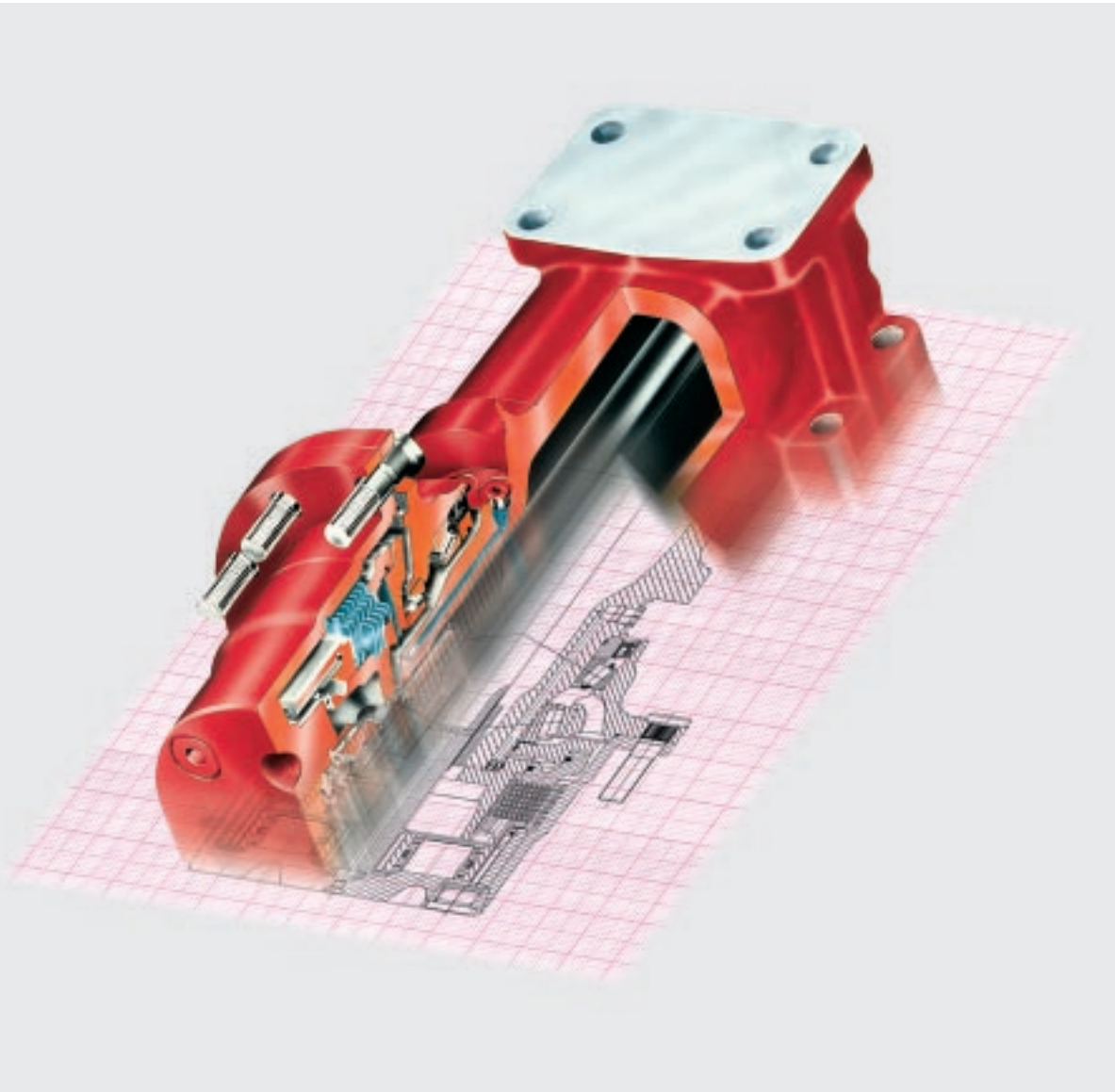


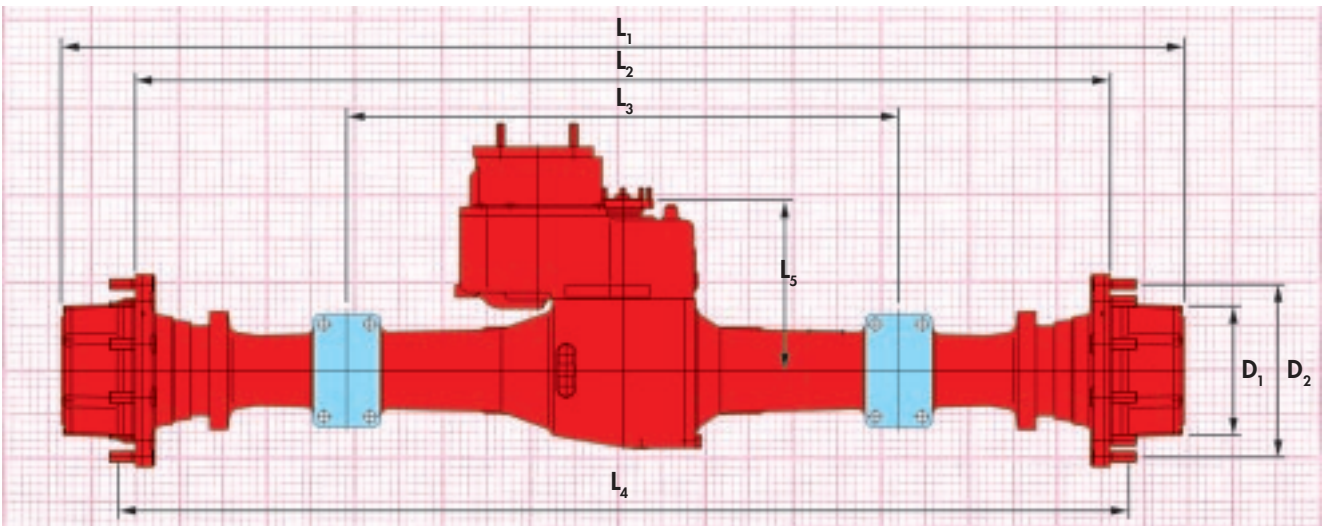
