



Series		Air suspension axles and suspensions	Axle load	Air Bag		Axle type with drum brake SN 4218	Ride height FH (mm)	to drawing AL II-SN.0-R
				30/30K	36/36K			
ALO		Air suspension axles	9t	x	-	RSF..	390-565	Sheet 1
			9t	-	x			Sheet 2
		Two-sided lifting device	9t					Sheet 7a
ALM / ALMT		Air suspension axles	9t	x	-	RSF..	245 - 420	Sheet 8
			9t	-	x			Sheet 9
		Two-sided lifting device	9t					Sheet 14a



Weight variations are within the permitted DIN tolerances for the production process, given in kg.

Series	to drawing AL II - SN.0	Line	Weight of air suspension parts	Weight of clamped axle mounting	FM 1200	FM 1300		FM 1400	
					SP 2040 (9t)	SP 2040 (9t)	SP 2100 (9t)	SP 2100 (9t)	SP 2140 (9t)
ALO	Sheet 1	1	93 ⁴⁾	31	300,9 ⁴⁾ (Ø146x10)	300,9 ⁴⁾ (Ø146x10)	303,8 ⁴⁾ (Ø146x10)	303,8 ⁴⁾ (Ø146x10)	304,3 ⁴⁾ (Ø146x10)
		2	99 ⁴⁾						
		3	101 ⁴⁾						
		4	112 ⁴⁾						
	Sheet 2	1	100 ⁴⁾	31	300,9 ⁴⁾ (Ø146x10)	300,9 ⁴⁾ (Ø146x10)	303,8 ⁴⁾ (Ø146x10)	303,8 ⁴⁾ (Ø146x10)	304,3 ⁴⁾ (Ø146x10)
		2	105 ⁴⁾						
		3	108 ⁴⁾						
		4	119 ⁴⁾						
ALM / ALMT	Sheet 8	1	98	31	300,9 ⁴⁾ (Ø146x10)	300,9 ⁴⁾ (Ø146x10)	303,8 ⁴⁾ (Ø146x10)	303,8 ⁴⁾ (Ø146x10)	304,3 ⁴⁾ (Ø146x10)
		2	100						
		3	106 ⁴⁾						
		4	98						
		5	108						
		6	104 ⁴⁾						
		7	106 ⁴⁾						
	Sheet 9	1	104	31	300,9 (Ø146x10)	300,9 (Ø146x10)	303,8 (Ø146x10)	303,8 (Ø146x10)	304,3 (Ø146x10)
		2	107						
		3	113						
		4	105						
		5	116						
		6	110						
		7	113						
Lift	Sheet 7a, 14a		Two-sided lifting device Version with hanger bracket (9t)					34 kg	
			Two-sided lifting device Version with channel cross member (9t)					33 kg	

Note on weight specifications

- > Trailing arm length L2 bei ALO = 310 mm
- > Trailing arm length L2 bei ALM/ALMT = 380 mm
- > With respect to the strength of the trailing arm, the centre-of-mass heights stipulated on AL II pages VI and VIa must be observed
- > With air bag BPW 30 / 30K offset V = 20 mm
- > With offset V = 60 mm look at additional weight, LightTube
- > **Less weight per axle**
- > with LightTube = 14 kg
- > with LightTube and air bag BPW 30 with V=60 = 20,2 kg
- > with LightTube and air bag BPW 30K with V=60 = 18,8 kg
- > with LightTube and air bag BPW 36 with V=80 = 12,2 kg
- > with LightTube and air bag BPW 36K with V=80 = 11,6 kg

Additional weight per axle

- > Bolt-on bracket = 8 kg
- > Air bag BPW 30, offset V=60 = 4,2 kg
- > Air bag BPW 30, offset V=60 = 3,7 kg

Series	Trailing arm			Additional weight per axle
	L1	L2	Thickness	
ALO	500	380	1x56	4,0 kg
			1x62	9,4 kg
310		1x62	2,4 kg	
ALM		380	1x62	5,6 kg
ALMT	1x62		3,9 kg	

Determining the total weight

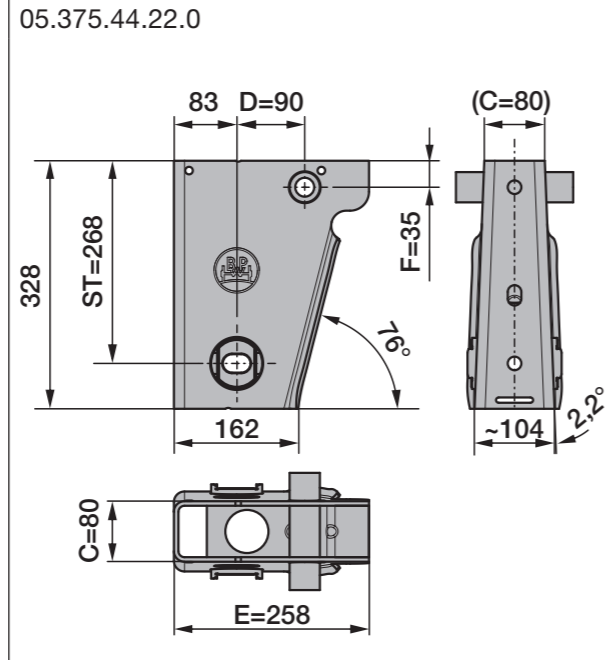
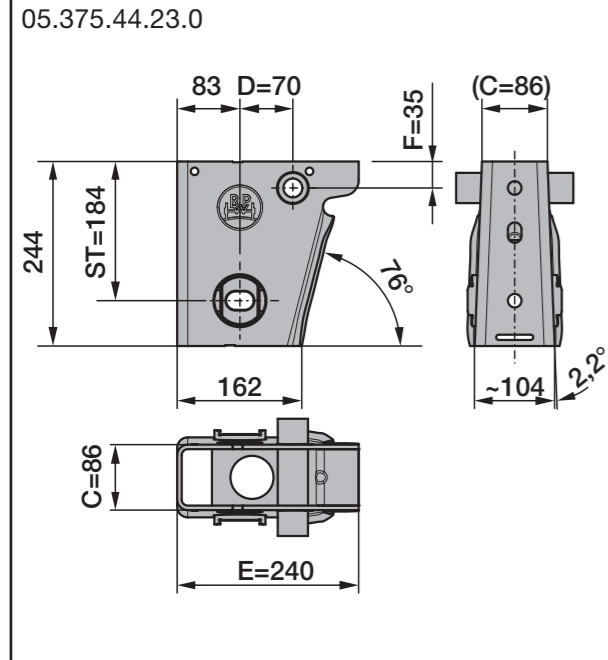
Air suspension parts
+ Axle mounting
+ Axle
+ Additional weight / - Less weight
= Total weight

⁴⁾ LightTube possible



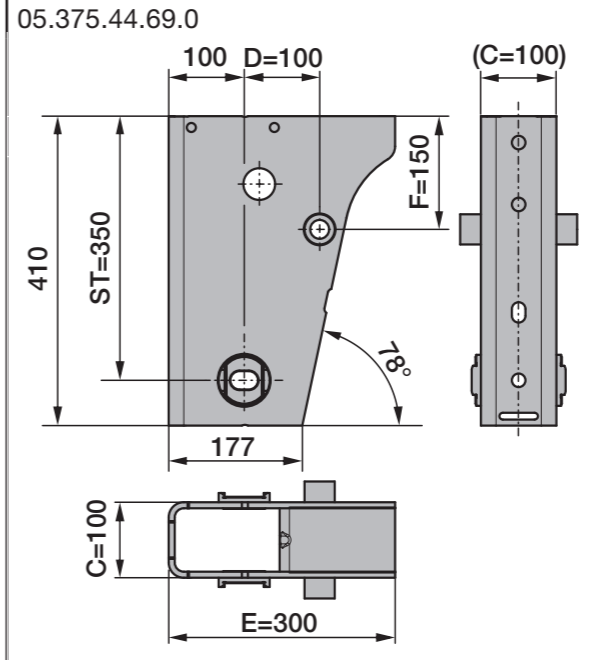
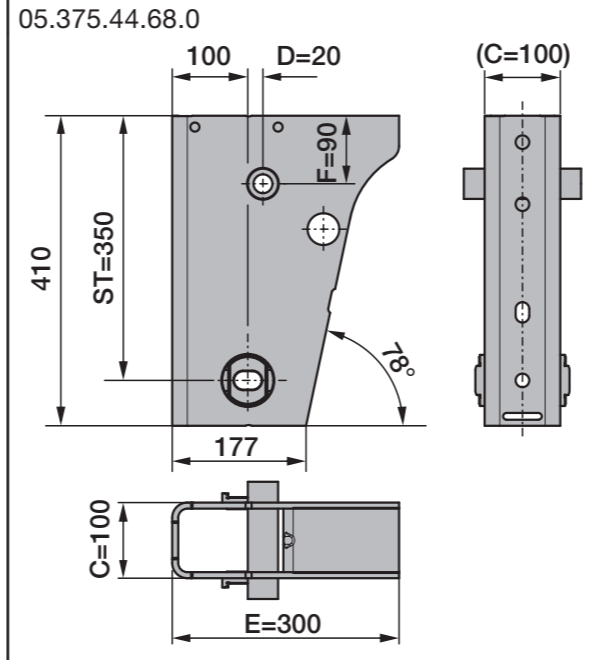
**Standard brackets AL II
for single leaf trailing arms**

