HANDHELD PNEUMATICS

TEX heavy breaker range

Atlas Copco

GREAT TODAY BETTER TOMORROW

Smart equipment lets you do more in less time. And for many years to come.

Our motto is sustainable productivity. By making hammers and breakers that minimise vibration and noise you are able to work successfully for many years to come. And as you gain experience, your work will improve. That's sustainability at its best.

If sustainability is long term, reliability is here and now. And for us reliability means that you can put 100 percent of your energy to solving the task at hand. One way of creating reliable machinery is by keeping it simple.

Designing smart with interchangeable parts saves both time, space and money. It means you can cover more spare parts for your hammers and breakers with a smaller inventory. The solid body concept means that the heart of both hammers and breakers is made from a single cast. Few things are stronger than cast metal and it helps to keep parts at a minimum. It won't get simpler or smarter than that.

To get the most out of your time and energy it's important to match the machine and the tool for the job at hand. And just like you, we take care of business from beginning to end. Our tools are wear resistant and they have a shock resistant central core. We love breaking, but only when the right things break.

THE ULTIMATE POWER GUIDE

The right choice of power source makes all the difference.
Here's what to grab and when.

To pick the right power source you have to start by asking what you want to accomplish. When you are 3,000 metres below the earth's surface, one or two kilograms of excess weight might make all the difference.

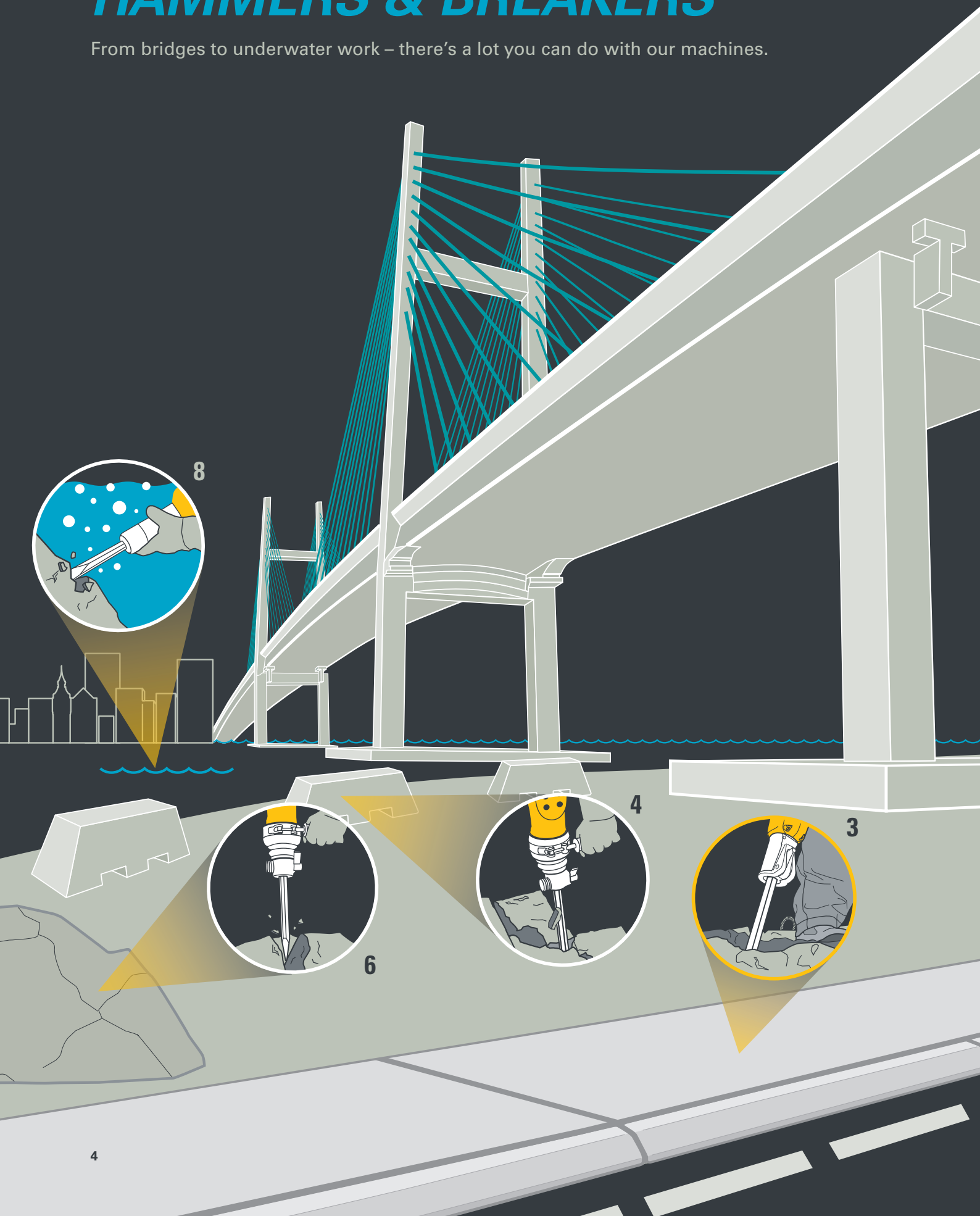
Or if you work in disaster relief and have no access to external power sources, a trustworthy gasoline engine can save lives.
We have a power system for every occasion and we are more than happy to help you make the right choice.

