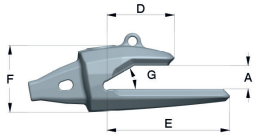


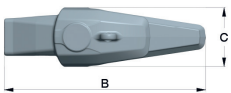
R10 SPECIFICATIONS Teeth, Adapters, Accessories



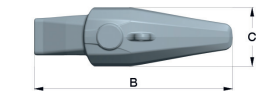
BE



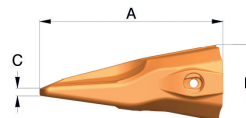
SL



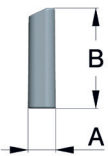
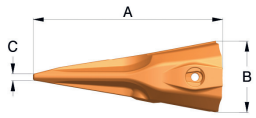
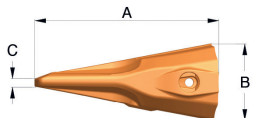
GPE



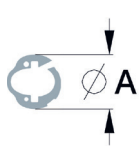
VE



GPL



LP



LR



LT

Typical machine weight - Excavator
Maximum breakout force in HD/XHD

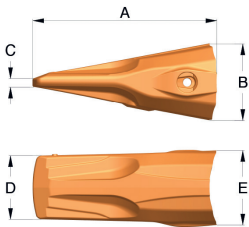
12-14 MT
88 kN

Typical machine weight - Loader
Maximum breakout force in HD/XHD

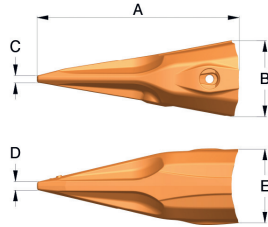
12-14 MT
158 kN

Type	Part. no			A mm	B mm	C mm	D mm	E mm	F mm	G bevel	Weight kg
BE	R10BE25			27	281	83	95	171	90	30°	5.5
SL	R10SL20			20 (20-30)	278	83	N/A	N/A	88	25°	6.2
GPE	R10GPE			208	86	10	72	84			3.2
VE	R10VE			228	86	8	10	84			2.7
GPL	R10GPL			208	86	9	72	84			3.5
LP	R10LP			19	69						0.1
LR	R10LR			29							-
LT	R10LT			358	62						0.4

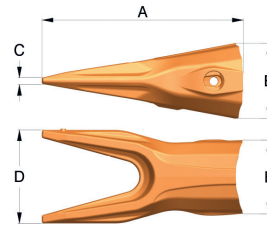
R14 SPECIFICATIONS Teeth



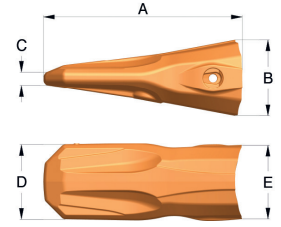
GPE



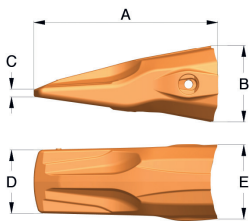
VE



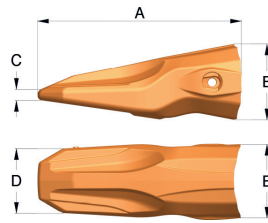
WE



AE



GPL



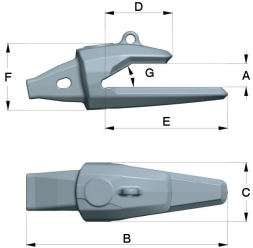
AL

Typical machine weight - Excavator 14-17 MT
Maximum breakout force in HD/XHD 112 kN

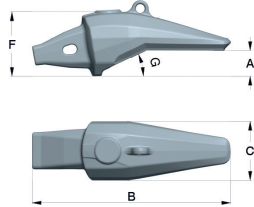
Typical machine weight - Loader 14-17 MT
Maximum breakout force in HD/XHD 202 kN

Type	Part. no			A mm	B mm	C mm	D mm	E mm	F mm	G bevel	Weight kg
GPE	R14GPE			240	100	11	83	97			4.7
VE	R14VE			265	100	9	10	97			4.3
WE	R14WE			265	100	9	123	97			5.1
AE	R14AE			262	100	18	98	97			6.2
GPL	R14GPL			240	100	10	83	97			5.5
AL	R14AL			269	100	15	85	97			7.3

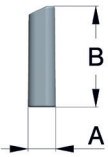
R I 4 SPECIFICATIONS Adapters, Accessories