Spring bolt assembly: 05.857.00.28.0

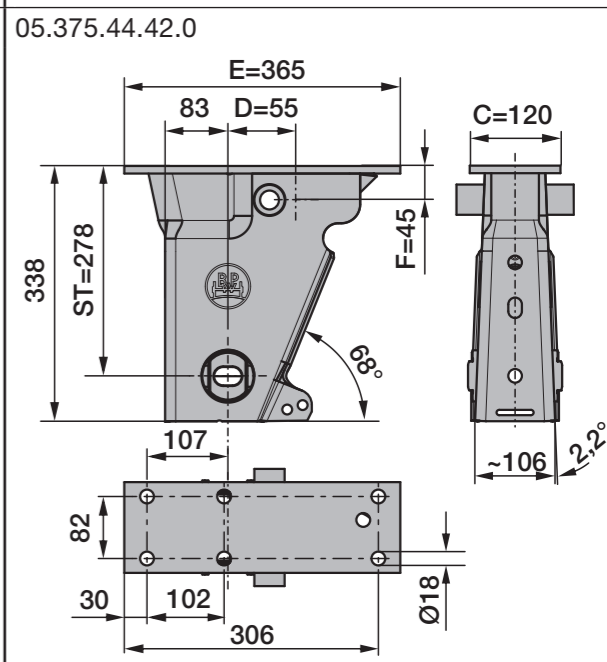
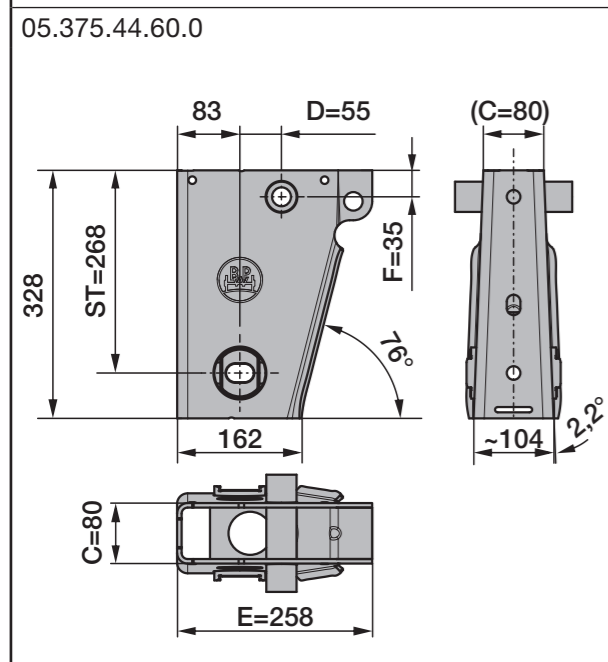
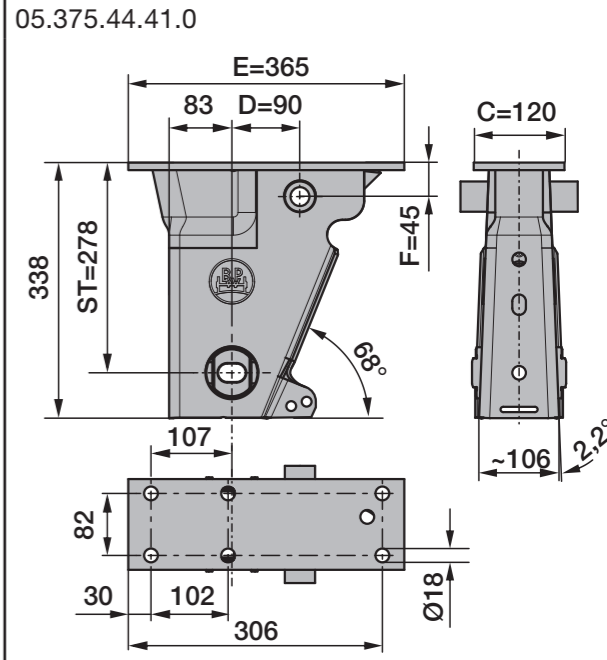


**Standard brackets AL II
for single leaf trailing arms and double leaf trailing arms**

Spring bolt assembly: 05.857.00.29.0

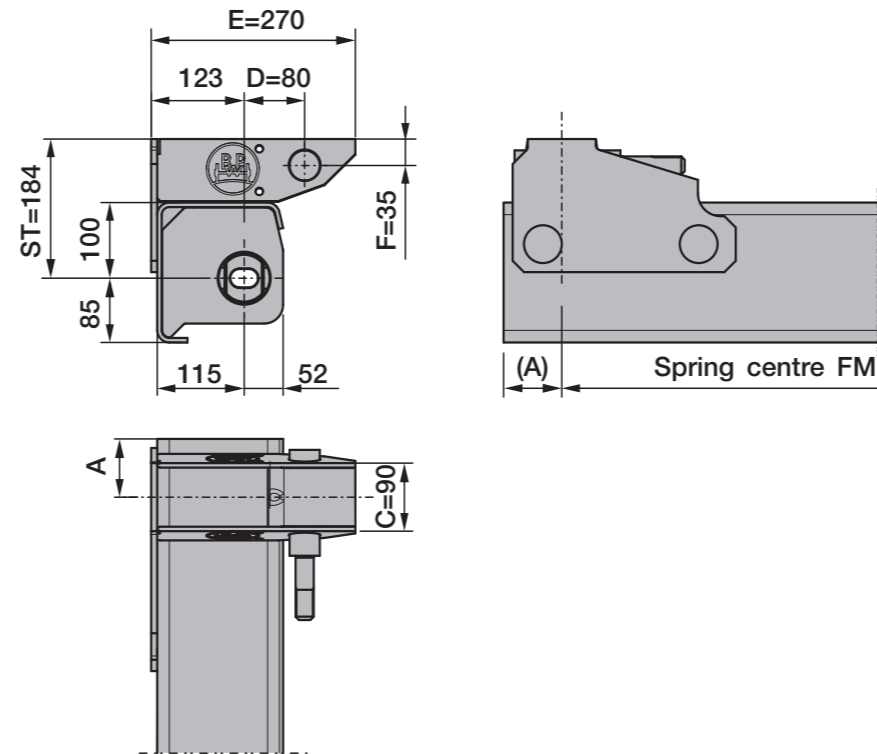
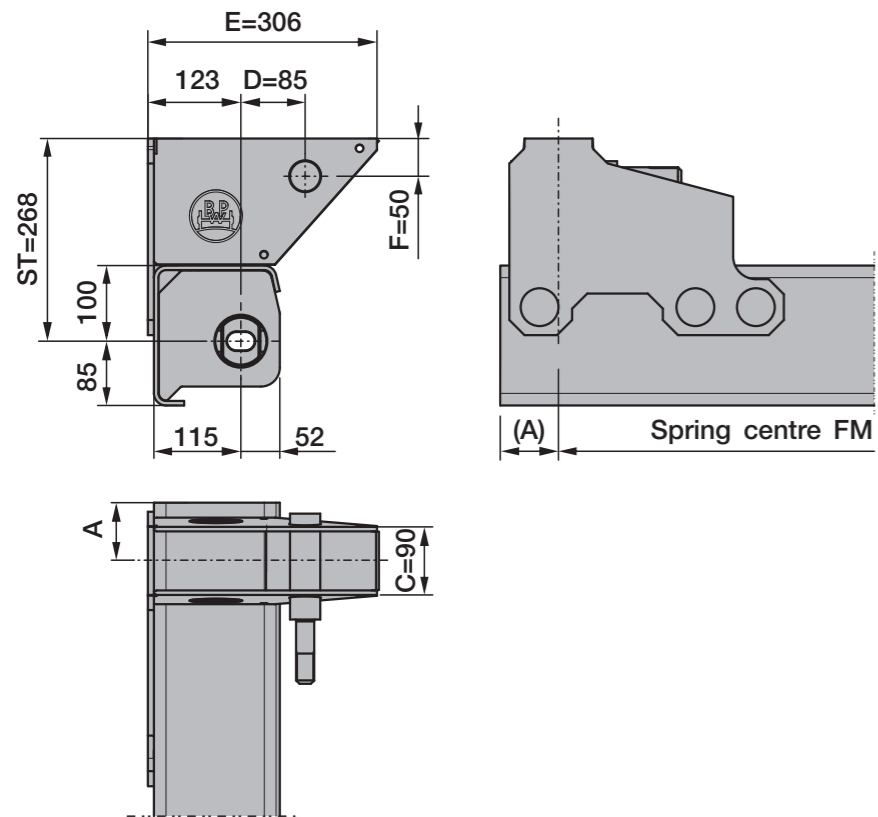


**Bolt-on bracket AL II
for single leaf trailing arms
(max. 9t)**



Note:
The hanger brackets and the frame must be reinforced so that the forces applied can be absorbed. See the current BPW installation instructions.

Note:
 > The hanger brackets and the frame must be reinforced so that the forces applied can be absorbed. See the current Installation instructions C-04.00.509610
 > Lifting device for bolt-on bracket on demand.