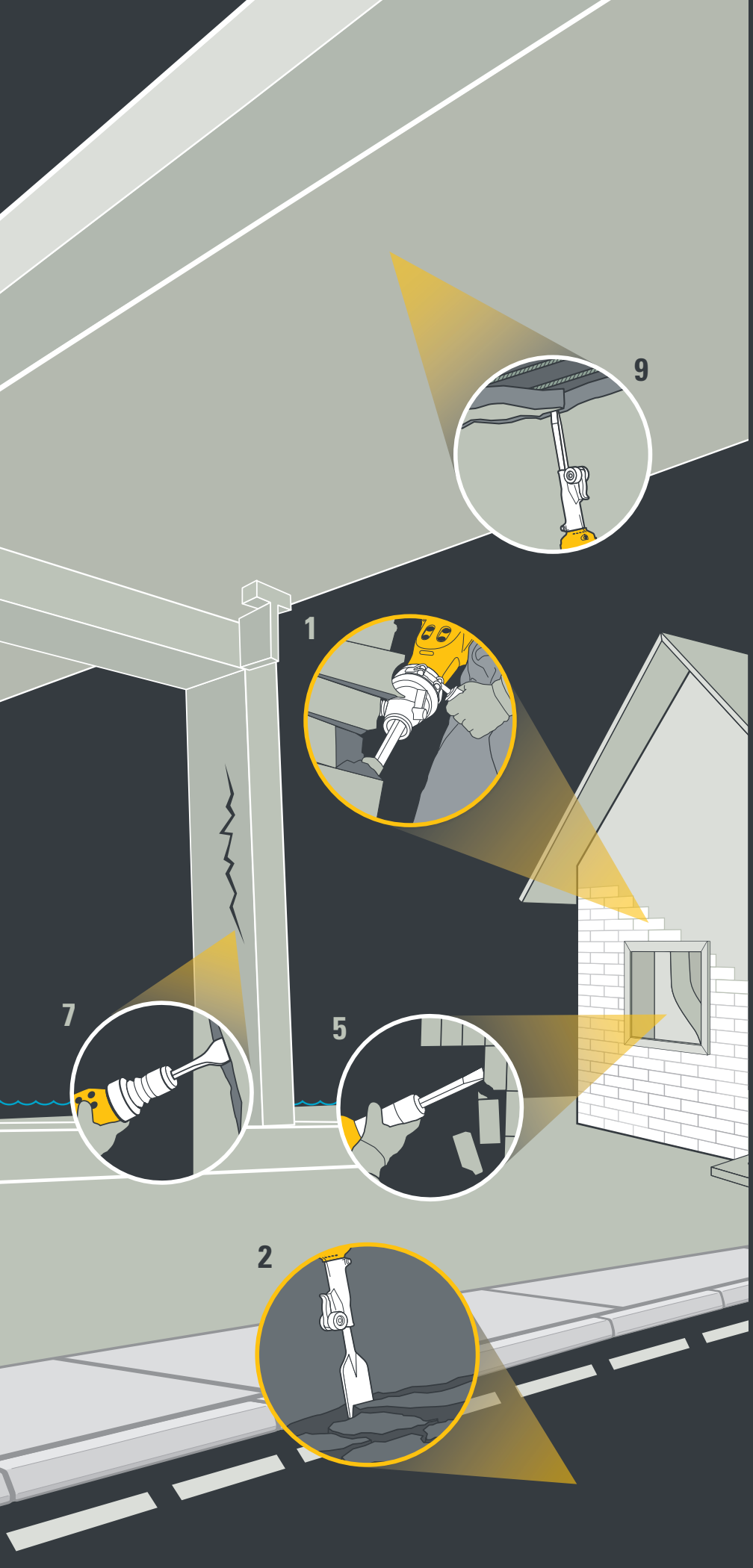
Take a look at this guide and if you have any more questions, don't hesitate to get in touch with your local Atlas Copco representative.

