

## K.T.S Stone, Demolition and Sorting Grapples 0.20 - 0.28 - 0.36 and 0.52 m<sup>2</sup>

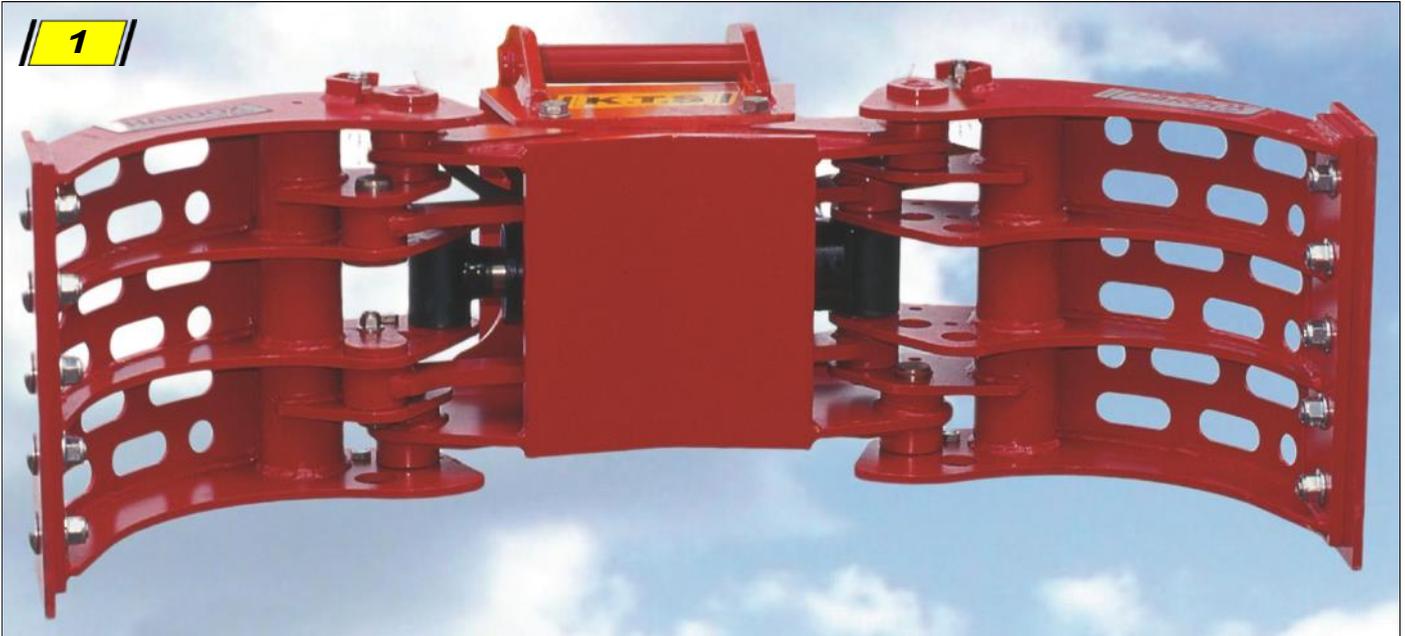
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Standard timber grapples, regardless of the brand, are not durable enough for very tough jobs involving stone, demolition and sorting. Therefore, K.T.S has developed extremely powerful and durable grapples for **excavators**, made entirely of **high-tensile materials like STRENX<sup>®</sup> 700 and HARDOX<sup>®</sup> 450 from SSAB** with mounted S-brackets for excavators.

Have a look at the pictures, and you will see what we mean! K.T.S has built these grapples without compromising with three simple goals in mind: **safety, quality and maximum durability**.

The grapple has a wide opening, which is suitable for demolition jobs. All pictures show the 0.20 m<sup>2</sup> model.

1



2

Look how **well-protected the hydraulic cylinder, accumulator and load-holding valve** are when they are mounted inside the grapple housing!

The gripping force is adequate for different purposes such as handling heavy stones, and for various demolition and sorting tasks.

S-brackets for excavators are standard equipment.

2



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**ProLine**

**HARDOX<sup>®</sup>**

3

Swedish design and manufacturing for best quality and safety.

To further optimise the durability and weight of the K.T.S Grapple, we have used a computer-assisted tensile strength program, FEM (Finite Element Method), to calculate them.