For spring centre FM			
	1200	1300	1400
Measure A	77	77	77

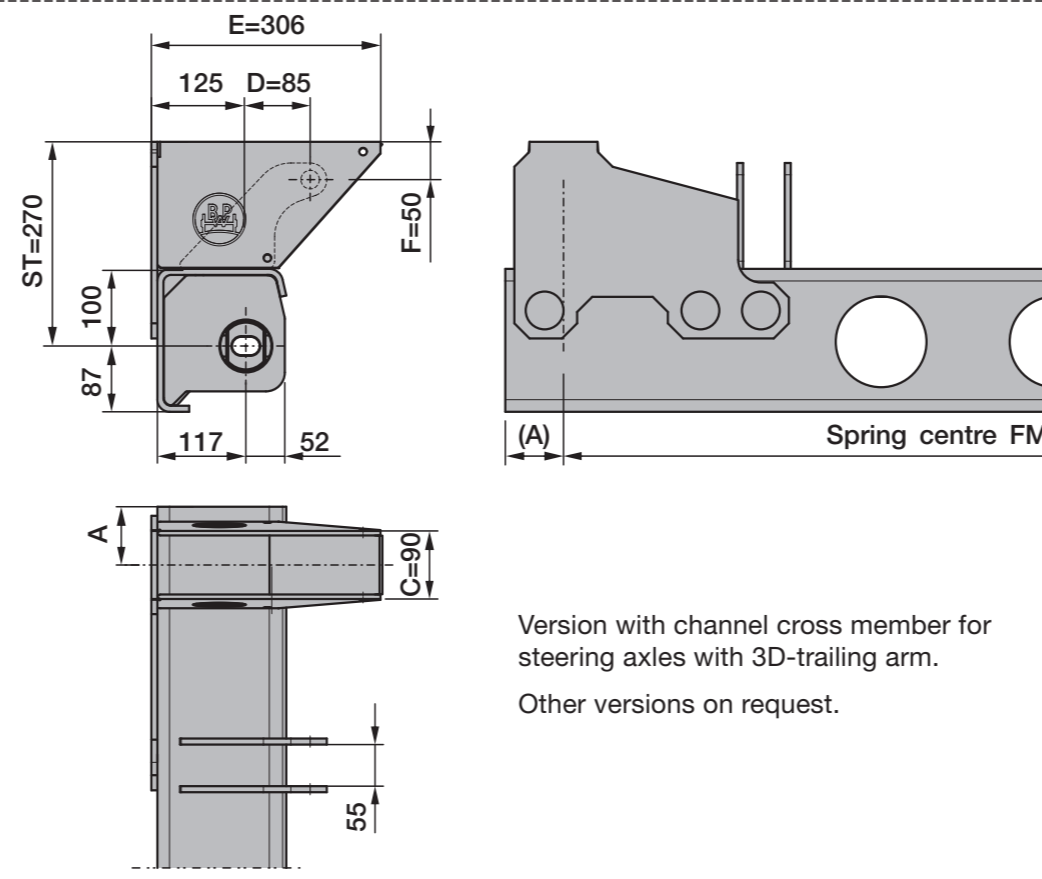
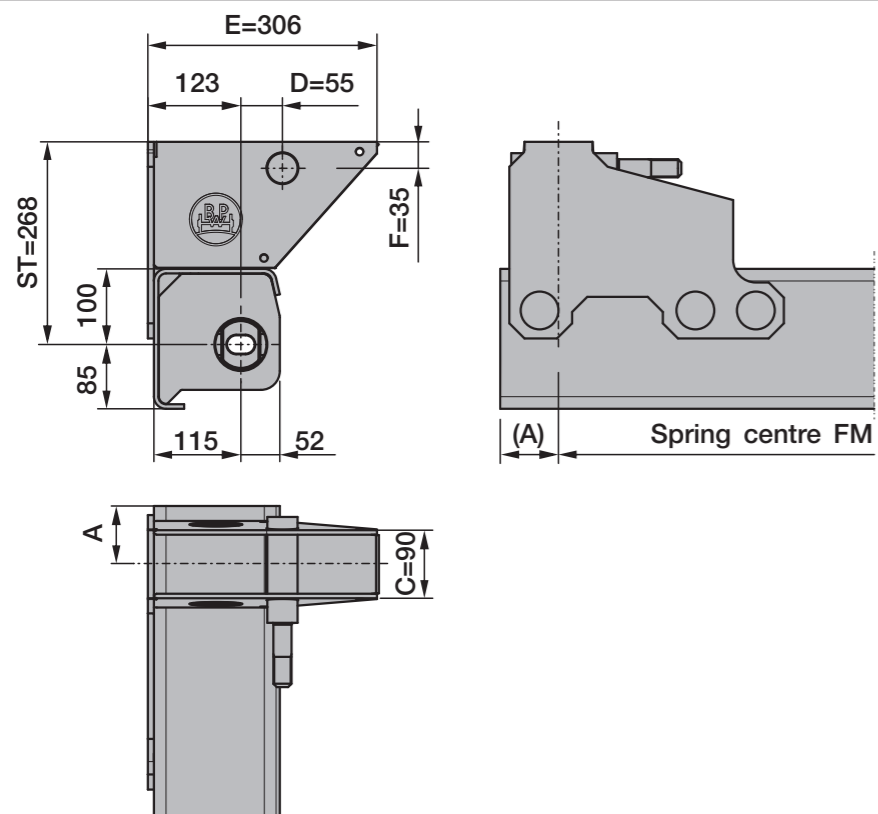
Note:

The frame must be reinforced so that the forces applied can be absorbed.

See the current BPW installation instructions.

For example:

Air spring axle with channel cross member
RSFALO 9010 C V30 -> version with channel cross member





Series	to drawing AL II - SN.0	Trailing arm				Axle load kg	Height of centre of gravity max.				
		05.082..	Thickness	L1	L2		Spring center FM				
						1200	1300	1400			
ALO	Sheet 1 Sheet 2	..13.90.2	1x56 1x61 ⁴⁾	500	310	8000	2800	3000	3200		
		..14.57.2 ⁴⁾				9000	2500	2700	2850		
		..13.89.2				8000	2800	3000	3200		
		..14.56.2 ⁴⁾				9000	2500	2700	2850		
		..14.02.2	1x62		380	8000	---	---	---		
		..13.96.2				9000	---	---	---		
		..13.88.2 ¹⁾				500	380	8000	2800	3000	3200
		..14.09.2 ²⁾						9000	2500	2700	2850
..14.55.2 ³⁾	8000	---	---	---							
..13.95.2 ¹⁾	9000	---	---	---							
ALM / ALMT	Sheet 8 Sheet 9	..14.12.2 ²⁾	1x62								

1) Series ALM

4) LightTube ALO

2) Series ALMT

3) LightTube ALM



Advice	Conditions	Axle load	Air suspension series	Tyre S = Single tyres Z = Twin tyres	Spring centre	Trailing arm		Axle beam	Axle connection	Notes and options
						70 mm	100 mm			
1	On-Road use	9 t	ECO Air (EA)	S	≥ 1200	Guide link		○ 146 x 10	Clamped	<p>Lines 1 - 3 and 7 - 9 Vehicles with split air bag (combi-airbag) must not be moved in the unvented condition when manoeuvring in traffic.</p> <p>Lines 1 - 11 For container and coil carrier trailers, the use of air bag stroke limitation is necessary.</p> <p>Tipper trailers require the use of a lowering device or stroke limitation.</p> <p>Lines 7 - 11 Optional use of HD components for sophisticated applications</p> <p>- HD shock absorbers for rough road usage and for high off-road speeds</p> <p>- Ø 360 mm air bag (for fast height adjustment with sudden loading) with reinforced bag plate</p> <p>Lines 9 - 11 Toughest off-road use, e.g. mining operations or use on unconsolidated, heavy substrates, which are navigable only with all-wheel drive machines. Mandatory use of air bags with reinforced bag plate.</p>
2			AL II			1 x 56 *	○ 146 x 10 ¹⁾ □ 120 x 10 ²⁾			
3						Z	< 1200	1 x 62		
4		S / Z		≥ 1100	1 x 65	Welded				
5		10 t	Z	< 1100			□ 120 x 17			
6			11.8 t with SN 4220 12 t with SN 3020 / SN 3620	S / Z						
7	Off-Road use	9 t	ECO Air (EA)	S	≥ 1200	Guide link		○ 146 x 10	Clamped	
8			AL II			1 x 62	○ 146 x 10 ¹⁾ □ 120 x 15 ²⁾			
9		S / Z			1 x 65	□ 120 x 15				
10					10 t	□ 120 x 17				
11		10 t - 12 t	SL		1 x 57 / 2 x 43	□ 150 x 16				