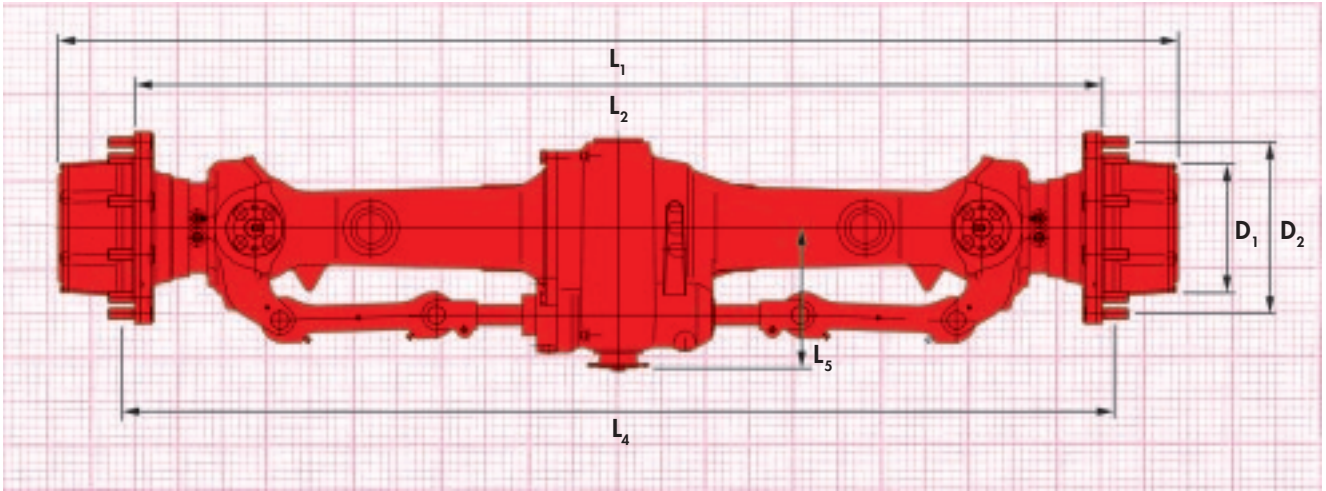
# Axles