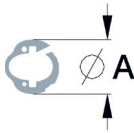
BE



SL



LP



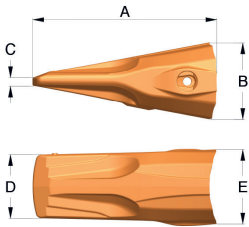
LR



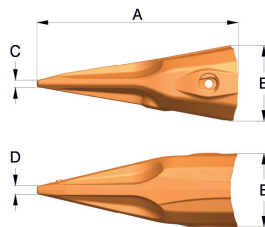
LT

Type	Part. no			A mm	B mm	C mm	D mm	E mm	F mm	G bevel	Weight kg
BE	R I 4BE30			32	325	96	110	198	103	30°	8.7
BE	R I 4BE40			42	325	96	110	198	103	30°	8.7
SL	R I 4SL30			30 (30-40)	322	96	N/A	N/A	101	25°	9.5
LP	R I 4LP			22	80						0.2
LR	R I 4LR			32							-
LT	R I 4LT			383	65						0.6

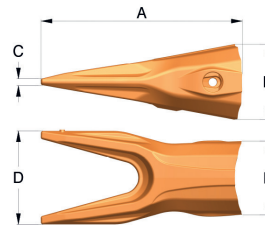
R18 SPECIFICATIONS Teeth



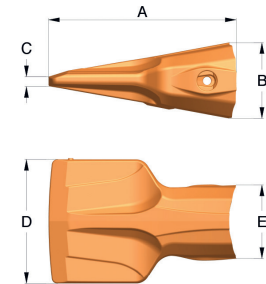
GPE



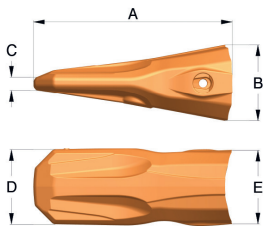
VE



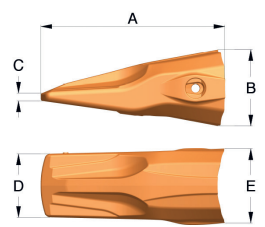
WE



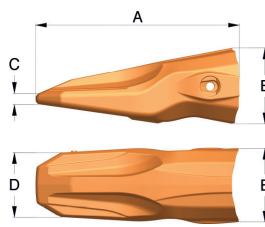
FE



AE



GPL

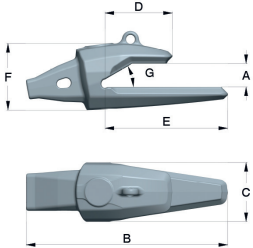


AL

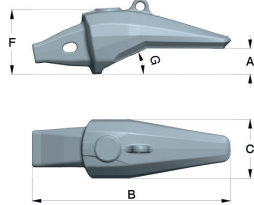
Typical machine weight - Excavator 17-25 MT
 Maximum breakout force in HD/XHD 147 kN
 Typical machine weight - Loader 17-25 MT
 Maximum breakout force in HD/XHD 265 kN

Type	Part. no			A mm	B mm	C mm	D mm	E mm	Weight kg
GPE	R18GPE			267	111	12	92	108	6.8
VE	R18VE			294	111	11	11	108	5.8
WE	R18WE			294	111	11	137	108	7.0
FE	R18FE			273	111	14	182	108	9.1
AE	R18AE			290	111	20	109	108	8.5
GPL	R18GPL			267	111	11	92	108	7.6
AL	R18AL			298	111	17	94	108	10.0

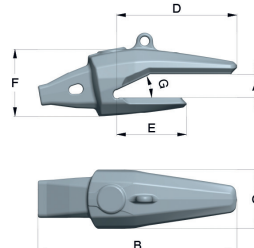
R I 8 SPECIFICATIONS Adapters, Accessories



BE



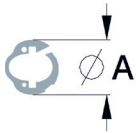
SL



TL



LP



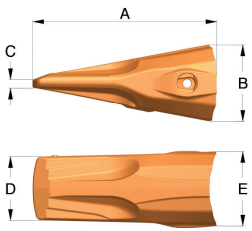
LR



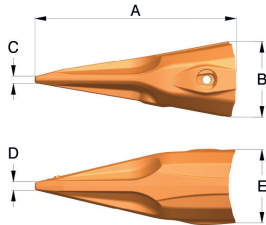
LT

Type	Part. no			A mm	B mm	C mm	D mm	E mm	F mm	G bevel°	Weight kg
BE	R I 8BE40			42	361	106	120	220	119	30°	11.9
BE	R I 8BE45			47	362	106	119	221	119	30°	12.1
SL	R I 8SL30			30 (30-40)	357	106	N/A	N/A	114	25°	12.8
TL	R I 8TL40			42	356	106	215	125	121	25°	12.8
LP	R I 8LP			25	90						0.2
LR	R I 8LR			35							-
LT	R I 8LT			408	65						0.6

