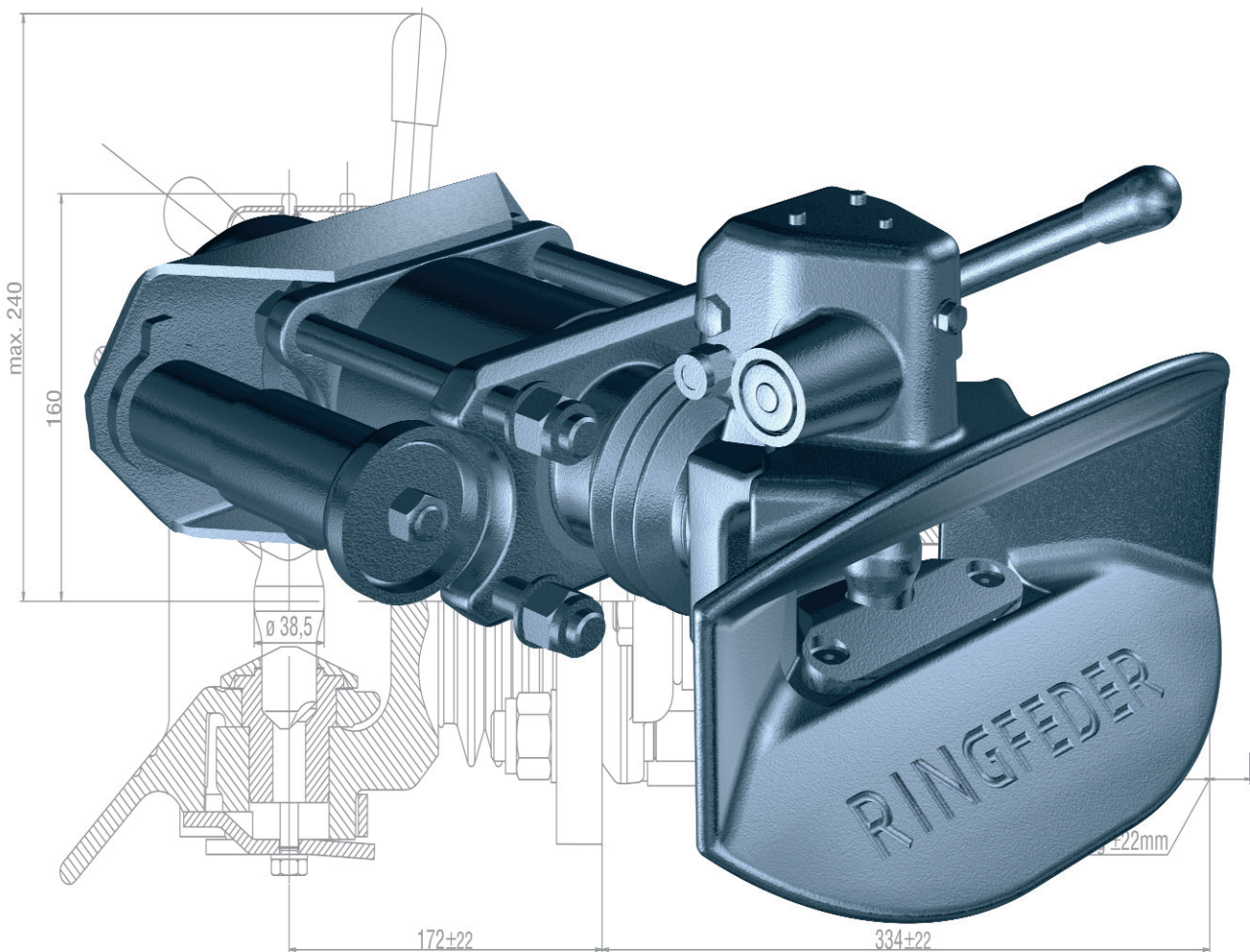


RINGFEDER

Comfort Couplings

for connecting to semi trailers equipped with 40 mm drawbar eyes DIN 74054 or ISO 8755