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# Excavator axles



## Standard

- wet disc brake (ASP/ALPP 100-125)
- drum brake (ASP/ALPP 200-320)
- selflocking disc-differential, optional
- steering axle with oscillation
- rigid axle with flange connection
- flanged multi-disc transmission for on-the-go shifting
- multi-disc transmission optionally available as separate unit

## Proven applications

- excavator
- agricultural machinery
- mobil cranes

Steering axles driven			ALPP 100	ALPP 125	ALPP 200	ALPP 320
Excavator weight max.	t		16.5	24	16.5	24
Excavator width	mm		2,500	2,500	2,500	2,500
<b>Axle loadings:</b>						
dynamic	kN		100	125	100	120
static	kN		200	320	200	320
Range of ratios	i		17.5	20.7	18.2	22.3
Output torque max.	Nm		40,000	64,000	40,000	64,000
Brakes <sup>1)</sup>			WB	WB	DB (400 X 80)	DB (400 X 80)
Steering cylinder Ø	mm		80/40	100/50	80/40	100/50
Axle width max.	L <sub>1</sub>	mm	2,201	2,244 - 2,467	2,140	2,194
Flange/flange	L <sub>2</sub>	mm	1,890	1,890 - 2,100	1,890	1,890
Gauge range	L <sub>4</sub>	mm	1,910 - 1,990	1,910 - 2,200	1,910 - 1,990	1,910 - 1,990
Input flange	L <sub>5</sub>	mm	271	310	271	310
Spigot-Ø	D <sub>1</sub>	mm	280.8	280.8	280.8	280.8
Rim bolt-PCD	D <sub>2</sub>	mm	335	335	335	335

Rigid axles driven			ASP 100	ASP 125	ASP 200	ASP 320
Excavator weight max.	t		16.3	24	16.5	24
Excavator width	mm		2,500	2,500	2,500	2,500
<b>Axle loadings:</b>						
dynamic	kN		100	125	100	120
static	kN		200	320	200	320
Range of ratios	i		17.5	20.7	18.2	22.3
Output torque max.	Nm		40,000	64,000	40,000	64,000
Brakes <sup>1)</sup>			WB	WB	DB (400 X 80)	DB (400 X 80)
Axle width max.	L <sub>1</sub>	mm	2,201	2,244 - 2,467	2,140	2,194
Flange/flange	L <sub>2</sub>	mm	1,890	1,890 - 2,100	1,890	1,890
Spring gauge	L <sub>3</sub>	mm	1,070	1,070 - 1,280	1,070	1,070
Gauge range	L <sub>4</sub>	mm	1,910 - 1,990	1,910 - 2,200	1,910 - 1,990	1,910 - 1,990
Input flange	L <sub>5</sub>	mm	332	359	271	310
Spigot-Ø	D <sub>1</sub>	mm	280.8	280.8	280.8	280.8
Rim bolt-PCD	D <sub>2</sub>	mm	335	335	335	335

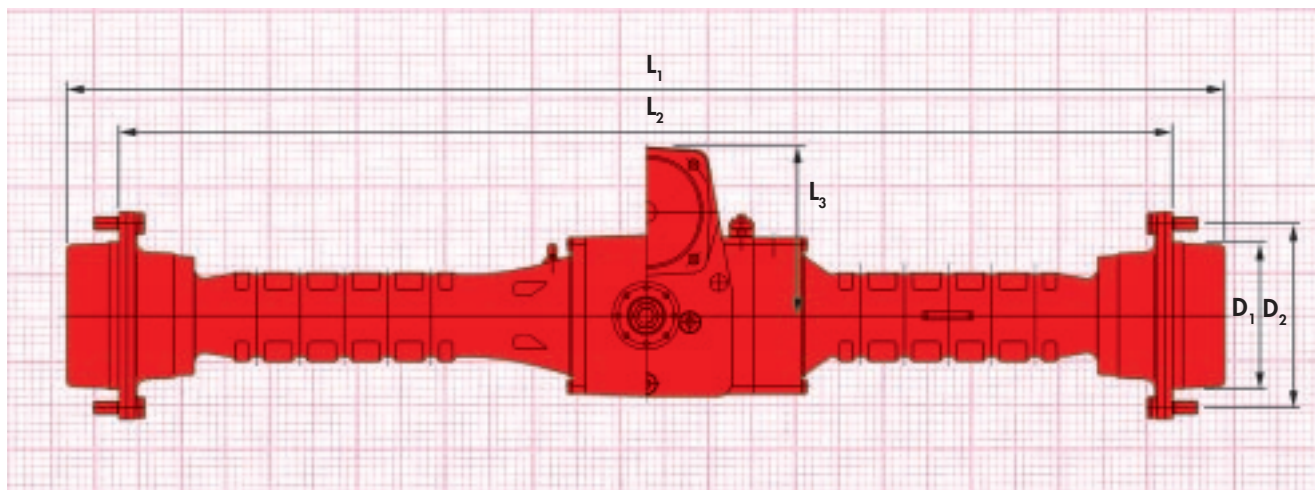
**Close coupled dics type shift gearbox/separate version**