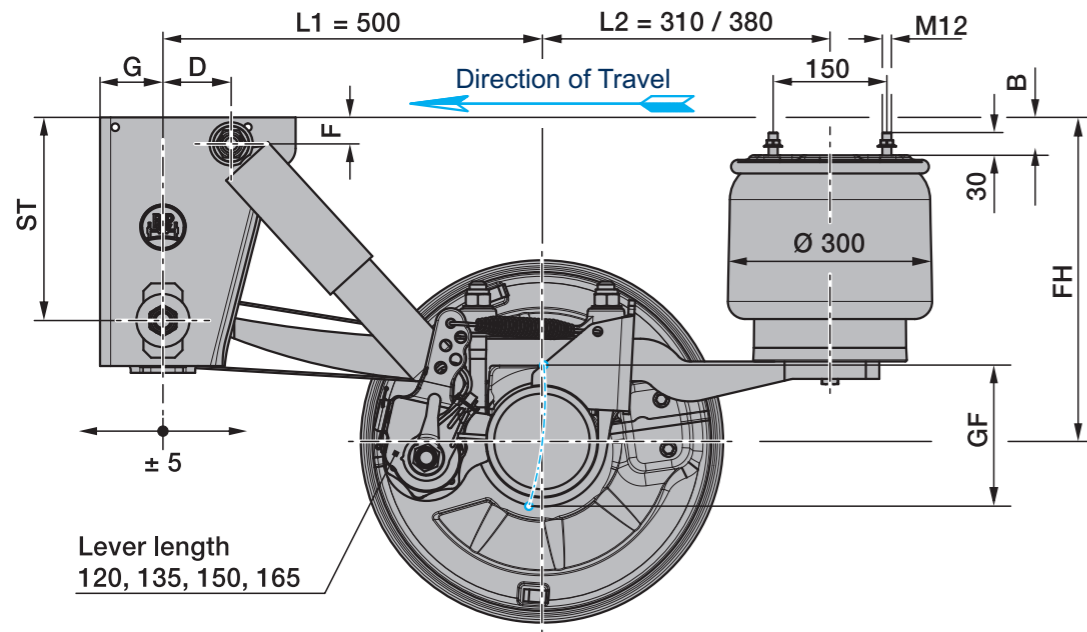
* LightTube available for ALO, ALM, ALU

¹⁾ ALO / ALM / ALMT

²⁾ ALU

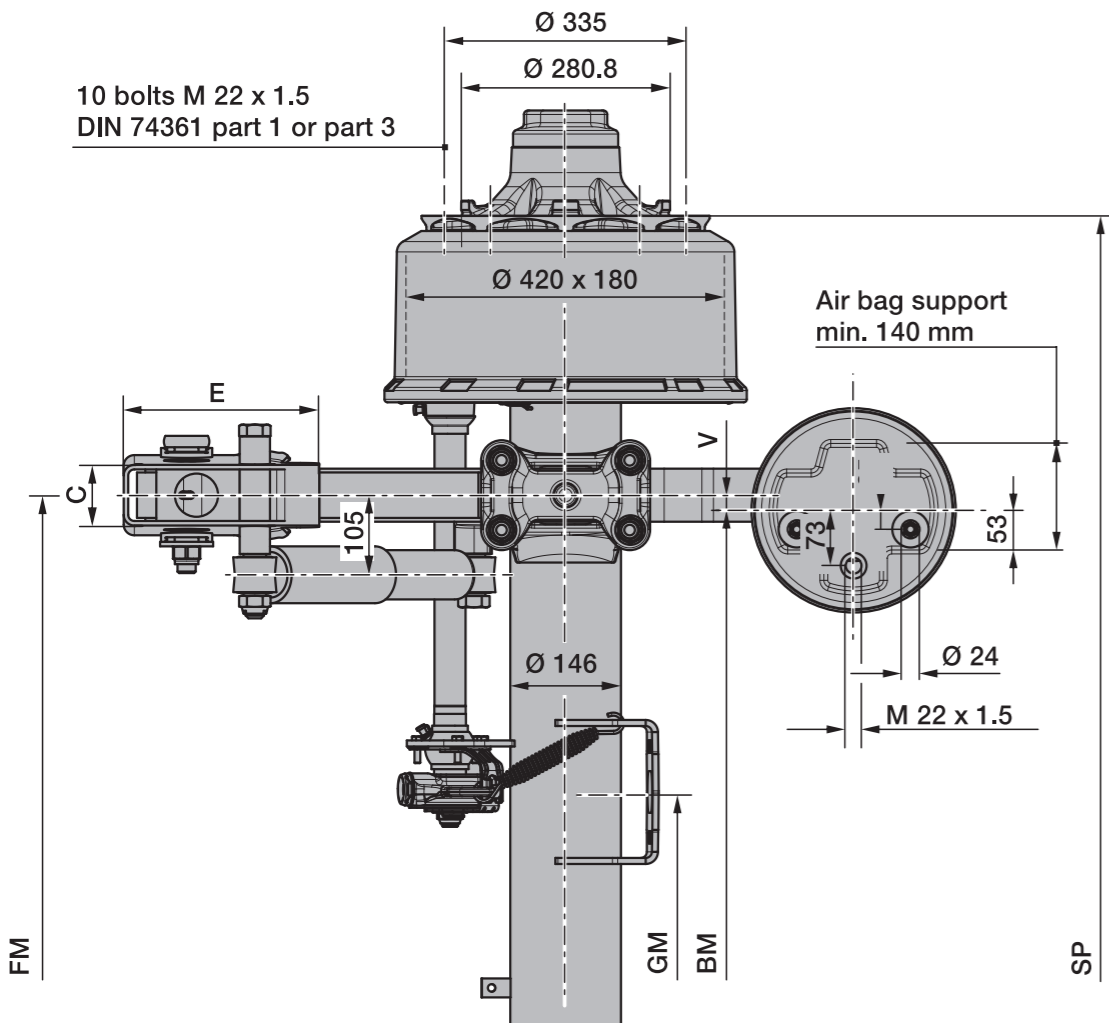
Observations:

- Deviations from the required equipment features may impact the extent and validity of the ECO Plus guarantee. Your BPW contact person is available for further information and a one-to-one consultation.
- The data sheets of the BPW air suspension must be observed for the exact specification of the air spring modules according to the application areas and the possible combinatorial function of the components mentioned (incl. TE-3075.0).
- Disc cover plate for disc brakes
On-road: Generall, no cover plate is necessary for on-road use.
Rugged conditions: Cover plates are recommended for use in rugged conditions. Rugged conditions are the off-road use as well as difficult on-road conditions (e.g. high amounts of dirt, ice or snow).
- From an axle load of 10 t, the use of Ø 360 mm air bags is mandatory.



Line	Series	adjustable ride height FH					Total spring travel GF ¹⁾	Air bag type BPW	Shock absorber 02.37...	Hanger bracket				Shock absorber mounting		Packer ²⁾ B
		for single axles	for axle units	min. FH with axle raised	empty without air	loaded without air				ST	C	E	G	D	F	
1 ³⁾	ALO ⁷⁾	390 - 430	400 - 430	430	330	315	190	30K	...22.83.02	184	86	240	83	70	35	---
2	ALO ⁷⁾	420 - 470	430 - 470	460	360	345	190	30K	...22.83.02	268	80	258	83	90	35	---
3	ALO ⁷⁾	450 - 510	460 - 510	490	390	375	220	30	...22.88.02	268	80	258	83	90	35	---
4	ALO ⁷⁾	500 - 565	510 - 565	540	440	425	220	30	...22.88.02	350	100	300	100	100	150	40

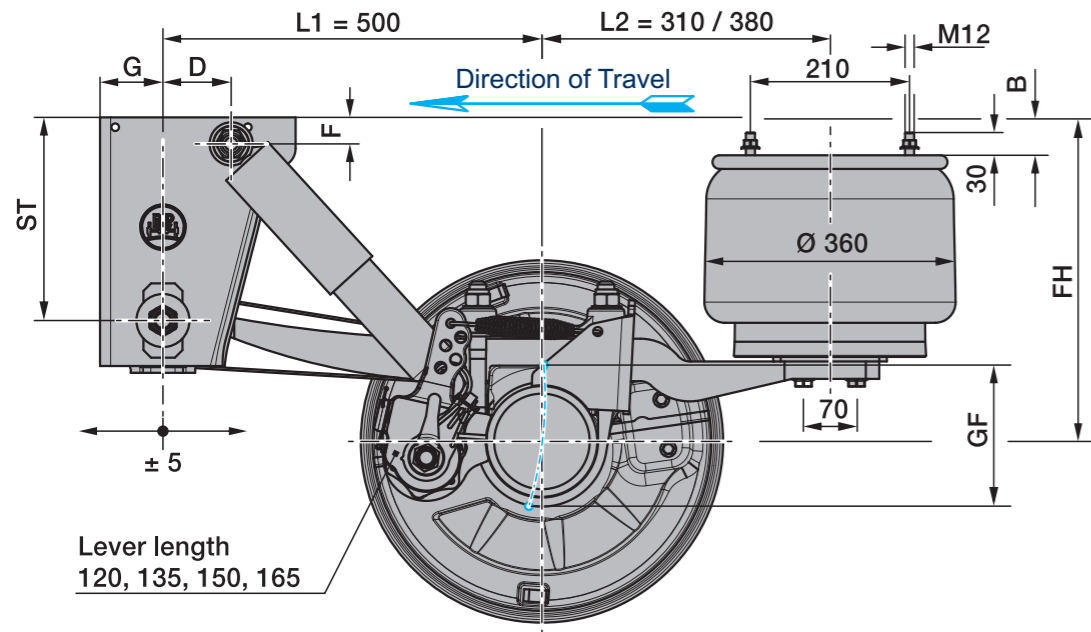
1) Lifting heights acc. to TD-1242.0
2) The packer is not included in supplied package.
3) Only suitable for semi-trailers / Centre axle drawbar trailer
7) LightTube possible



Axle type	Track SP	Spring centre FM	Booster bracket centre GM	Air bag centre BM		Brake cylinder ⁴⁾	Tyres recommended
				V=20	V=60		
RSF... 9010	2040	1200 ⁷⁾	401	1160	1080	M / F	385/65 R22.5 385/55 R22.5
		1300 ⁷⁾		1260 ⁶⁾	1180		
	2100	1300 ⁷⁾	461	1260	1180		
		1400 ⁷⁾	---	1280			
2140	1400 ⁷⁾	501	1360 ⁶⁾	1280			