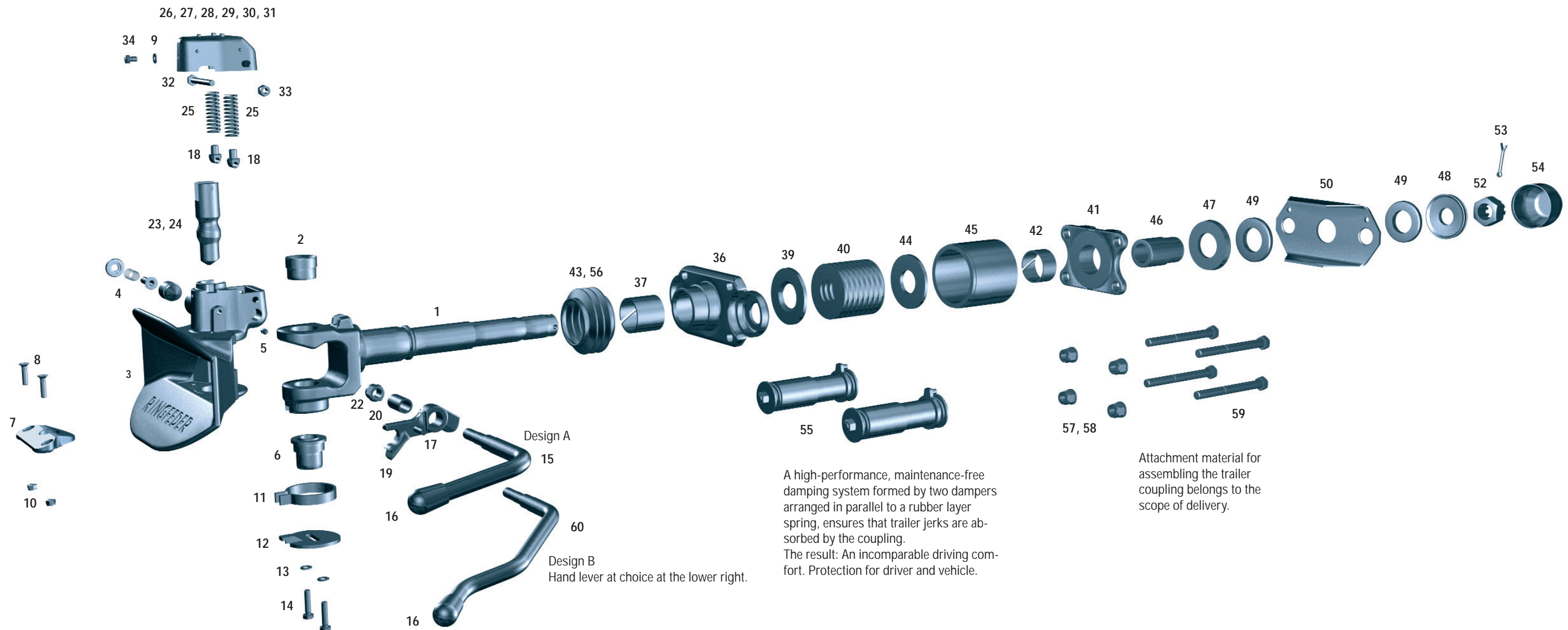
Type 2045/G145 · 2045/G150



Automatic Trailer Couplings

Type 2045/G145 and Type 2045/G150

in accordance with DIN 74054 (except for the fitting depth) suitable for drawbar eyes 40 mm according to DIN 74054 or ISO 8755, comfort coupling, shock-proof



The coupling body made of high quality cast cannot only be locked in the central position but also in the lateral end positions, a particular advantage when tractor and trailer have to be coupled in extreme angular positions.

The plastic plate protects the drawbar eye and muffles the sound.

A high-performance, maintenance-free damping system formed by two dampers arranged in parallel to a rubber layer spring, ensures that trailer jerks are absorbed by the coupling. The result: An incomparable driving comfort. Protection for driver and vehicle.

Attachment material for assembling the trailer coupling belongs to the scope of delivery.

Parts list for replacement and maintenance

The difference in the towing part between both the sizes 145 and 150 only lies in the attachment parts bar guide, support bearing and screws. Modular design!