1. Gear	i <sub>1</sub>		4.42/5.11	4.42/5.11		
2. Gear	i <sub>2</sub>		1.18/1.36	1.18/1.36		
Differential pressure	p <sub>max.</sub>	bar	320	320		
Output speed	n <sub>max.</sub>	min <sup>-1</sup>	3,300	3,300		
<b>Hydraulic-Motor connections</b>						
Hydromatic	A 6 VM		107	107 / 140		

<sup>1)</sup> WB = wet disc brake  
DB = drum brake

Project related installation drawings can be made available on request as dimensions and technical data are subject to change due to continues development.

## Wheel loader axles (hydrostatic drive)

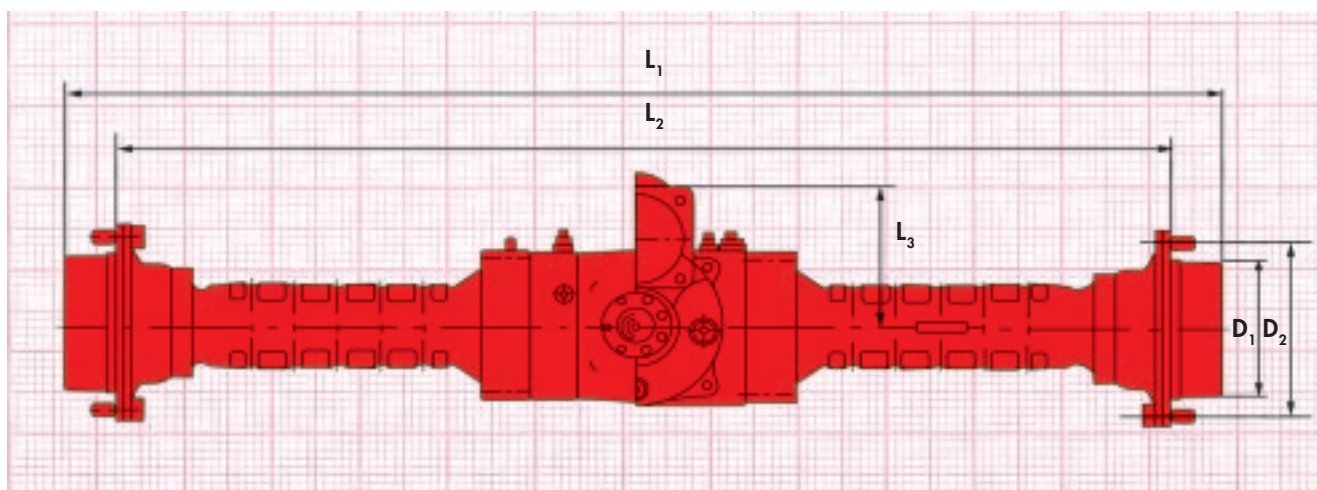


### Standard execution

- different ratios
- integrated disc-brake with park-function, optional
- selflocking disc-differential, optional
- suitable for various hydraulic motors
- oscillation or clampfit
- two possible gauges

### Proven applications

- wheel loader
- Dumper



### Standard execution

- Hydrostatically driven 2-speed axle for up to 40 km/h
- different ratios
- integrated disc-brake with park-function, optional
- selflocking disc-differential, optional
- suitable for various hydraulic motors
- oscillation or clampfit
- two possible gauges

