

# SAF Ball Races

Secure connection between vehicle frame and bogie



# SAF BALLRACES FOR TURNTABLE DRAWBAR TRAILERS

## Single-row ball races

Type	Drill template	Axial load (kN)	A mm	B mm	C mm	D mm	E mm	F mm	d mm	h mm	H mm	Weight kg	Part No.	Replaces
BR-W-8-10-U-1-00	undrilled	80	1000	n.a.	881	853	n.a.	1008	n.a.	9	90	64	1038 30 0000 01 0	662 106 100/110
BR-W-10-10-U-1-00	undrilled	100	1000	n.a.	881	853	n.a.	1008	n.a.	9	90	64	1038 30 0000 02 0	662 106 120/130
BR-W-10-11-U-1-01	1	100	1100	1060	981	953	1074	1108	18	9	90	71	1038 30 0000 03 0	662 106 140/150
BR-W-12-11-U-1-01	1	120	1100	1060	981	953	1074	1108	18	9	90	71	1038 30 0000 04 0	662 106 160/170
BR-W-13-12-U-1-01	1	130	1200	1160	1081	1053	1174	1208	18	9	90	78	1038 30 0000 05 0	662 106 180/190
BR-W-12-11-U-1-5	–	120	1100	1060	981	953	1074	1108	18	–	90	72	1038 30 0000 99 0	–
BR-W-14-13-U-1-01	1	140	1300	1260	1181	1153	1274	1308	18	9	90	84	1038 30 0000 06 0	–
BR-W-14-13-U-1-00	undrilled	140	1300	n.a.	1181	1153	n.a.	1308	n.a.	9	90	84	1038 30 0000 12 0	–
BR-W-14-13-U-1-02	2	140	1300	1260	1181	1153	1274	1308	18	9	90	84	1038 30 0000 13 0	–
BR-W-14-13-U-1-07	7	140	1300	1260	1181	1153	1274	1308	18	9	90	84	1038 30 0000 14 0	–
BR-S-06-10-Z-1-00	undrilled	60	955	n.a.	813	750	n.a.	885	n.a.	9	60	53	1038 30 0000 18 0	662 106 200
BR-S-06-10-Z-1-03	3	60	955	920	813	750	780	885	15	9	60	52	1038 30 0000 19 0	662 106 220
BR-S-07-11-Z-1-00	undrilled	70	1100	n.a.	953	890	n.a.	1026	n.a.	9	60	65	1038 30 0000 20 0	662 106 240
BR-S-07-11-Z-1-03	3	70	1100	1070	953	890	920	1026	15	9	60	64	1038 30 0000 21 0	662 106 260
BR-S-01-04-Z-1-00	undrilled	14	400	n.a.	283	216	n.a.	339	n.a.	7	52	11	1038 30 0000 22 0	662 106 280
BR-W-16-11-U-1-01	1	160	1100	1060	981	953	1074	1108	18	9	90	70	1038 30 0000 23 0	662 106 300
BR-W-14-13-U-1-03	3	140	1300	1260	1181	1153	1274	1308	18	9	90	84	1038 30 0000 37 0	–
BR-W-13-12-U-1-09	S <sup>(*)</sup>	130	1200	1170	1081	1053	1180	1208	17	9	90	82	1038 30 0000 85 0	–
BR-S-15-09-Z-1-11	S	150	848	820	705	742	634	783	18	12	56	43	1038 30 0000 89 0	–
BR-W-12-11-U-1-12	S	120	1100	1060	981	953	1070	1108	18	9	90	72	1038 30 0000 91 0	–
BR-W-10-10-U-1-10	S	100	1000	960	881	853	974	1008	18	9	90	64	1038 30 0000 95 0	–