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**All excavator tasks must always be carried out as safely as possible. When building stone walls, it is very common to have people close to the machine. What happens if the hydraulic pressure drops and the grapple loses its grip and drops the load during work?**

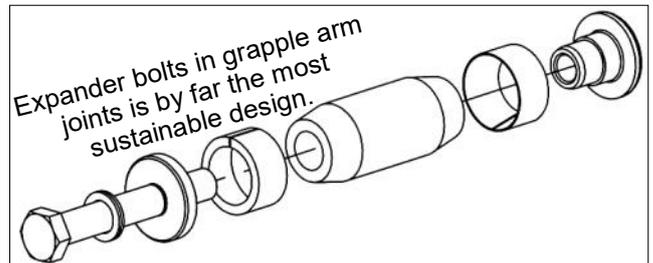
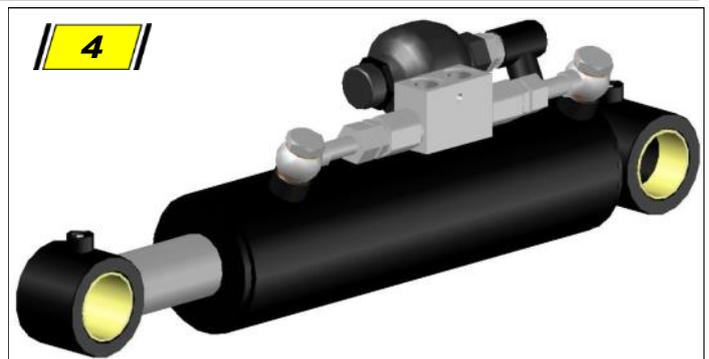
**K.T.S Stone, Demolition and Sorting Grapple offers double safety:**

1. If a hose in the excavator breaks, the hydraulic pressure of the grapple drops and the machine drops the stone, which might cause injury. K.T.S has solved this with a load-holding valve, which is integrated with the hydraulic cylinder.
  2. If there is minor leakage in the cylinder or on the machine (penetrating oil), it is refilled using the accumulator, and thus the grapple does not loosen its grip.
- ◆ Both the load-holding valve and the accumulator are integrated into the cylinder and are **well protected** inside the grapple housing. All **K.T.S Stone, Demolition and Sorting Grapples** can be equipped with both a load-holding valve and an accumulator for maximum safety.
  - ◆ Both equipment units mentioned above can be retrofitted.
  - ◆ Complies with European safety standards.

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The grapple has a wide opening, which is favourable for demolition jobs.

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The grapple arms are equipped with bolted replaceable **HARDOX**<sup>®</sup> wear plates.