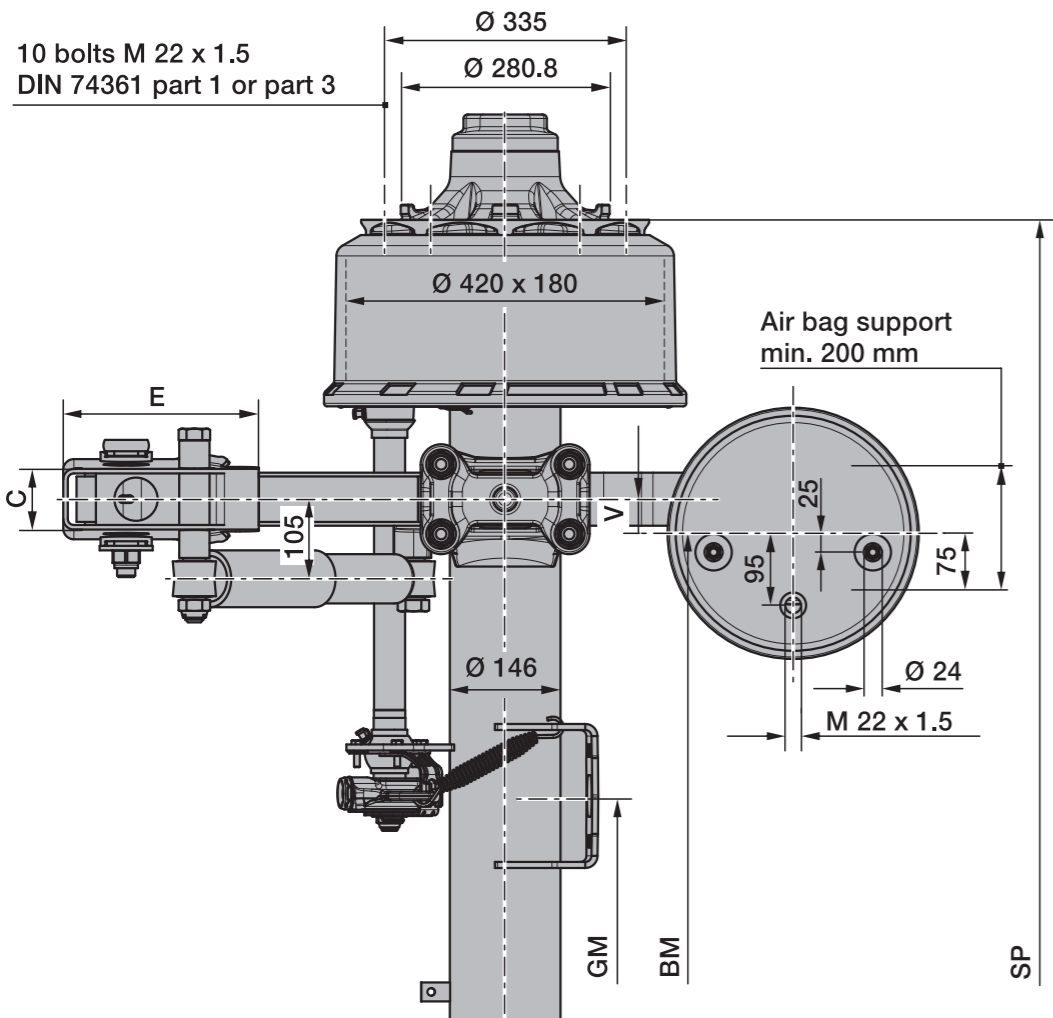
4) M = for diaphragm cylinder / F = for spring brake cylinder
5) at V=60 only diaphragm cylinder
6) V=20 only with trailer L1=500 / L2=380
7) LightTube possible

- > Max. inclination angle of the semitrailer under full load and lowest adjustable ride height $\pm 1^\circ$
- > With trailing arm L1=500 / L2=310, bag pressures acc. to TE-1188.0 sheet 18
With trailing arm L1=500 / L2=380, bag pressures acc. to TE-1188.0 sheet 15
- > The hanger brackets, air bag supports and the frame must be reinforced so that the forces applied can be absorbed. See the current BPW installation instructions.



Line	Series	adjustable ride height FH					Total spring travel GF ¹⁾	Air bag type BPW	Shock absorber 02.37...	Hanger bracket				Shock absorber mounting		Packer ²⁾ B
		for single axles	for axle units	min. FH with axle raised	empty without air	loaded without air				ST	C	E	G	D	F	
1 ³⁾	ALO ⁶⁾	390 - 430	400 - 430	430	330	315	190	36K	...22.83.02	184	86	240	83	70	35	---
2	ALO ⁶⁾	420 - 470	430 - 470	460	360	345	190	36K	...22.83.02	268	80	258	83	90	35	---
3	ALO ⁶⁾	450 - 510	460 - 510	490	390	375	220	36	...22.88.02	268	80	258	83	90	35	---
4	ALO ⁶⁾	500 - 565	510 - 565	540	440	425	220	36	...22.88.02	350	100	300	100	100	150	40

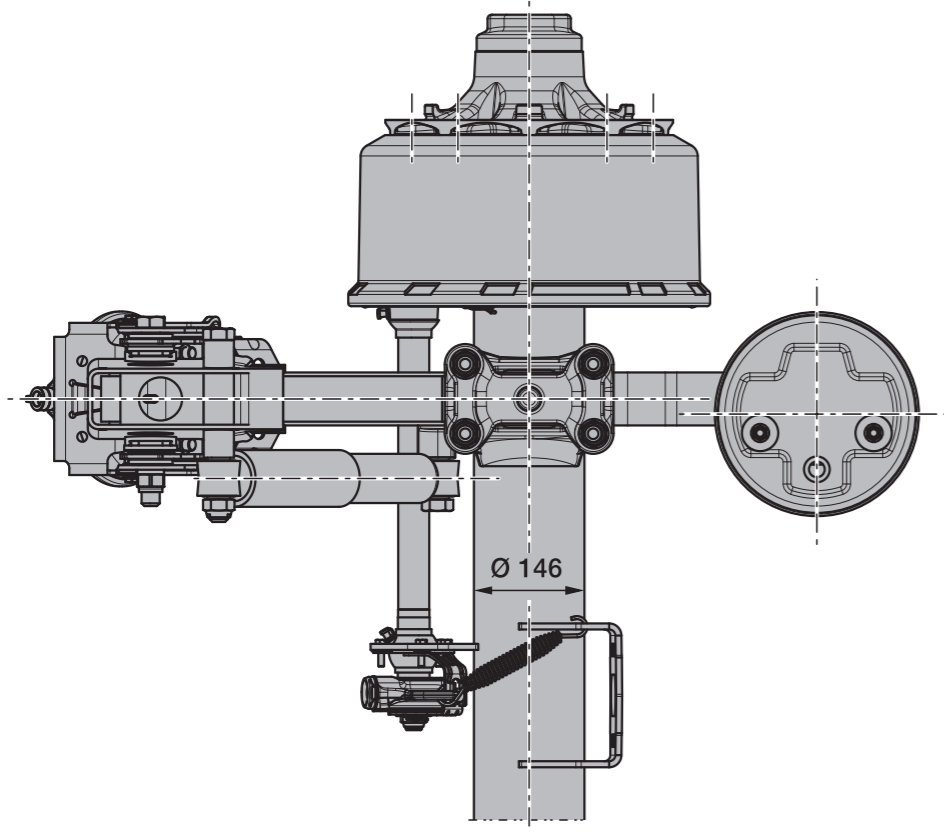
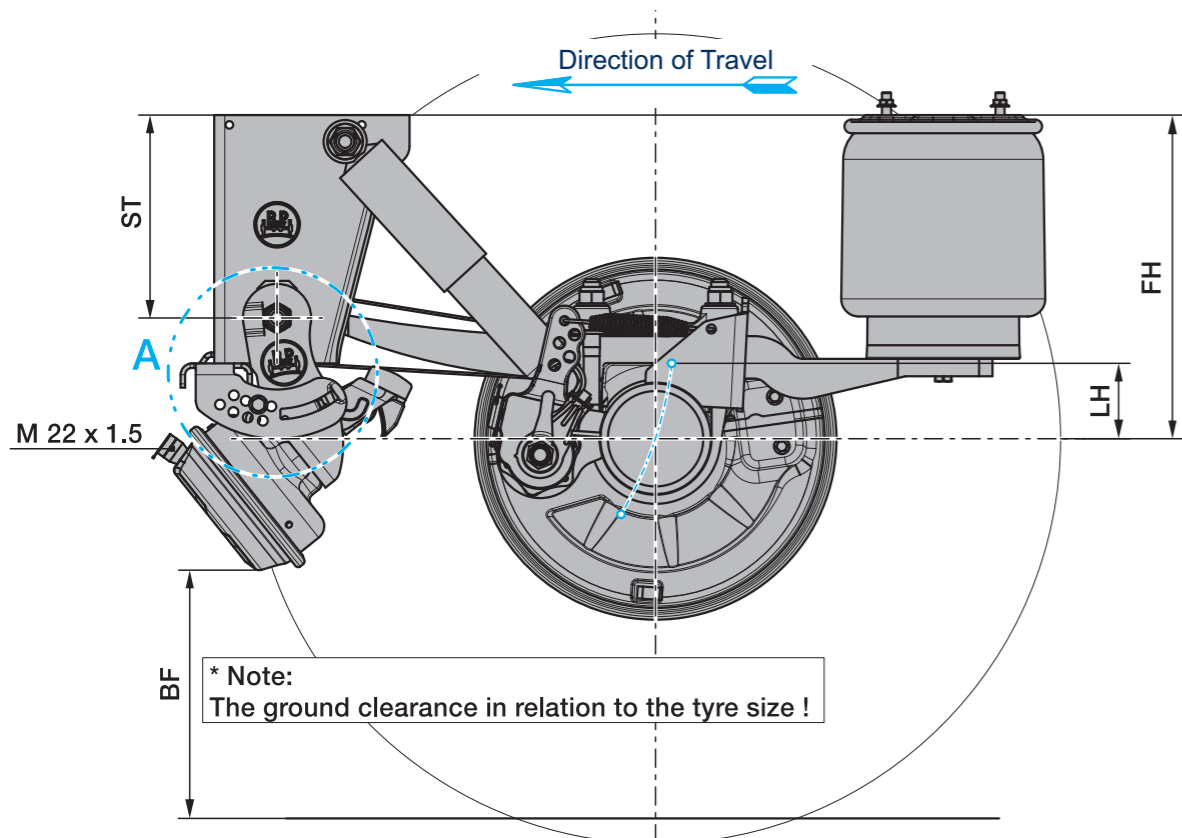
- 1) Lifting heights acc. to TD-1242.0
- 2) The packer is not included in supplied package.
- 3) Only suitable for semi-trailers / Centre axle drawbar trailer
- 6) LightTube possible



Axle type	Track SP	Spring centre FM	Booster bracket centre GM	Air bag centre BM	Brake cylinder ⁴⁾	Tyres recommended
				V=80		
RSF... 9010	2040	1200 ⁶⁾	401	1040	M / F	385/65 R22.5 385/55 R22.5
				1140		
	2100	1300 ⁶⁾	461	1140		
				1240		
2140	1400 ⁶⁾	501	1240			