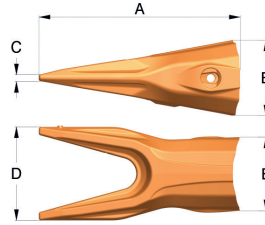
R23 SPECIFICATIONS Teeth



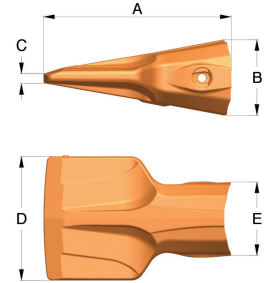
GPE 



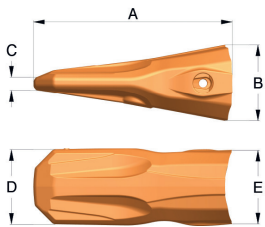
VE 



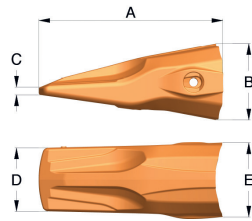
WE 



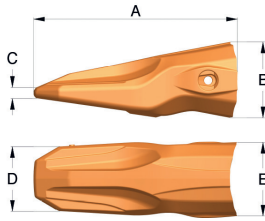
FE 



AE 














GPL 



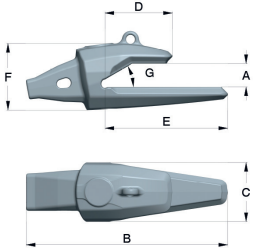
AL 

Typical machine weight - Excavator 25-35 MT
 Maximum breakout force in HD/XHD 184 kN

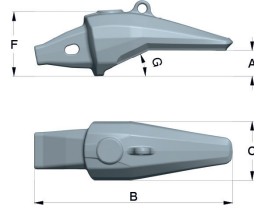
Typical machine weight - Loader 25-35 MT
 Maximum breakout force in HD/XHD 331 kN

Type	Part. no			A mm	B mm	C mm	D mm	E mm	Weight kg
GPE	R23GPE			301	125	14	104	122	9.6
VE	R23VE			332	125	12	13	122	8.4
WE	R23WE			332	125	12	155	122	10.1
FE	R23FE			309	125	16	205	122	13.1
AE	R23AE			328	125	22	123	122	12.4
GPL	R23GPL			301	125	13	104	122	10.8
AL	R23AL			337	125	19	107	122	14.4

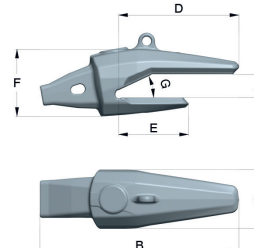
R23 SPECIFICATIONS Adapters, Accessories



BE



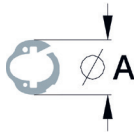
SL



TL



LP



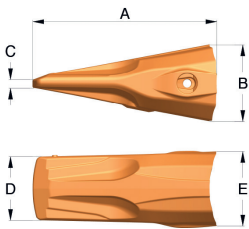
LR



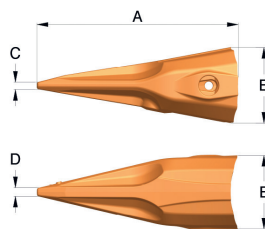
LT

Type	Part. no			A mm	B mm	C mm	D mm	E mm	F mm	G bevel	Weight kg
BE	R23BE40			42	408	120	137	249	130	30°	17.5
BE	R23BE50			52	408	120	137	249	130	30°	17.3
SL	R23SL40			40 (40-50)	404	120	N/A	N/A	127	25°	18.3
TL	R23TL40			42	403	120	244	140	130	25°	18.3
LP	R23LP			28	102						0.3
LR	R23LR			40							-
LT	R23LT			435	69						0.9