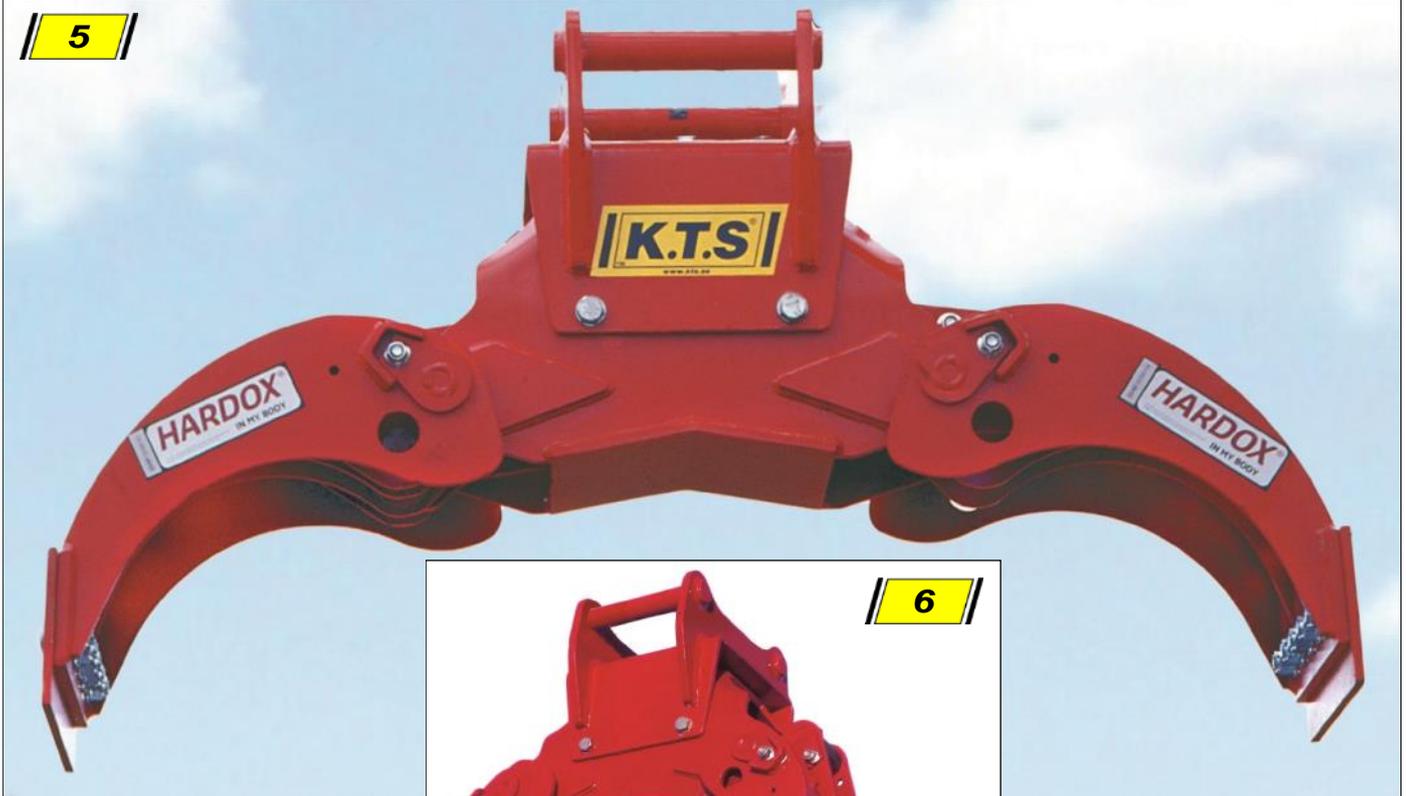
The steel cutters can be replaced with 50 mm hard rubber (extra equipment), **indispensable** when handling e.g. polished stones.

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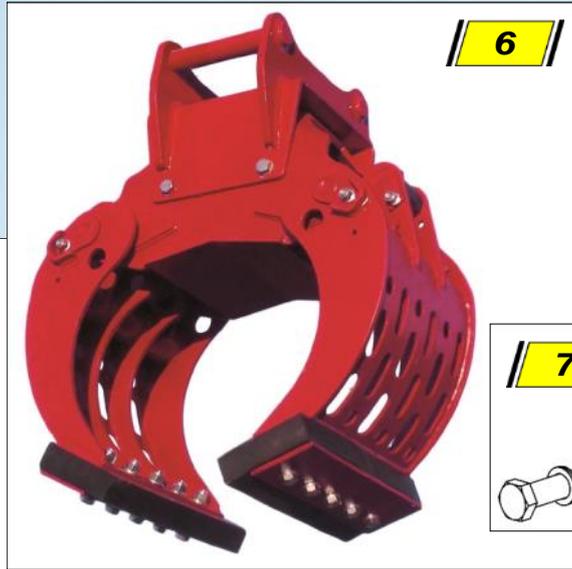
Expander bolts in the grapple arm joints is by far the most sustainable design.

The 0.36 and 0.52 grapples are both equipped with expander bolts mounted in the grapple arm joints. The larger one also has dual cylinders for maximum durability.

