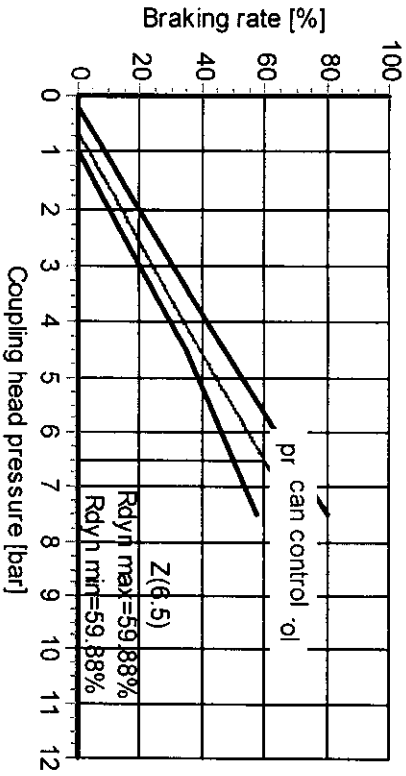
Laden vehicle - adhesion utilisation



Unladen vehicle - adhesion utilisation



Laden vehicle - compatibility with Pneumatic and CAN control Unladen vehicle - compatibility with Pneumatic and CAN control



Calculation pressure [bar]: 6.5

Database version: 11.0.2

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.

**KNORR-BREMSE**ECUtalk® for TEBS G2
(v.2.3.17.0)

EOL Report

TEBS G2 ES2060	ES2060	K019312V04N00	E48	3R-32015
SW Version	TBSG.0000700.0000137	KB Help Centre	+ 49 (0) 180 566 77 05	
Type	Full-trailer	Manufacturer	DOMMETT TRAILERS	
Brake calculation no.	7A9D1001XB0023989	VIN	7A9D1001XB0023989	
Serial number	20104820166	PIN	00 00 05 D2	

	Front pressure parameters				Rear pressure parameters				Axle	Max. load [kg]		
Demand	Pneumatic (CAN) [bar]				Pneumatic (CAN) [bar]				1	6500	24	127
Control pressure [bar]	0.70	1.6	4.5	6.5	0.70	1.6	4.5	6.5	2	6500	24	127
Brake press. unladen [bar]	0.40	0.6	1.4	1.9		0.7	1.3	1.8	3	6500	24	127
Brake press. laden [bar]		1.2	3.8	5.6		1.1	2.8	4.0	4	6500	24	127
									5	-	-	-

			Ext.brake demand	None	AUXIO1	Disabled
Bogie load unladen [kg]	2640	2500	Differential slip [%]	-	AUXIO2	Disabled
Bogie load laden [kg]	13000	13000	Max slip demand [bar]	-	AUXIO3	Supply
Tyre diameter [mm]	842	842	Pressure limit [bar]	-	SENS_IN1	Disabled
Sensing ring teeth	90	90	ABS Configuration	4S/3M	SENS_SUP	Disabled
Module turned	No	3rd modulator	TEPM Premium		INPUT_E	Disabled
TBM LS Type	TBM-Internal	TEPM LS Type	TEPM-Internal		INPUT_F	Disabled
LS1 U_unladen [V]	-	LS-TEPM U_unladen [V]	-		P28	Disabled
LS1 U_laden [V]	-	LS-TEPM U_laden [V]	-		TEPM-AUXIO1	Disabled
Spring deflection TBM	-	Spring deflection TEPM-P	-		TEPM-AUXIO2	Disabled
Lever length TBM	-	Lever length TEPM	-		TEPM-SENS_IN1	Disabled
					TEPM-SENS_IN2	Disabled

	Unladen	Laden	Kilometre counter [km]	0
Airspring pressure TBM [bar]	0.4	3.7	Next service [km]	9999999
Airspring pressure TEPM [bar]	0.4	3.7	Next service [date]	31/12/2254
Suspension pressure TBM [bar]	-	-		
Suspension pressure TEPM [bar]	-	-		



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KNORR-BREMSE

ECUtalk® for TEBS G2
(v.2.3.17.0)

EOL Report

TEBS G2 ES2060	ES2060	K019312V04N00	E48	13R-32015
SW Version	TBSG.0000700.0000137	KB Help Centre	+ 49 (0) 180 566 77 05	
Type	Full-trailer	Manufacturer	DOMMETT TRAILERS	
Brake calculation no.	7A9D1001XB0023989	VIN	7A9D1001XB0023989	
Serial number	20104820166	PIN	00 00 05 D2	

EOL Test Result: OK

EOL Test Step Results

Initial "Fault" status (0.0)	OK (1)
Installation check (1)	OK (1)
System pressure test (2)	OK (1)
Warning lamp test (3)	OK (1)
S-C sensor test (11.3)	OK (1)
Air gap speed at SC [km/h]	1.93
S-D sensor test (11.4)	OK (1)
Air gap speed at SD [km/h]	1.99
S-A sensor test (11.1)	OK (1)
Air gap speed at SA [km/h]	1.94
S-B sensor test (11.2)	OK (1)
Air gap speed at SB [km/h]	1.86
RSP installation test (13)	OK (1)
Final "Fault" status (0.1)	OK (1)

Tester's name	Chris Clarke	Signature
Location	Genese Ltd	
Date	Friday, 2 September 2011	
Additional information	Westland Dairies 4 axle full trailer	



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