- 4) M = for diaphragm cylinder / F = for spring brake cylinder
- 5) Use F-booster bracket with spring brake cylinder
- 6) LightTube possible

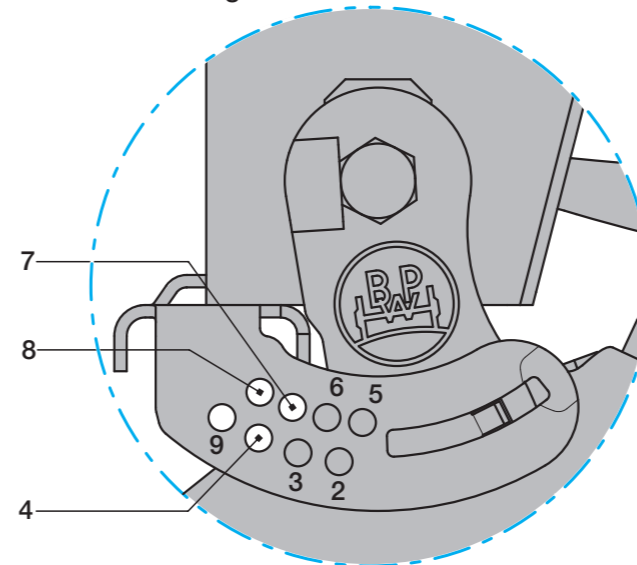
- > Max. inclination angle of the semitrailer under full load and lowest adjustable ride height ±1°
- > With trailing arm L1=500 / L2=310, bag pressures acc. to TE-1188.0 sheet 5
With trailing arm L1=500 / L2=380, bag pressures acc. to TE-1188.0 sheet 11
- > The hanger brackets, air bag supports and the frame must be reinforced so that the forces applied can be absorbed. See the current BPW installation instructions.



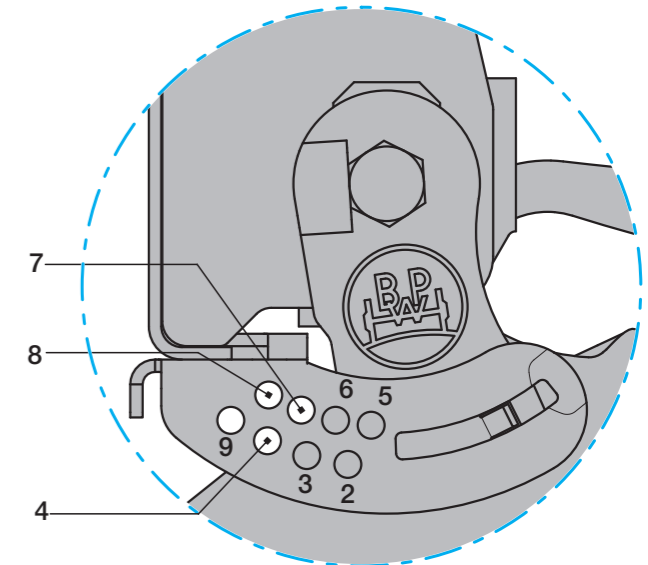
Suspensions to drawing	adjustable ride height FH		min. lifting stroke LH	Hanger bracket height ST	Ground clearance BF ¹⁾	Position lift stop no.	BPW no. 05.828...	
	for axle units	min. FH with axle raised					Hanger bracket ³⁾	Channel cross member
Sheet 1	400 - 430	430	100	184	419	8	...31.81.0	...31.82.0
	430 - 470	460	100	268	358	7		
Sheet 2	460 - 510	490	100	268	395	8	...32.12.0	---
	510 - 565	540	100	350	361	4		

¹⁾ Ground clearance in relation to the set minimum ride height with the axle raised.
* Tyre: 385/65 R 22.5 (r_{stat} = 496)
In the case of smaller tyres, it is necessary to check whether the doublesided axle lift can be used, according to the application.
²⁾ Lifting device for bolt-on bracket on demand.

Detail A
Version with hanger bracket

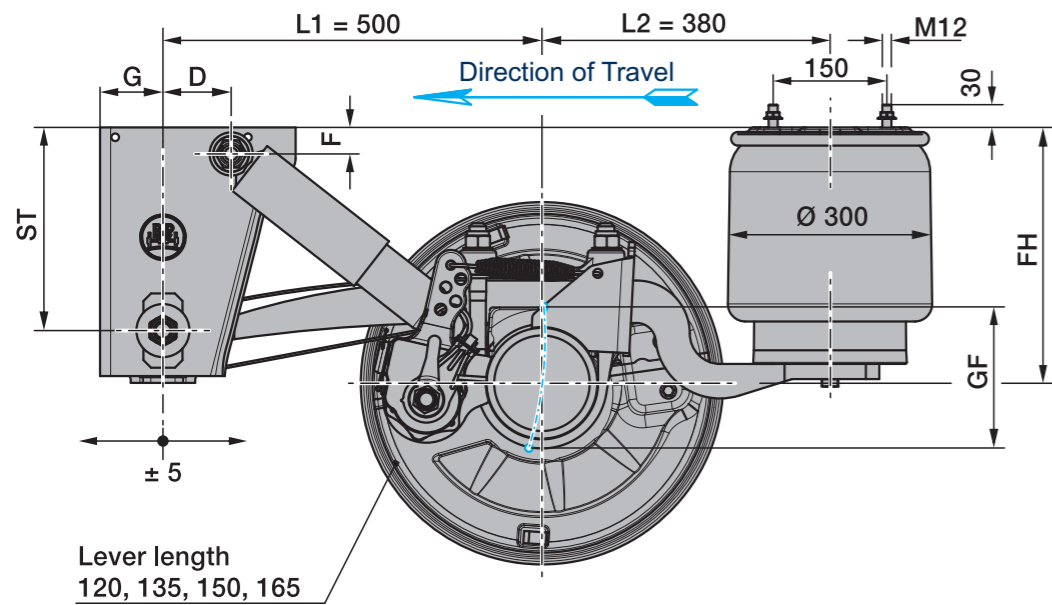


Detail A
Version with channel cross member



- › In the lifting and lowering version, the total spring travel must be limited by a shutoff valve.
- › Minimum air pressure for lifting the axle approx. 6 bar.
- › The hanger brackets, air bag supports and the frame must be reinforced so that the forces applied can be absorbed. See the current BPW installation instructions.

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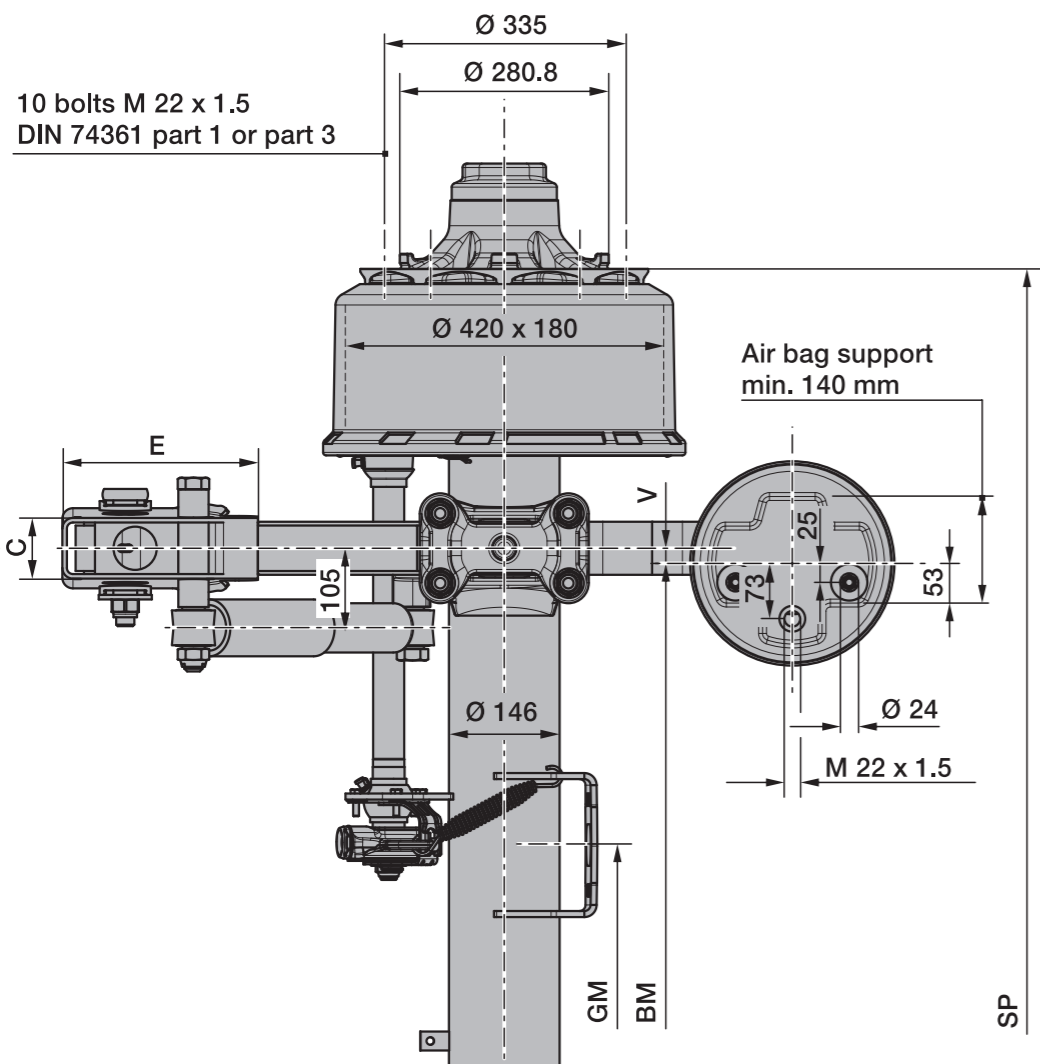