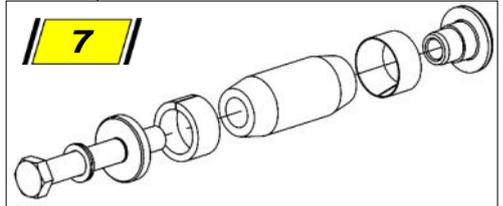
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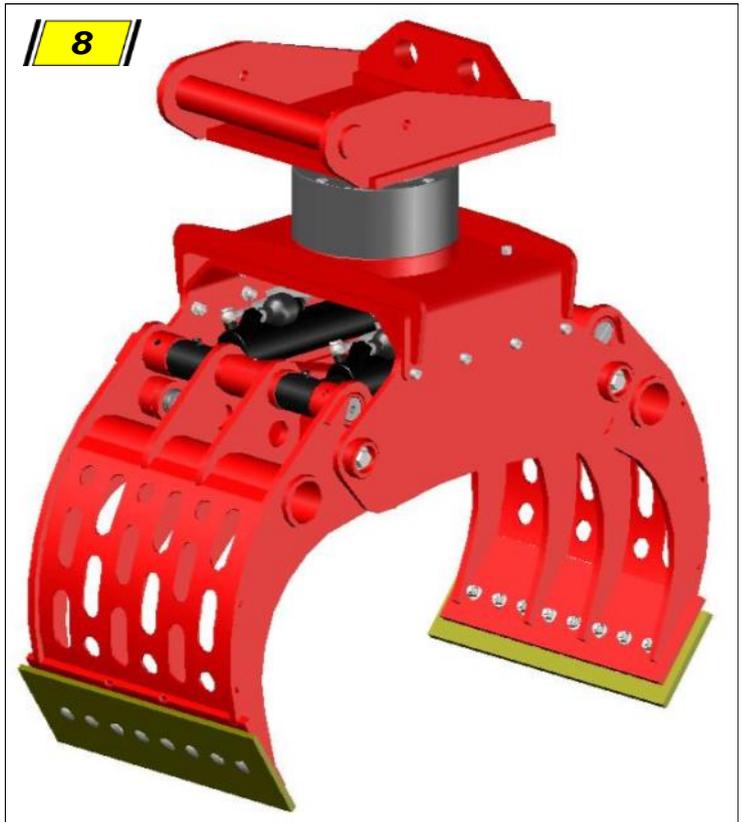


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**ProLine**  
 HARDOX®

5-8

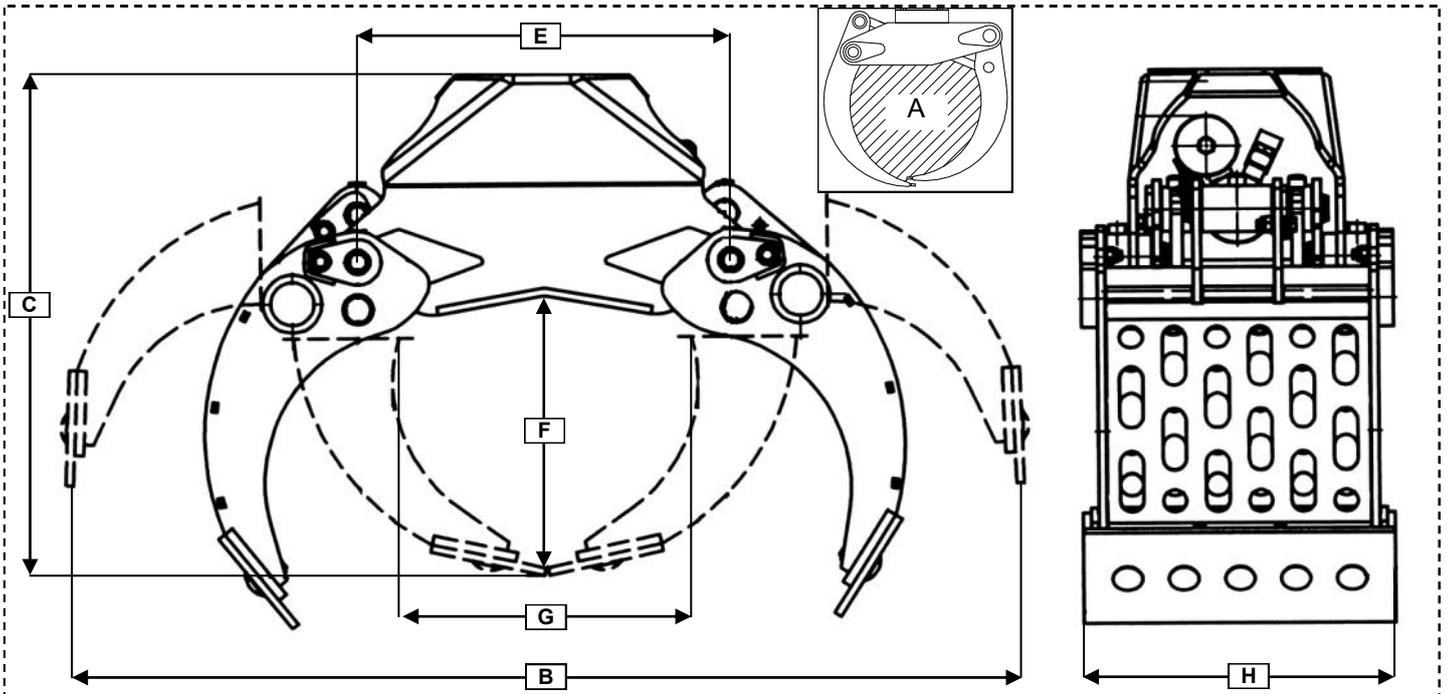
All K.T.S Stone, Sorting and Demolition Grapples can be equipped with “flat” rotators for heavy duty jobs. This is a good option for excavators not equipped with a tilt rotator function.