## Double-row ball races

Type	Drill template	Axial load (kN)	A mm	B mm	C mm	D mm	E mm	F mm	d mm	h mm	H mm	Weight kg	Part No.	Replaces
BR-S-16-10-U-2-S <sup>(*)</sup>	S <sup>(*)</sup>	160	987	952,5	872	832	965,2	1000	17	11	90	83	1038 30 0000 24 0	–
BR-S-20-11-U-2-S <sup>(*)</sup>	S <sup>(*)</sup>	200	1095	1060	972	932	1074	1102	17	11	90	95	1038 30 0000 25 0	–
BR-S-16-10-U-2-01	1	160	994	960	872	832	974	1000	18	11	90	84	1038 30 0000 40 0	–
BR-S-16-10-U-2-00	undrilled	160	994	n.a.	872	832	n.a.	1000	n.a.	11	90	85	1038 30 0000 42 0	–
BR-S-18-11-U-2-00	undrilled	180	1094	n.a.	972	932	n.a.	1100	n.a.	11	90	95	1038 30 0000 44 0	–
BR-S-20-12-U-2-00	1	200	1194	n.a.	1072	1032	n.a.	1200	n.a.	11	90	102	1038 30 0000 50 0	–
BR-S-20-12-U-2-01	1	200	1194	1160	1072	1032	1174	1200	18	11	90	104	1038 30 0000 52 0	–
BR-S-20-12-U-2-08	8	200	1194	1160	1072	1032	1174	1200	18	11	90	104	1038 30 0000 56 0	–
BR-S-20-11-U-2-01	1	200	1095	1060	972	932	1074	1102	18	11	90	94	1038 30 0000 77 0	–
BR-S-20-11-U-2-09	S <sup>(*)</sup>	200	1095	1064	978	938	1076	1106	18	11	90	94	1038 30 0000 80 0	–
BR-S-20-12a-U-2-08	8	200	1195	1160	1080	1040	1174	1208	18	11	90	104	1038 30 0000 87 0	–

Further versions on request (also applies to double-row versions) / All dimension specifications are nominal dimensions

(\*) – special drilling pattern; contact Application Engineering for more information

## Order code

BR – W – 11 – 10 – Z – 1 – 01

BR = Ball race

Version:  
W = Low maintenance  
S = Standard

Max. axial load t

Hanger center (Ø lower ring):  
04 = 400 mm  
09 = 900 mm  
10 = 1000 mm  
11 = 1100 mm  
12 = 1200 mm  
13 = 1300 mm

Model shape:  
U = U-shape  
Z = Z-shape

Ball races:  
1 = single row  
2 = double row

Drilling pattern:  
See table above

**IMPORTANT: PLEASE  
OBSERVE THE DRILLING  
PATTERN OF BOTH TOP  
AND BOTTOM FLANGE**



### Product information:

- the specified axial loads refer to utilisation in turntable steering systems on 3-axle truck trailers at speeds of up to 105 km/h (Extra: on 2-axle trailers, the specified axial loads can be exceeded by 10 %.)
- at speeds below 30 km/h, the axial loads can be exceeded by 20 %
- all data provided is valid for operation on paved roads, as are customary in Western Europe
- the rules for exceeded loads do not apply for off-road conditions

### Surface coating:

- surface: static liquid coating, colour RAL 9005, with good corrosion protection
- no need for the vehicle manufacturer to provide additional coating

### NOTE:

***It the turntable is re-coated, the sealing lip may stick to the ring or partially separate from its groove.***  
*Corrective action: e.g. mask the sealing lips before re-coating.*

## CentroLube

**The CentroLube lubrication unit, when connected to the turntable, supplies lubricant to the entire ball race from a single lubrication point.**