Type 2045/G145			
Item	Order No.	Description	Qty.
1		Drawbar incl. items 2, 52 and 53	1
2	6 997 899	Top guide bush	1
3	14 994 410	Coupling body incl. Pos.4,5 without hole for sensor	1
3a	14 994 420	Coupling body incl. Pos.4,5 with hole for sensor	1
4	14 994 478	Safety device, cpl.	1
5		Tapered grease nipple AM 8 x 1, DIN 71412	1
6	6 997 880	Bottom guide bush	1
7	6 998 771	Special plastic plate incl. 2 pcs. of items 8, 10	1
8		Countersunk screw M 8 x 30, DIN 7991	2
9		Washer 8, 4, DIN 125	1
10		Hexagonal nut M 8, DIN 980	2
11	7 995 563	Return spring	1
12	7 995 571	Tab washer	1
13		Washer 10, 5, DIN 125	2
14		Hexagonal screw M10 x 35, DIN 933 incl. item 13	2
15	14 994 450	Hand lever incl. items 16, 19, 20, 22, design A	1
16		Knob for hand lever	1
17	14 994 486	Bolt for spring arm	1
18	7 998 341	Spring arm	2
19		Locking lever	1
20		Distance bush	1
22		Lock nut VM 14, DIN 980	1
23	14 994 487	Coupling bolt, incl. item 24 and 2 pcs. of item 25	1
24	12 991 452	Locking lever pin	1
25	7 998 171	Locking spring	2
26	14 994 495	End cap incl. items 28, 29 and 2 pcs. item 27	1
27		Spring pin	2
28		Volute spring	1
29		Buttonhead rivet 6 x 12, DIN 660	1
30		Nameplate incl. 2 pcs. of item 31	1
31		Blind rivet 3 x 6	2
32		Hexagonal screw M 10 x 95, DIN 931, incl. item 33	1
33		Lock nut VM 10, DIN 980	1
34		Hexagonal screw M 8 x 12, DIN 933, incl. item 9	1
36	6 999 077	Bar guide incl. item 37	1
37	6 999 085	Bearing bush, broad	1
39	6 999 093	Thrust washer	1
40	2 444 984	Layer spring	1
41	6 997 120	Support bearing incl. item 42	1
42	6 997 210	Bearing bush	1
43	12 991 231	Tube clamp AL 80-100, DIN 3017	2
44	6 997 201	Tension washer	1
45	6 997 198	Guide pipe	1
46	10 991 480	Distance pipe	1
47	6 997 236	Locking washer	1
48	7 995 555	Locking washer (tension washer)	1
49	10 991 471	Rubber washer	2
50	6 997 180	Cross yoke	1
52	6 997 732	Castellated nut M 45 x 3, incl. item 53	1
53	12 991 533	Cotter pin 8 x 80, DIN 94	1
54	10 991 463	Protecting cap	1
55	6 997 163	Vibration damper, in twos	1
56	6 997 295	Bellows incl. 2 pcs. of item 43	1
57		Washer	4
58		Lock nut DIN 980	4
59		Hexagonal screw DIN 931 incl. items 57 and 58	4
60	14 994 434	Hand lever incl. items 16, 19, 20, 22, design B	1
63	14 994 443	Sensor type 2040/2045	1
14 994 511		Repair kit composing of: Coupling bolt, compl., top and bottom guide bush	

