

Valx self steering axle info

On the IAA in 2012, Valx has presented a new Valx self-steering axle to the world.

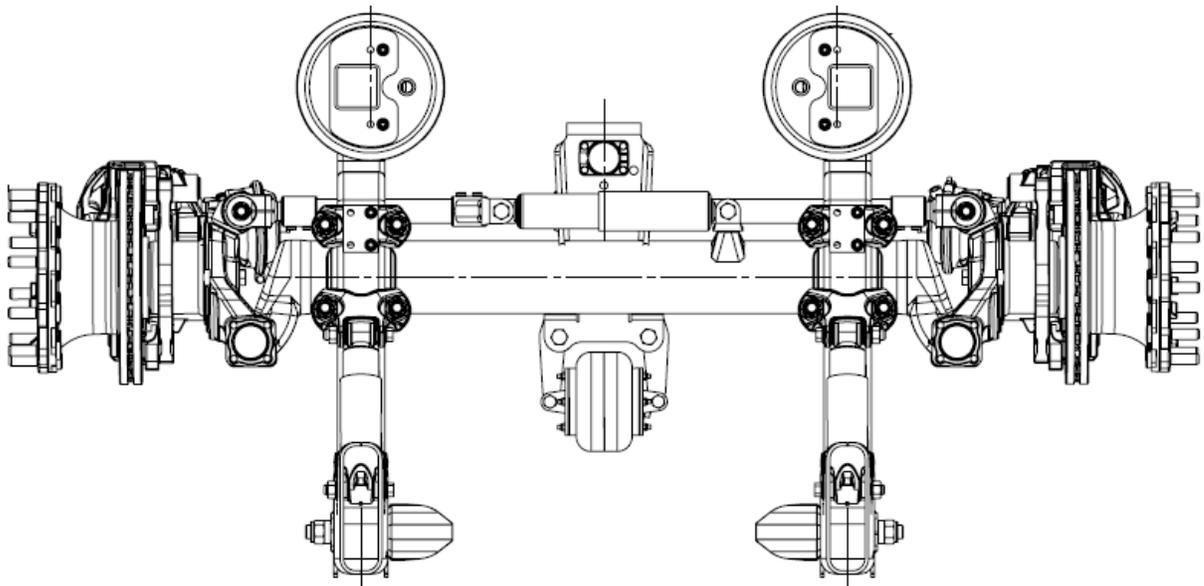
Technical information:

- Axle load 9000 Kg
- Wheel / Tyre Disc off-set 120 , 22,5" PCD 335 x 10
Drum off-set 0, 22,5" PCD 335 x 10
- Brakes Disc 430 - Wabco Pan 22 - off-set 120
Drum 420 x 180 - off-set 0
- Max. steering angle 20° (technical) *
- Technically available

Wheel track	Spring track
2040	980
2090	980
2090	1030

- Air suspension Weweler MBS-L
- L1/L2 520 / 325 mm
- Air spring ø 300 mm
- Riding height 300- 350 (290 hanger)
350-400 (340 hanger + 50 console)
430-480 (420 hanger+ 130 console)
- Steering damper Yes
- Steering stabilizer Yes
- Locking mechanism Yes

* The possible angle when the axle is mounted underneath the trailer depends on the tyres, air suspension, chassis etc. and can be adjusted.



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Function description:

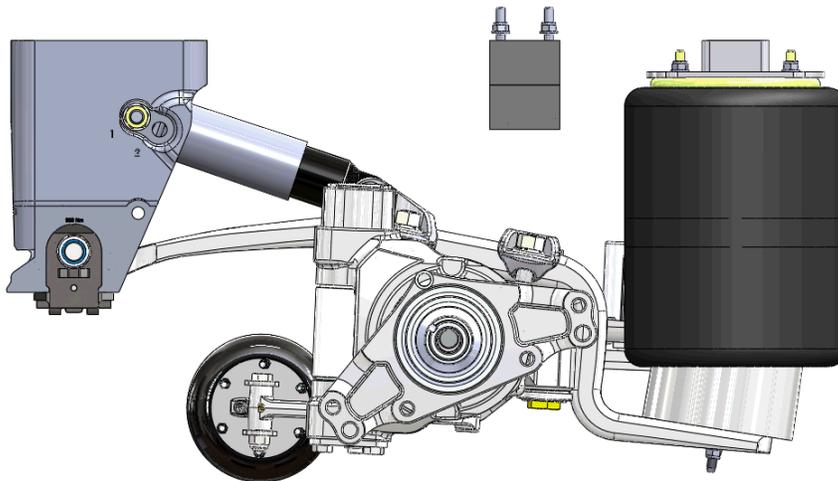
The self-steering axle has a king pin that is positioned in front of the axle center. When side forces, due to cornering, come on the tires, the axle will steer. When driving straight again the axle will straighten the wheels again as a result from the king pin position. The left and right knuckle are connected with a track rod so their movement is synchronized.

The axle also has a shock absorber for stabilizing the steering movement that is mounted between the axle beam and the track rod.

When no side forces are on the steering axle, the wheels will be straight. The straight position is supported by an air bellow that is mounted in front of the axle beam.

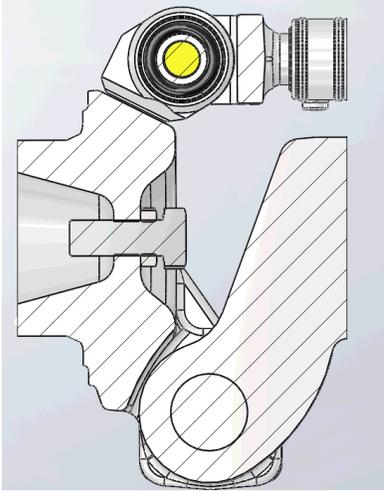
For driving backwards the axle needs to be fixed in the straight position. For that reason the axle is equipped with a locking cylinder. This cylinder is locked (without pressure) and fixates the track rod in the straight position.

This locking cylinder can also be used to prevent the self-steering axle to steer at higher speeds.



The air suspension combined with the self-steering axle has a limited range off riding heights. The limitation is the king pin angle. This angle has to be within 3 degrees from vertical because a bigger angle can influence the self-steering function negatively.

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The maximum possible steering angle is 20°. This maximum steering angle can be limited to make sure all parts run free, by changing the length from the bolt in the steering axle fist. It is not allowed to remove the bolt completely.

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