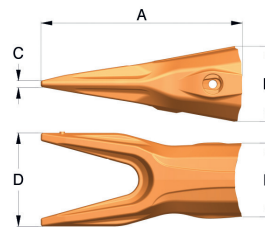
R29 SPECIFICATIONS Teeth



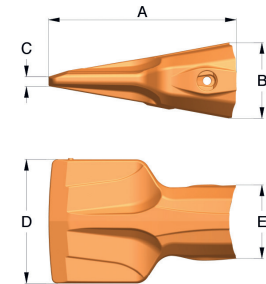
GPE



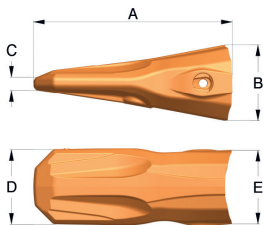
VE



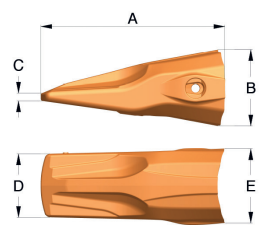
WE



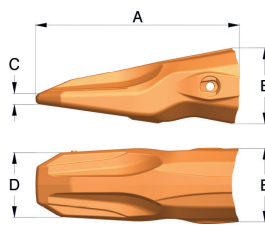
FE



AE



GPL



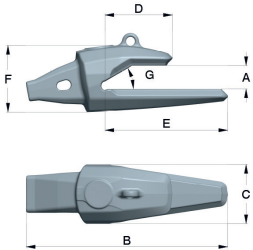
AL

Typical machine weight - Excavator 35-45 MT
Maximum breakout force in HD/XHD 233 kN

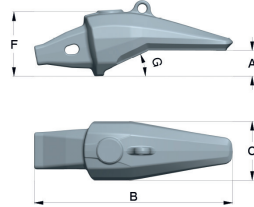
Typical machine weight - Loader 35-45 MT
Maximum breakout force in HD/XHD 419 kN

Type	Part. no			A mm	B mm	C mm	D mm	E mm	Weight kg
GPE	R29GPE			331	138	15	115	134	12.6
VE	R29VE			365	138	13	14	134	11.4
WE	R29WE			365	138	13	170	134	13.5
FE	R29FE			340	138	18	226	134	17.4
AE	R29AE			361	138	24	136	134	16.2
GPL	R29GPL			331	138	14	115	134	14.5
AL	R29AL			371	138	21	117	134	19.2

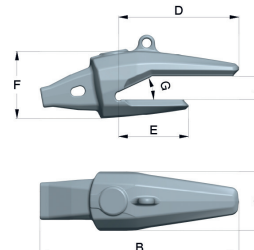
R29 SPECIFICATIONS Adapters, Accessories



BE



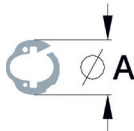
SL



TL



LP



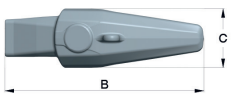
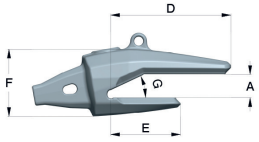
LR



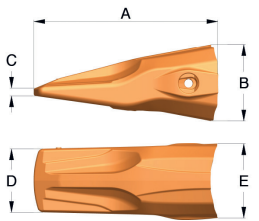
LT

Type	Part. no			A mm	B mm	C mm	D mm	E mm	F mm	G bevel	Weight kg
BE	R29BE50			52	449	132	150	274	148	30°	23.7
BE	R29BE60			62	449	132	148	274	148	30°	23.6
SL	R29SL50			50 (50-65)	444	132	N/A	N/A	144	25°	21.0
TL	R29TL50			52	443	132	268	156	150	25°	24.6
LP	R29LP			31	112						0.4
LR	R29LR			43							-
LT	R29LT			460	70						1.0

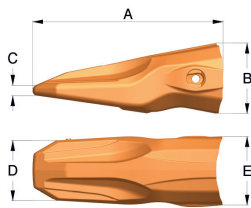
R35 SPECIFICATIONS Teeth, Adapters, Accessories



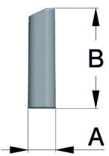
TL



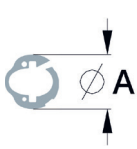
GPL



AL



LP



LR



LT

Typical machine weight - Loader
Maximum breakout force in HD/XHD

45-55 MT
510 kN

Type	Part. no			A mm	B mm	C mm	D mm	E mm	F mm	G bevel	Weight kg
TL	R35TL65			67	501	149	303	174	170	30°	30.6
GPL	R35GPL			375	156	16	130	151			20.9
AL	R35AL			419	156	23	133	151			27.8
LP	R35LP			34	127						0.6
LR	R35LR			49							-
LT	R35LT			485	75						1.1

EXCAVATOR TEETH AND ADAPTERS

ADAPTER

BE

A 1 1/2 bottom leg adapter. Designed for both general and tough excavation in different types of ground.