### Further advantages:

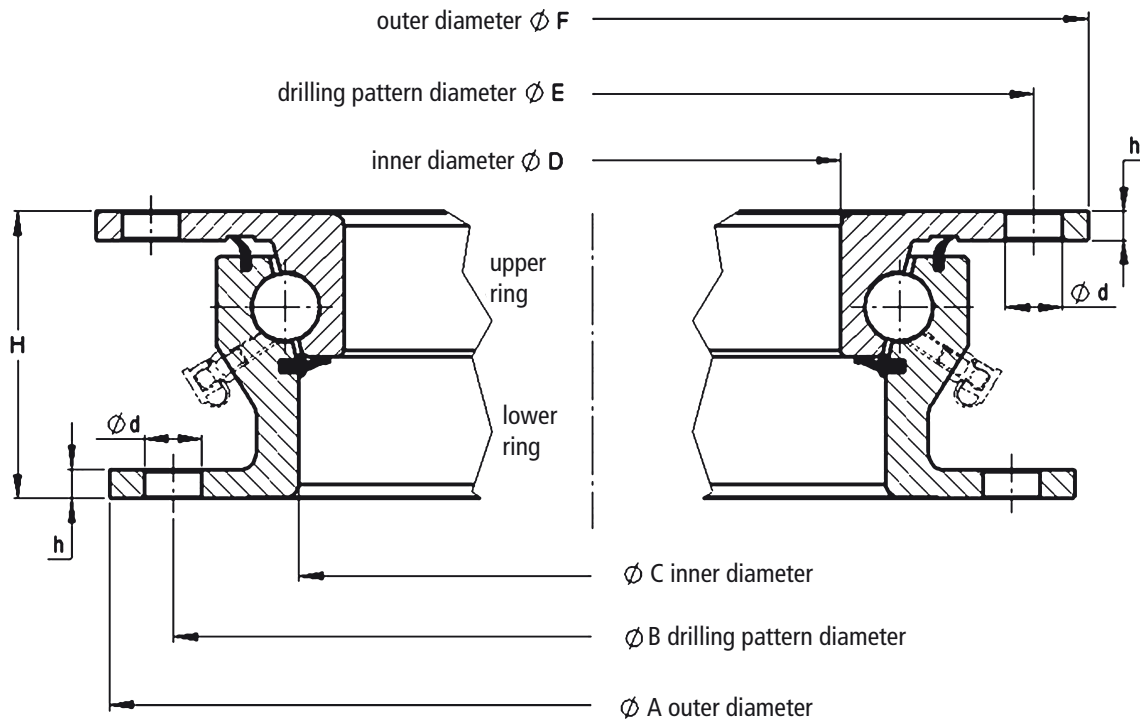
- all lubrication points of the ball race are simultaneously lubricated
- reducing the maintenance time and improving safety
- environmentally friendly due to optimized adjustment of lubrication requirements

Complete central lubricating system for ball races	
Number of lubrication points	Order no.
4 points	2110 30 00004 00
6 points	2110 30 00003 70
8 points	2110 30 00003 90
2 x 6 points	2110 30 00004 10



## NOTE!

When installing, please refer to the SAF-HOLLAND mounting, operating and maintenance instructions as well as the relevant provisions in your national road traffic licensing authority (StVZO in Germany).



### Ball races – low-maintenance design

SAF-HOLLAND ball races in the BR-W series are low-maintenance for the first 3 years after the start of operation or for the first 300,000 km under normal operating conditions and when used on paved roads such as roads in Western Europe. They are supplied fully lubricated and "operation ready".

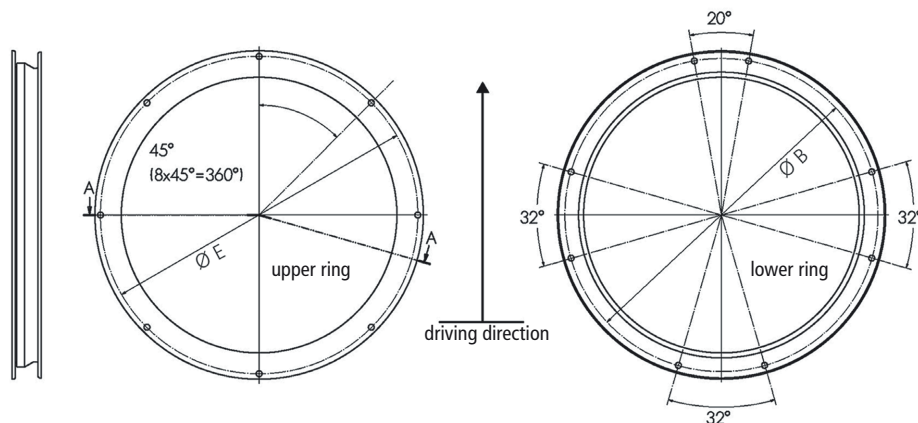
### Ball races – standard design

Standard Single-row and Double-row ballrace turntables are supplied just lightly lubricated. It is necessary to fully lubricate them before the installation (refer to SAF-HOLLAND Installation Manual).