Line	Series	adjustable ride height FH					Total spring travel GF ¹⁾	Air bag type BPW	Shock absorber 02.37..	Hanger bracket				Shock absorber mounting	
		for single axles	for axle units	min. FH with axle raised	empty without air	loaded without air				ST	C	E	G	D	F
1 ²⁾	ALMT	245 - 290	255 - 290	285	185	170	190	30K	...22.89.02	184	86	240	83	70	35
2 ²⁾	ALMT	270 - 310	280 - 310	310	210	195	220	30	...22.89.02	184	86	240	83	70	35
3	ALMT	280 - 325	290 - 325	320	220	205	190	30K	...22.83.02	268	80	258	83	55	35
4 ²⁾	ALM ⁵⁾	300 - 340	310 - 340	340	240	225	190	30K	...22.83.02	184	86	240	83	70	35
5	ALMT	305 - 360	315 - 360	345	245	230	220	30	...22.83.02	268	80	258	83	55	35
6	ALM ⁵⁾	340 - 390	350 - 390	380	280	265	190	30K	...22.83.02	268	80	258	83	90	35
7	ALM ⁵⁾	365 - 420	375 - 420	405	305	290	220	30	...22.83.02	268	80	258	83	90	35

¹⁾ Lifting heights acc. to TD-1242.0

²⁾ Only suitable for semi-trailers / Centre axle drawbar trailer

⁵⁾ LightTube possible



Axle type	Track SP	Spring centre FM	Booster bracket centre GM	Air bag centre BM		Brake cylinder ³⁾	Tyres recommended
				V=20	V=60		
RSF... 9010	2040	1200 ⁵⁾	401	1160	1080	M / F	385/65 R22.5 385/55 R22.5
		1300 ⁵⁾		1260	1180		
	2100	1300 ⁵⁾	461	1260	1180		
		1400 ⁵⁾		---	1280		
2140	1400 ⁵⁾	501	1360	1280			

³⁾ M = for diaphragm cylinder / F = for spring brake cylinder

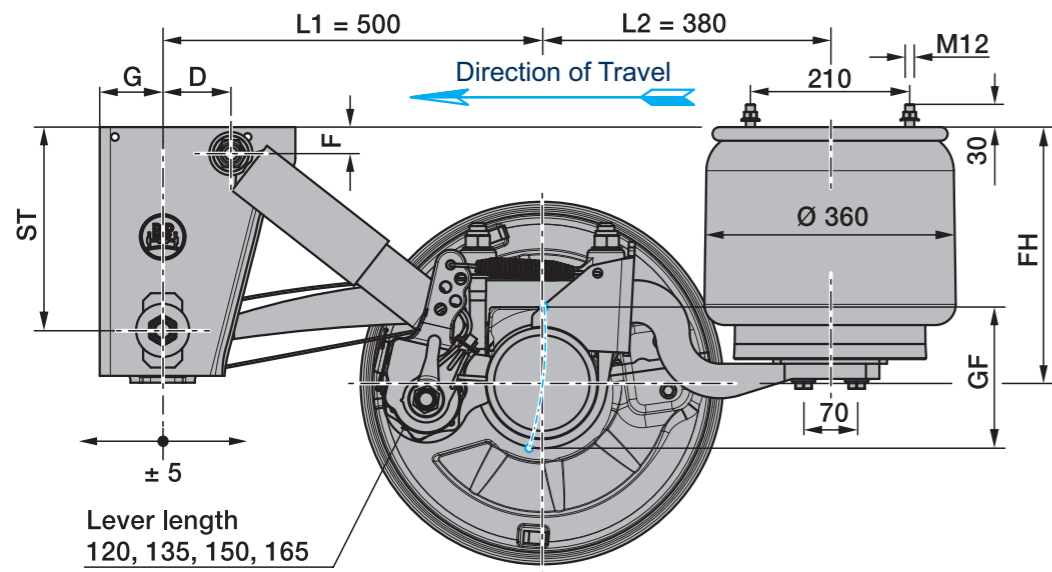
⁴⁾ at V=60 only diaphragm cylinder

⁵⁾ LightTube possible

➤ Max. inclination angle of the semitrailer under full load and lowest adjustable ride height ±1°

➤ With trailing arm L1=500 / L2=380, bag pressures acc. to TE-1188.0 sheet 15

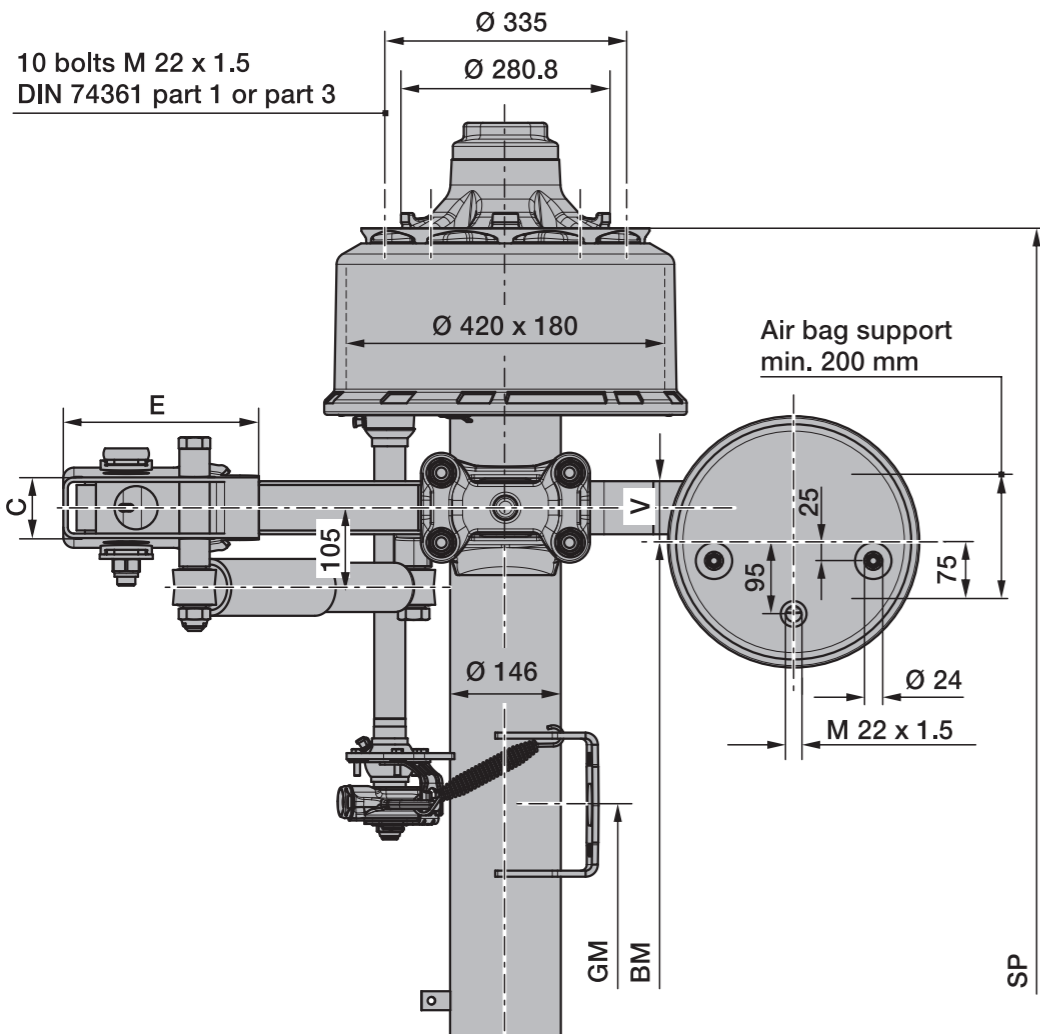
➤ The hanger brackets, air bag supports and the frame must be reinforced so that the forces applied can be absorbed. See the current BPW installation instructions.



Line	Series	adjustable ride height FH					Total spring travel GF ¹⁾	Air bag type BPW	Shock absorber 02.37...	Hanger bracket				Shock absorber mounting	
		for single axles	for axle units	min. FH with axle raised	empty without air	loaded without air				ST	C	E	G	D	F
1 ²⁾	ALMT	245 - 290	255 - 290	285	185	170	190	36K	...22.89.02	184	86	240	83	70	35
2 ²⁾	ALMT	270 - 310	280 - 310	310	210	195	220	36	...22.89.02	184	86	240	83	70	35
3	ALMT	280 - 325	290 - 325	320	220	205	190	36K	...22.83.02	268	80	258	83	55	35
4 ²⁾	ALM	300 - 340	310 - 340	340	240	225	190	36K	...22.83.02	184	86	240	83	70	35
5	ALMT	305 - 360	315 - 360	345	245	230	220	36	...22.83.02	268	80	258	83	55	35
6	ALM	340 - 390	350 - 390	380	280	265	190	36K	...22.83.02	268	80	258	83	90	35
7	ALM	365 - 420	375 - 420	405	305	290	220	36	...22.83.02	268	80	258	83	90	35