Type 2045/G150			
Item	Order No.	Description	Qty.
1		Drawbar incl. items 2, 52 and 53	1
2	6 997 899	Top guide bush	1
3	14 994 410	Coupling body incl. Pos.4,5 without hole for sensor	1
3a	14 994 420	Coupling body incl. Pos.4,5 with hole for sensor	1
4	14 994 478	Safety device, cpl.	1
5		Tapered grease nipple AM 8 x 1, DIN 71412	1
6	6 997 880	Bottom guide bush	1
7	6 998 771	Special plastic plate incl. 2 pcs. of items 8, 10	1
8		Countersunk screw M 8 x 30, DIN 7991	2
9		Washer 8, 4, DIN 125	1
10		Hexagonal nut M 8, DIN 980	2
11	7 995 563	Return spring	1
12	7 995 571	Tab washer	1
13		Washer 10, 5, DIN 125	2
14		Hexagonal screw M10 x 35, DIN 933 incl. item 13	2
15	14 994 450	Hand lever incl. items 16, 19, 20, 22, design A	1
16		Knob for hand lever	1
17	14 994 486	Bolt for spring arm	1
18	7 998 341	Spring arm	2
19		Locking lever	1
20		Distance bush	1
22		Lock nut VM 14, DIN 980	1
23	14 994 487	Coupling bolt, incl. item 24 and 2 pcs. of item 25	1
24	12 991 452	Locking lever pin	1
25	7 998 171	Locking spring	2
26	14 994 495	End cap incl. items 28, 29 and 2 pcs. item 27	1
27		Spring pin	2
28		Volute spring	1
29		Buttonhead rivet 6 x 12, DIN 660	1
30		Nameplate incl. 2 pcs. of item 31, design A	1
31		Blind rivet 3 x 6	2
32		Hexagonal screw M 10 x 95, DIN 931, incl. item 33	1
33		Lock nut VM 10, DIN 980	1
34		Hexagonal screw M 8 x 12, DIN 933, incl. item 9	1
36	6 999 107	Bar guide incl. item 37	1
37	6 999 085	Bearing bush, broad	1
39	6 999 093	Thrust washer	1
40	2 444 984	Layer spring	1
41	6 999 131	Support bearing incl. item 42	1
42	6 997 210	Bearing bush	1
43	12 991 231	Tube clamp AL 80-100, DIN 3017	2
44	6 997 201	Tension washer	1
45	6 997 198	Guide pipe	1
46	10 991 480	Distance pipe	1
47	6 997 236	Locking washer	1
48	7 995 555	Locking washer (tension washer)	1
49	10 991 471	Rubber washer	2
50	6 997 180	Cross yoke	1
52	6 997 732	Castellated nut M 45 x 3, incl. item 53	1
53	12 991 533	Cotter pin 8 x 80, DIN 94	1
54	10 991 463	Protecting cap	1
55	6 997 163	Vibration damper, in twos	1
56	6 997 295	Bellows incl. 2 pcs. of item 43	1
57		Washer	4
58		Lock nut DIN 980	4
59		Hexagonal screw DIN 931 incl. items 57 and 58	4
60	14 994 434	Hand lever incl. items 16, 19, 20, 22, design B	1
63	14 994 443	Sensor type 2040/2045	1
14 994 511		Repair kit composing of: Coupling bolt, compl., top and bottom guide bush	

Automatic Trailer Couplings Type 2045/G145 and 2045/G150

Installation:

Remove castellated nut (52). Take off locking washer (48) and rubber washer (49). Loosen bellows (56) from bar guide (draw-thrust installation, fastening part in the cross member). Remove complete coupling head with drawbar (1) from draw-thrust installation. Introduce and attach drawthrust installation against driving direction in the cross member.

Tightening torque per nut:

size 145 M 16 = 210 Nm

size 150 M 20 = 410 Nm

Insert drawbar (1) into draw thrust installation (attend to correct position of bellows). Place rubber washer and tension washer. Tighten castellated nut (52) with minimum tightening torque of 500 Nm. To reach the next hole position for the cotter pin even higher tightening torques may be required. Secure using a cotter pin (53). Fit protecting cap (44). Straighten the coupling. Attach bellows (56) with tube clamp (43). When mounting subsequently, attend to statutory regulations! It has to be ensured that the shock absorbers are being mounted in the right direction which means that the red points on both absorbers have to point downwards.

Operation:

For that purpose the coupling jaw must be in the central position or it must be moved by hand to one of the lateral end positions. Only now can the coupling be opened and locked into place. When inserting the drawbar eye, the mechanism is released by lifting the coupling bolt (23). In the lower position a second independent safety device (4) automatically locks the coupling bolt. For your own safety check that the safety device (4) is fully engaged after each coupling process which is perceptible by the signal pin of the safety device is fitting closely and flash with the plastic side cap of the coupling body.

Maintenance:

The safety device (4) is provided with a tapered grease nipple (5) which permits lubrication of the entire coupling head. Please lubricate regularly. The coupling bolt and drawbar eye will be subject to less wear and tear if they are always kept clean and well lubricated. In case of excessive vertical play of the drawbar, attend to replacing the bearing bush (37) (please refer to repair instructions).

Repair:

Besides the spare parts overleaf we offer a repair kit for our couplings composing of all important wear parts also applicable to our type 2040.