### Proven applications

- wheel loader
- Dumper

Type of axle		ASP 50
Axle loadings (at gauge = L <sub>2</sub> )		1,440/1,570
empty	(at 25 km/h)	50/46
loaded	(at 10 km/h) kN	68/65
at breakout force		kN 109/92
Output torque max.		Nm 30,000
Axle suspension		Oscillation/Clampfit
Type of brake		oil immersed disc brake <sup>2)</sup>
Range of ratios		
without TG <sup>1)</sup>	i	13.38 - 17.45 - 23.25
with TG <sup>1)</sup> (depending upon engine connections)	i	25.14 - 52.50
Hydraulic-Motor connections		
Sauer		51V060/080/110
Hydromatic		A 6 VM 55/80/107
Axle width max.	L <sub>1</sub> mm	1,596/1,726
Flange/flange	L <sub>2</sub> mm	1,440/1,570
Input flange		Ø 100/8 holes Ø 8,5
without TG <sup>1)</sup>	L <sub>3</sub> mm	237
with TG <sup>1)</sup>	L <sub>3</sub> mm	270
with TG <sup>1)</sup> and center brake <sup>2)</sup>	L <sub>3</sub> mm	330
Spigot-Ø	D <sub>1</sub> mm	220 - 0,1
Rim bolt-PCD	D <sub>2</sub> mm	275
Wheel connection		8 studs M 20 x 1.5

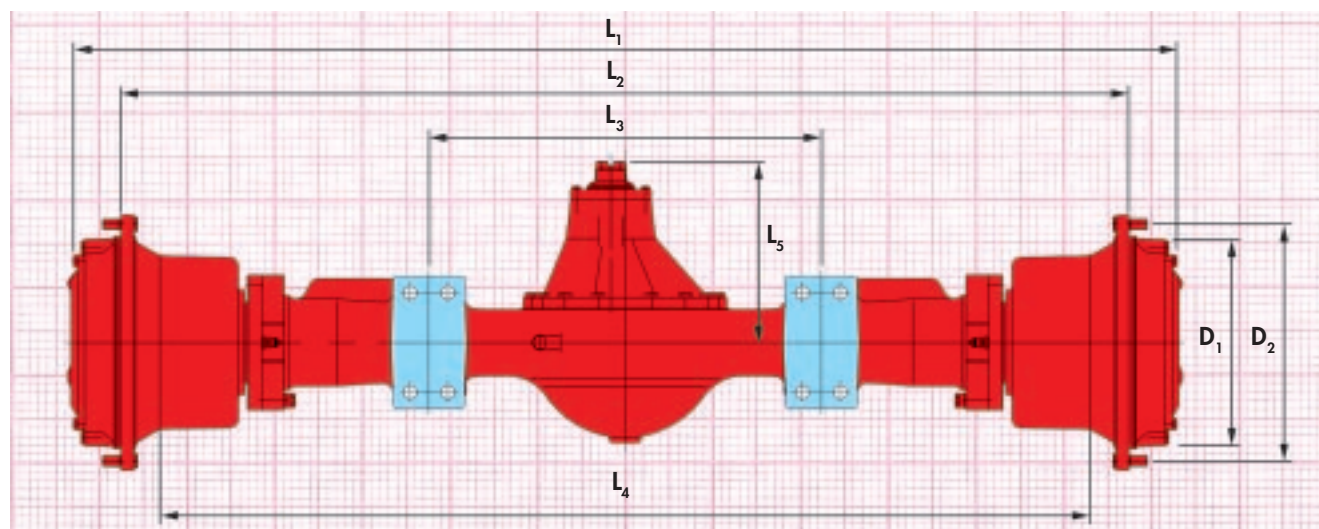
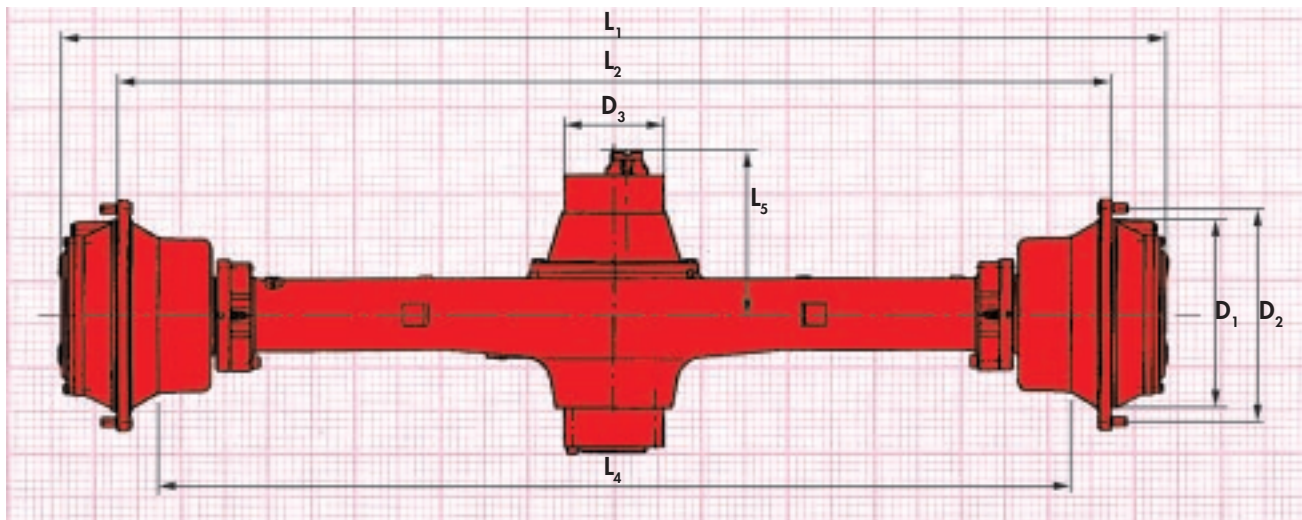
<sup>1)</sup> TG = transfer gearbox