SL

Top mounted single leg adapter designed for use in general conditions whenever a smooth surface is required.

LOCK

LP

Reusable locking pin of forged steel also usable in hot slag applications.

LR

Locking ring integrated in the tooth. Secures the locking function and simplifies teeth exchange.

TOOTH

GPE

Standard tooth with slim design for optimal penetration and durability in general purpose applications.

VE

The tooth for maximum penetration. Makes light work of hard surface layers and frozen ground.

WE

Used primarily in a corner position in combination with VE, this tooth provides the penetration demanded by hard surfaces.

FE

An extra-wide tooth for excavating and cleaning – penetration and straight-edge performance from a single solution.

TOOTH

AE

Abrasion tooth for highly abrasive soils and rocks such as granite, basalt and sandstone. The design provides maximal wear material with maintained good penetration.

TOOL

LT

Tool for turning the locking ring in locked and unlocked position.

LOADER TEETH AND ADAPTERS

ADAPTER

SL

Top mounted single leg adapter designed for use in general conditions whenever a smooth surface is required.

TL

A 1 1/2 top leg adapter. Designed for both general and tough loading in different types of ground conditions.

LOCK

LP

Reusable locking pin of forged steel also usable in hot slag applications.

LR

Locking ring integrated in the tooth. Secures the locking function and simplifies teeth exchange.

TOOTH

GPL

In both general and highly abrasive environments. This all-round tooth is popular for its excellent penetration.

AL

Outstanding wear resistance combined with a high level of penetration. This tooth provides extra protection for the lower part of the adapter and is ideal where ground conditions are highly abrasive.

TOOL

LT

Tool for turning the locking ring in locked and unlocked position.

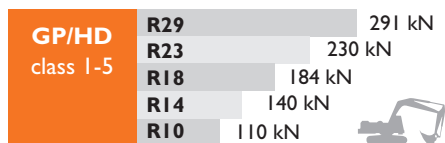
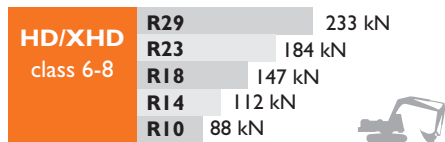
APPLICATION TABLE

APPLICATION TABLE Based on DIN 18300 ground classification

Ground classification	Description of ground conditions	Working conditions	Application
Class 1 Top soil without stones	Top layer of soil.	Very little wear. Very little penetration resistance. No impact resistance.	GP
Class 2 Wet ground	Sludge, mud, peat.	Little wear. Very little penetration resistance. No impact resistance.	GP
Class 3 Light ground	Sand, fine gravel, sandy soil. Stone size up to approx. 60 mm	Moderate wear. Little penetration resistance. No impact resistance.	GP
Class 4 Moderately heavy ground	Very stony ground, gravel, stones. Stone size above 60 mm.	Considerable wear. Some penetration resistance. Moderate impact resistance.	GP / HD
Class 5 Dense, moderately heavy ground	Till, rigid clay, sand-clay mix, moraine, marl.	Considerable wear. Moderate penetration resistance. Little impact, some break through resistance.	HD
Class 6 Dense, heavy ground	Hard marl and clay, hard sandy ground, hard stony soil. Stone size up to approx. 200 mm.	Considerable wear. Considerable penetration resistance. Considerable impact and break through resistance.	HD
Class 7 Lighter rock	Loose rock, crumbled rock, slate. Very hard ground with stones, approx. 200 mm or bigger.	Usually considerable wear. Considerable penetration resistance. Considerable impact and break through resistance.	XHD
Class 8 Heavy rock	Blasted rock, size over 0,1 m ³ .	Very significant wear. Considerable penetration resistance. Very significant impact and break through resistance.	XHD

For further information on welding, assembly and maintenance, see welding and assembly instructions.

Breakout force diagram – Backhoe



Breakout force diagram