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**Different measures of K.T.S Stone, Demolition and Sorting Grapples 0.20 - 0.28 - 0.36 and 0.52 m<sup>2</sup>**



Position	Pro-Grapple 0.20 m <sup>2</sup>	Pro-Grapple 0.28 m <sup>2</sup>	Pro-Grapple 0.36 m <sup>2</sup>	Pro-Grapple 0.52 m <sup>2</sup>
Built-in load-holding valve and accumulator	Extra equipment, also possible to retrofit			
A The size of the grapple is measured when the tips of the grapple arms meet. K.T.S has exact dimensions — do check!	0.20 m <sup>2</sup>	0.28 m <sup>2</sup>	0.36 m <sup>2</sup>	0.52 m <sup>2</sup>
B mm	1,235	1,550	1,806	2,101
C mm	655	816	921	1,015
E mm	480	605	698	749
F mm	353	477	555	575
G mm	394	513	583	704
H mm	400	520	640	750
Bushings	Yes/lubricable bronze bushings in all joints			
Expander bolts in grapple arm joints	No		Yes, standard	
Tip power of the grapple arms at hydraulic pressure of 190 bar	1,340 kg	2,070 kg	2,527 kg	3,120 kg
Recommended oil flow	Between 40 and 100 l/min			
Recommended hydraulic pressure	150 - 290 bar			
Time to <b>close</b> the grapple from fully open position in seconds if the oil flow is 70 l/min	1.69 seconds	1.35 seconds	1.89 seconds	2.45 seconds
Same as above but at 40 l/min	1.21 seconds	2.36 seconds	3.31 seconds	4.30 seconds
Time to <b>open</b> the grapple from fully open position in seconds if the oil flow is 70 l/min	0.27 seconds	0.34 seconds	0.56 seconds	0.73 seconds
Same as above but at 40 l/min	0.47 seconds	0.59 seconds	0.98 seconds	1.27 seconds
Number of hydraulic cylinders	1 pc.			2 pcs.
Number of hydraulic outlets needed to manoeuvre the grapple.	1 double-acting			
Max load in the grapple	3,500 kg	5,000 kg	7,500 kg	9,500 kg
Weight	145 kg	246 kg	376 kg	675 kg
Recommended machine weight	1.0 to 5.0 tons	5.0 to 10.0 tons	10.0 to 25.0 tons	20.0 to 30.0 tons

**Weight of K.T.S Stone, Demolition and Sorting Grapples with fitted S-brackets**

Position	Bracket S40	Bracket S40/240	Bracket S45	Bracket S50	Bracket S60	Bracket S70	Bracket S80
0.20 m <sup>2</sup> Pro-Grapple	175 kg	176 kg	188 kg	-	-	-	-
0.28 m <sup>2</sup> Pro-Grapple	282 kg	283 kg	293 kg	295 kg	-	-	-
0.36 m <sup>2</sup> Pro-Grapple	415 kg	421 kg	432 kg	435 kg	449 kg	506 kg	576 kg
0.52 m <sup>2</sup> Pro-Grapple	-	-	-	-	680 kg	780 kg	825 kg