<sup>2)</sup> Disc-brake: alternatively 2 brakes per axle as positive brake or 1 brake located at the distribution gearbox as negative brake with parking brake function.

Type of axle		ASP 50
Axle loadings (at gauge = L <sub>2</sub> )		1,440/1,570
empty	(at 35 km/h)	50/46
loaded	(at 10 km/h) kN	68/65
at breakout force		kN 109/92
Output torque max.		Nm 30,000
Axle suspension		Oscillation/Clampfit
Type of brake		oil immersed disc brake <sup>2)</sup>
Range of ratios		
without transmission		13.38 - 17.45 - 23.25
with transmission	i 1.gear	35.72 - 49.59 - 62.08
	i 2.gear	15.52 - 20.24 - 26.97
Hydraulic-Motor connections		
Hydromatic		A 6 VM 80
Axle width max.	L <sub>1</sub> mm	1,596/1,726
Flange/flange	L <sub>2</sub> mm	1,440/1,570
Input flange		Ø 100/8 holes Ø 8,5 - studs 8 x M8
without transmission	L <sub>3</sub> mm	237
with transmission	L <sub>3</sub> mm	371
Spigot-Ø	D <sub>1</sub> mm	220 - 0.1
Rim bolt PCD	D <sub>2</sub> mm	275
Wheel connection		8 studs M 20 x 1.5

Project related installation drawings can be made available on request as dimensions and technical data are subject to change due to continues development.

## Wheel loader axles (hydrodynamic drive)



### Standard execution

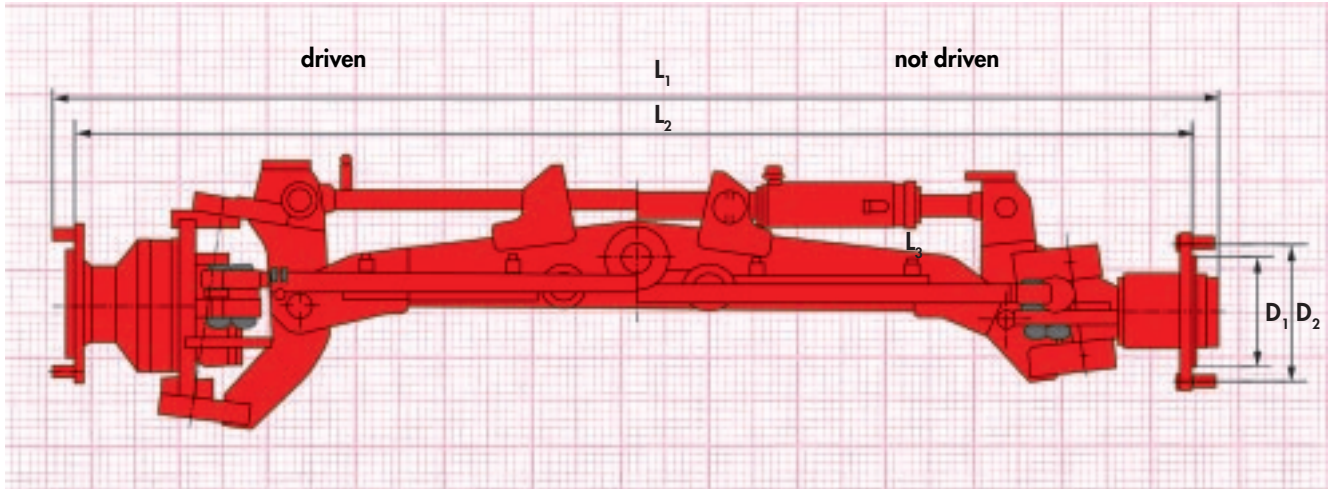
- different ratios
- integrated wet disc-brake
- selflocking disc-differential
- suitable for various hydraulic motors with transfer gearbox
- swing axle with central bearing