¹⁾ Lifting heights acc. to TD-1242.0

²⁾ Only suitable for semi-trailers / Centre axle drawbar trailer

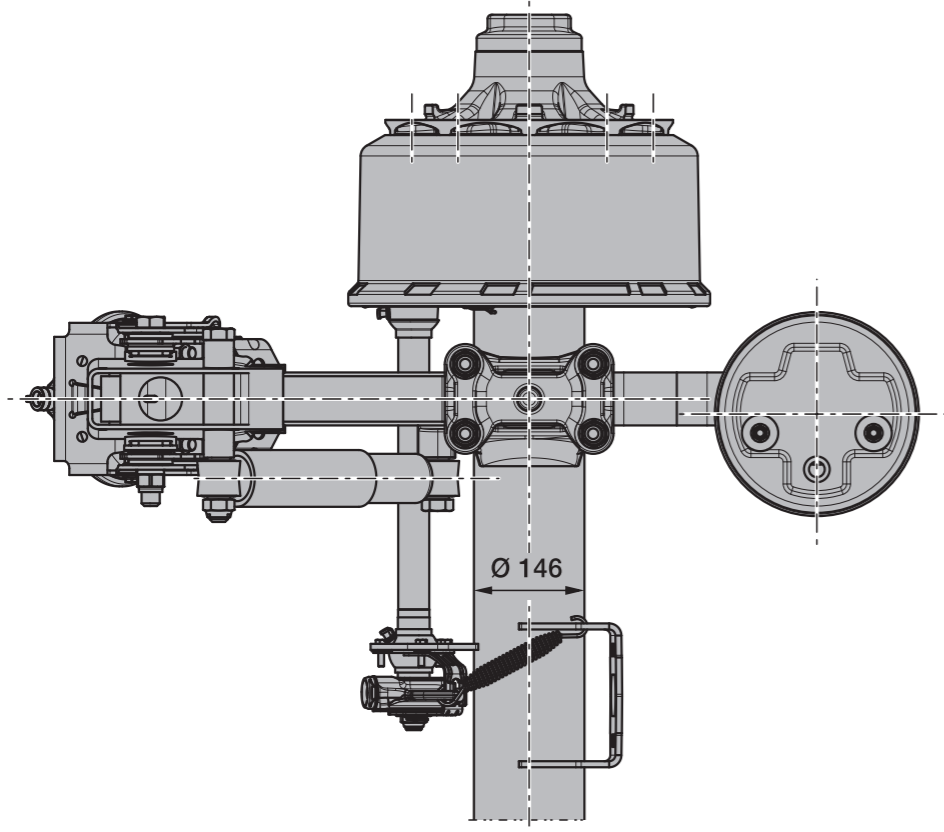
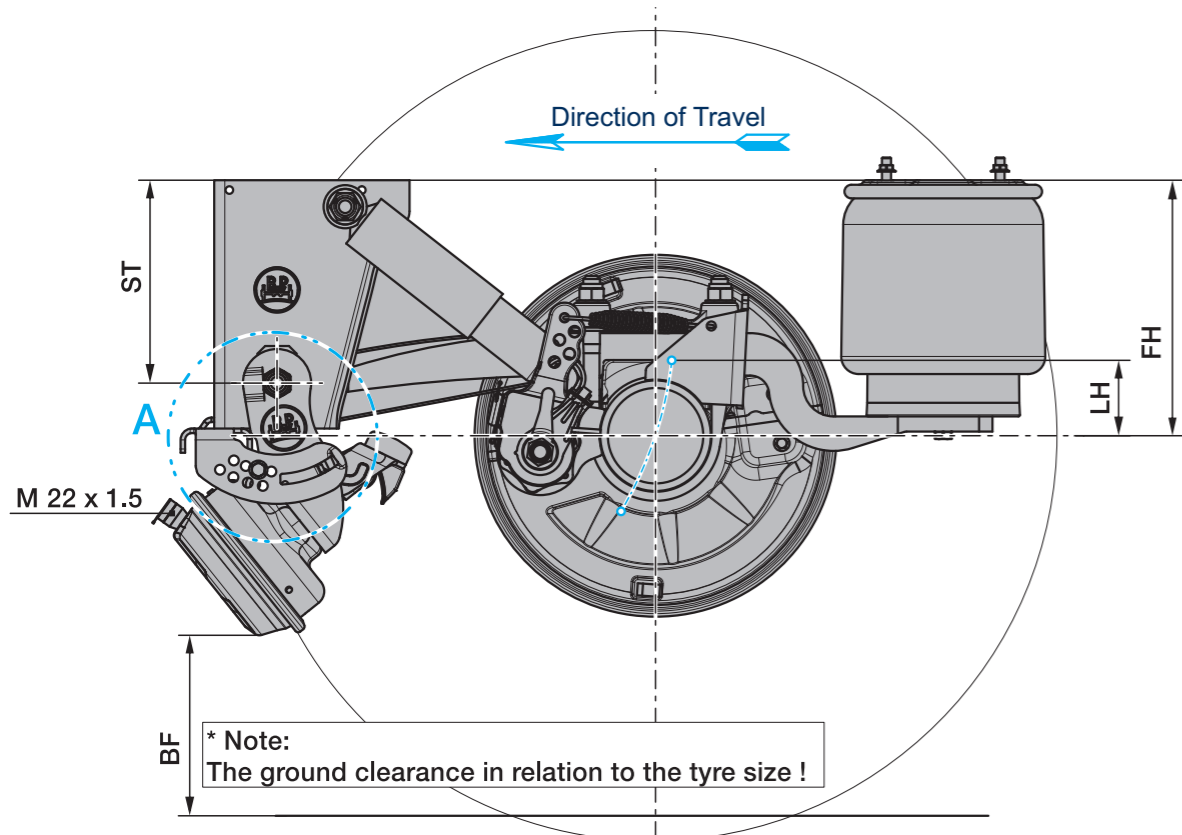


Axle type	Track SP	Spring centre FM	Booster bracket centre GM	Air bag centre BM	Brake cylinder ³⁾	Tyres recommended
				V=80		
RSF... 9010	2040	1200	401	1040	M / F	385/65 R22.5 385/55 R22.5
		1300		1140		
	2100	1300	461	1140		
		1400		1240		
2140	1400	501	1240			

³⁾ M = for diaphragm cylinder / F = for spring brake cylinder

- > Max. inclination angle of the semitrailer under full load and lowest adjustable ride height $\pm 1^\circ$
- > With trailing arm L1=500 / L2=380, bag pressures acc. to TE-1188.0 sheet 11
- > The hanger brackets, air bag supports and the frame must be reinforced so that the forces applied can be absorbed. See the current BPW installation instructions.

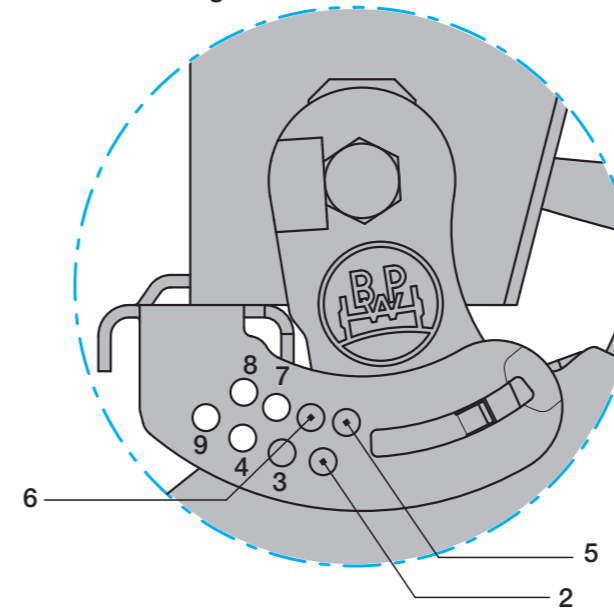
Rev. 0 (15) 01.02.2021
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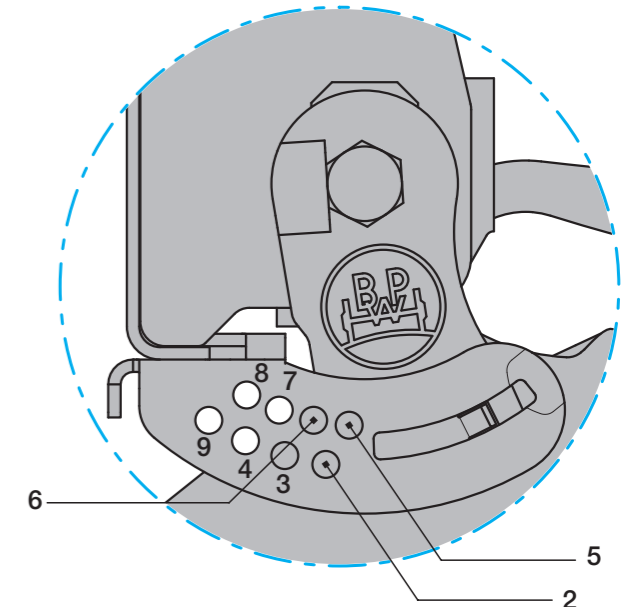
Suspensions to drawing	adjustable ride height FH		min. lifting stroke LH	Hanger bracket height ST	Ground clearance BF ¹⁾	Position lift stop no.	BPW no. 05.828...	
	for axle units	min. FH with axle raised					Hanger bracket ³⁾	Channel cross member
Sheet 8 Sheet 9	255 - 290	285	100	184	262	5	...31.81.0	...31.82.0
	280 - 310	310	100	184	287	6		
	290 - 325	320	100	268	213	5		
	310 - 340	340	100	184	316	6		
	315 - 360	345	100	268	238	5		
	350 - 390	380	100	268	271	2		
	375 - 420	405	100	268	297	6		

¹⁾ Ground clearance in relation to the set minimum ride height with the axle raised.
* Tyre: 385/65 R 22.5 (r_{stat} = 496)
In the case of smaller tyres, it is necessary to check whether the doublesided axle lift can be used, according to the application.
²⁾ Lifting device for bolt-on bracket on demand.

Detail A
Version with hanger bracket



Detail A
Version with channel cross member



- > In the lifting and lowering version, the total spring travel must be limited by a shutoff valve.
- > Minimum air pressure for lifting the axle approx. 6 bar.
- > The hanger brackets, air bag supports and the frame must be reinforced so that the forces applied can be absorbed. See the current BPW installation instructions.

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