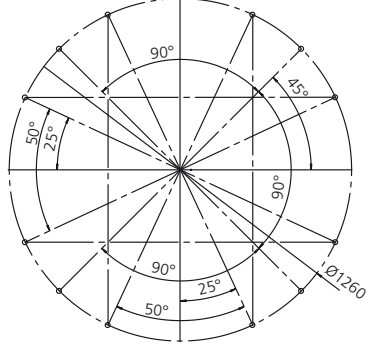
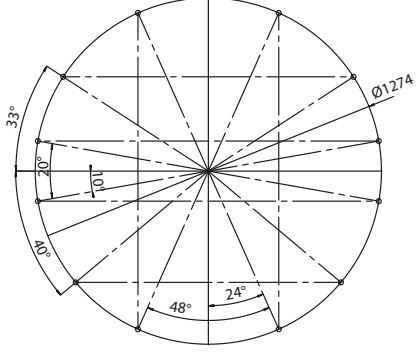
#### IMPORTANT NOTES:

**It is of crucial importance to prevent water ingress to the ball races. If the ballrace is directly cleaned with a high-pressure equipment, or exposed to extreme environmental conditions – it is necessary to re-grease it immediately. In those cases, the low maintenance regime has to be adjusted to suit the operation. Make sure that no water or dirt enter the race system.**

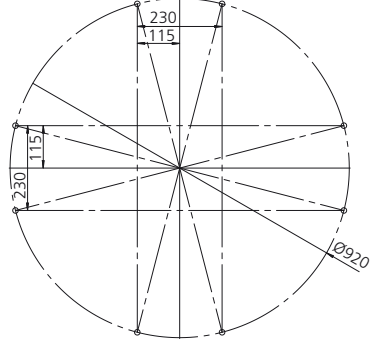
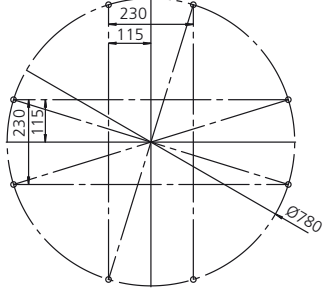
## DRILLING PATTERN 1



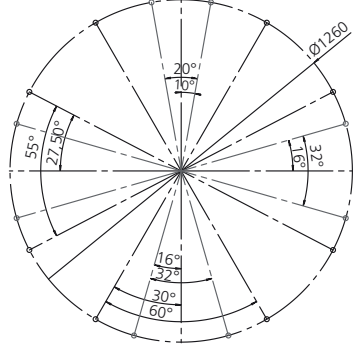
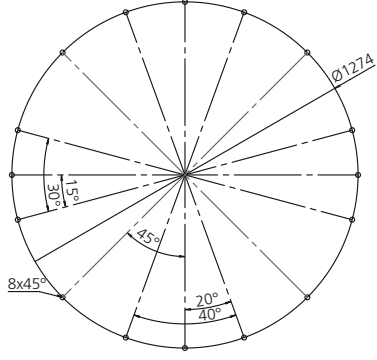
# DRILLING PATTERN 2



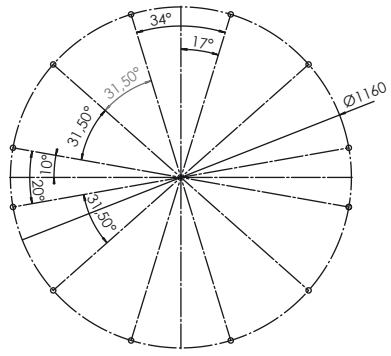
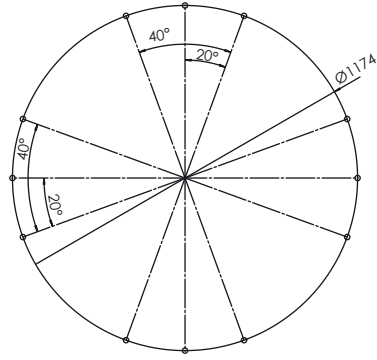
# DRILLING PATTERN 3



# DRILLING PATTERN 7



# DRILLING PATTERN 8



## Engineering Your Road to Success

The SAF-HOLLAND Group is one of the leading international manufacturers of suspension-related assemblies and components for trailers, trucks and buses. Our innovative products increase the efficiency, safety and environmental friendliness of commercial vehicles, contribute to the success of our customers. With around 3,000 employees worldwide, we are at the forefront of shaping the future of the transportation industry.



Trailer Axles and  
Suspension Systems



Coupling and Lifting  
Technologies



Coupling and Lifting  
Technologies



Trailer  
Telematics



Suspensions for  
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