### Proven applications

- wheel loader
- Dumper



# Front-/Tandem axels

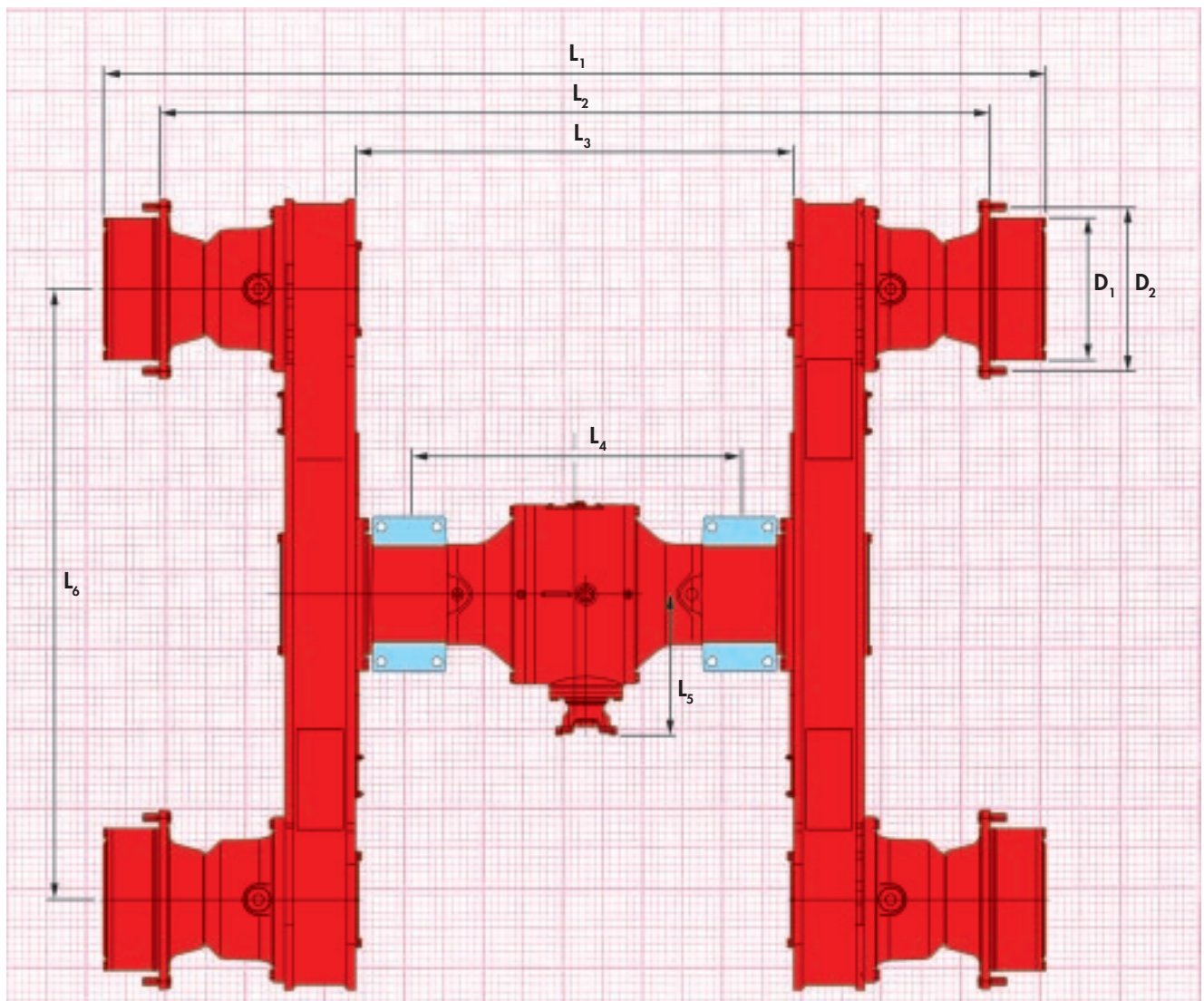


## Standard execution

- suitable for hydrostatic drive

## Proven applications

- grader



Grader Steering axle not driven		GF 10	GF 16	GF 19
Type of axle				
Axle width max.	L <sub>1</sub> mm	2,160	2,290	2,290
Flange/flange	L <sub>2</sub> mm	2,040	2,070	2,160
Spigot-Ø	D <sub>1</sub> mm	220.8	280.8	370.8
Rim bolt PCD	D <sub>2</sub> mm	275	335	425
Axle loading max.	L <sub>2</sub> KN	31.5	52	58
Rim mounting		8 x M20 x 1.5	10 x M22 x 1.5	12 x M22 x 1.5
Oscillating angle	°	± 15	± 14	± 14
Camber adjustment	°	± 17	± 17	± 17
Steering angle	°	45	45	45

Grader Steering axle driven		GF 10A	GF 16A	GF 19A
Type of axle				
Axle width max.	L <sub>1</sub> mm	2,155	2,365	2,325
Flange/flange	L <sub>2</sub> mm	2,064	2,070	2,160
Spigot-Ø	D <sub>1</sub> mm	220.8	280.8	370.8
Rim bolt PCD	D <sub>2</sub> mm	275	335	425
Axle loading max.	L <sub>2</sub> KN	31.5	52	59
Rim mounting		8 x M20 x 1.5	10 x M22 x 1.5	12 x M22 x 1.5
Oscillating angle	°	± 15	± 15	± 15
Camber adjustment	°	± 21.5	± 20.5	± 15
Steering angle	°	40	42.5	43.5
perm. operating speed of wheel motor	min <sup>1</sup>	155	150	150
perm. idling speed of wheel motor	min <sup>1</sup>	300	300	220
Displacement of wheel motor	cm <sup>3</sup>	428/857	629/1,259	873/1,747