The repair kit is composed of:

- coupling bolt including locking lever pin and 2 locking springs
- 1 bottom and 1 top guide bush
- plastic plate and mounting material order no. 14 994 511

Important Instruction:

When fitting (or replacing) the trailer coupling please attend to the relevant statutory regulations and particular information from the vehicle manufacturers.

The mounting of the trailer coupling has to be checked in accordance with the regulations contained in appendix I, no. 5.10 and in compliance with the requirements laid down in appendix VII of the EC-regulation 94/20.

Technical Data:

D-value for towing vehicle and semi-trailer:

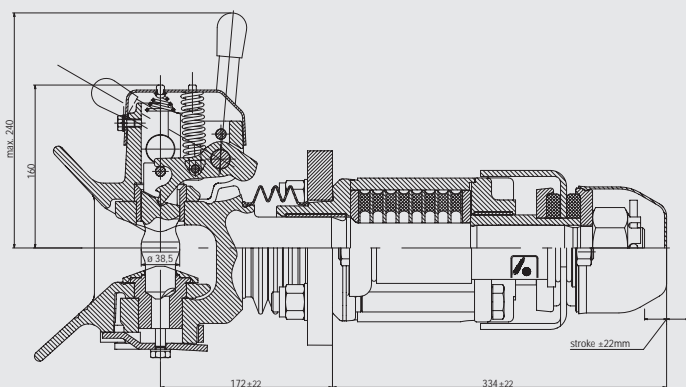
$$D \text{ (kN)} = g \cdot \frac{T \cdot R}{T + R}$$

The calculated D-value may be **less** or **equal** to the D-value of the coupling.

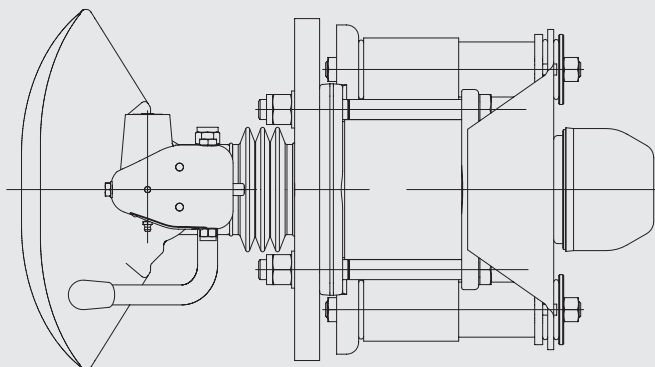
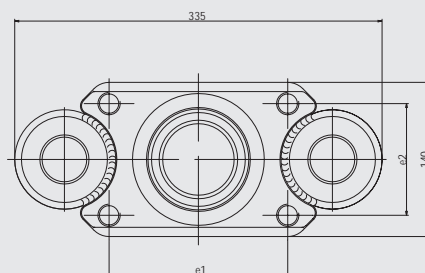
T: max. mass in tonnes of the towing vehicle

R: max. mass in tonnes of the semi-trailer

g: acceleration due to gravity 9,81 m/s²



Flange Design



Articulation of drawbar eye:

horizontally $\pm 110^\circ$
 vertically $\pm 20^\circ$
 rotationally $\pm 360^\circ$

Technical Data:

Design	Order No.	Type	Class acc. 94/20 EC	ECCEC Type Approval	D- Value kN	Fastening Screws	Flange- Design e1 x e2
A	14 995 435	2045/G145	S	e11 00-3446	100	M 16	140 x 80
A with Sensor	14 994 228	2045/G145	S	e11 00-3446	100	M 16	140 x 80
* B	14 994 240	2045/G145	S	e11 00-3446	100	M 16	140 x 80
B with Sensor	14 994 232	2045/G145	S	e11 00-3446	100	M 16	140 x 80
A	14 995 447	2045/G150	S	e11 00-3443	136	M 20	160 x 100
A with Sensor	14 994 272	2045/G150	S	e11 00-3443	136	M 20	160 x 100
* B	14 994 264	2045/G150	S	e11 00-3443	136	M 20	160 x 100
B with Sensor	14 994 256	2045/G150	S	e11 00-3443	136	M 20	160 x 100

* Design B
hand lever at lower right (not represented here)



A certified company in accordance with DIN EN ISO 9001 and VDA 6.1

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