Axle output torque at 420 bar max.	Nm	5,710/11,425	8,400/16,800	11,675/23,350

Type of axle driven tandem		TG 10	TG 16	TG 19
Grader weight max.	t	10	16	19
Axle loadings	kN	68	120	140
Range of ratios	i	15.1-22.1	18.3-20.4	18.3-20.4
Output torque max.	Nm	40,700	77,000	90,000
Brakes <sup>1)</sup>		TR/NB	NB	NB
Axle width max.	L <sub>1</sub> mm	2,260	2,400	2,450
Flange/flange	L <sub>2</sub> mm	2,040	2,070	2,160
Chain case inside	L <sub>3</sub> mm	978	1,140	1,140
Spring gauge	L <sub>4</sub> mm	765	860	860
Input flange	L <sub>5</sub> mm	306	360	360
Wheelbase	L <sub>6</sub> mm	1,250	1,545	1,582
Spigot Ø	D <sub>1</sub> mm	220	280.8	370
Rim bolt PCD	D <sub>2</sub> mm	275	335	425

<sup>1)</sup> WDB = oil immersed disc brake  
DB = drum brake

Project related installation drawings can be made available on request as dimensions and technical data are subject to change due to continuous development.

#### Standard execution

- disc brakes integrated in wheel hubs or drum brake
- no-spin-differential
- flange connection
- chain drive of wheel hubs

#### Proven applications

- grader
- forest machinery

# Successful applications in action worldwide



**O&K**  
**Antriebstechnik**



Nierenhofer Str. 10  
D-45525 Hattingen/Ruhr  
Telefon (02324) 205-400  
Fax (02324) 205-401  
E-Mail: [ok\\_info@carraro.com](mailto:ok_info@carraro.com)  
<http://www.carraro.com>