	PETROL	HYDRAULIC	PNEUMATIC
HOW	Grab and go!	A stackable, smart power source that monitors its own functions	A trusted power source with less vibration than the competition thanks to more than 110 years of refinement.
WHY	You don't need an external power supply	The best possible power to weight ratio of all systems and with a minimum of vibrations	Easy to work with and powerful enough for most applications. You can run multiple tools at the same time
WHAT	A high performance petrol-driven 2-stroke engine for drilling and breaking	Hydraulic oil can withstand extreme pressure and that makes it to a powerful energy transmitter	An engine creates compressed air that in turn powers your tools
WHO	Rescue personnel, military, railroad and telecommunication workers	Professionals on the road who need lots of power for one tool at a time	Construction workers, demolition specialists
WHERE	Remote locations, disaster areas	On the road, in a mine, on a farm or in a construction site	Road construction and repairs, bridge repairs, general demolition, mining
WHEN	Time is short and space is limited	You must handle every challenge, fast	You have many tools on site that all run on pneumatics

APPLICATIONS
HAMMERS & BREAKERS

From bridges to underwater work – there's a lot you can do with our machines.





KNOW YOUR HAMMERS & BREAKERS

APPLICATIONS

1. SOFT MATERIAL
Brick, soft rock and other soft materials require lighter hammers and breakers that deliver a high number of blows per minute and less impact force.

2. MEDIUM MATERIAL
The harder the material, the more weight and impact force is needed. Medium materials include medium hard rocks, non-reinforced concrete and asphalt.

3. HARD MATERIAL
To break hard rocks, including high silica content boulders, and reinforced concrete you need high impact force and fewer blows per minute.

4. DEMOLITION
Demolition is the process of tearing down a structure. Materials range from soft to hard. You need tough, reliable hammers and breakers with the right type of tools.

5. RENOVATION
Renovation is the process of improving a structure. Typical tasks include chipping and scaling concrete. Renovation work in general, and especially inside buildings, means you need effective sound and vibration protection.

6. ROCK SPLITTING
Rock splitting with hammers and breakers is time and cost saving compared to using explosives. Explosives requires secure storing and causes interruptions when blasting and clearing.

7. CHIPPING
Chipping means you remove cracked and weak concrete before improving for example a road structure with new concrete.

8. UNDERWATER WORK
Pneumatics work in most conditions. You can use pneumatic hammers and breakers for chipping and scaling operations under water.

9. OVERHEAD WORK
For overhead renovation work you need a light and efficient hammer with high impact rate.

YOUR BREAKER INSIDE OUT

This is how your breaker takes care of dangerous vibrations. It is also the story of our hand and arm protection system – HAPS.

We took on the challenge to create ergonomically designed breakers already in the 1960s. The first we did was to allow the piston to turn on cushions, a technique which has been fine-tuned over the years. During the 70s we introduced the first vibration damping handles. In the 80s and 90s we added vibration-damping springs and optimized the weight relationship between handle and body.
Today we have added a flexible pivot point, where the energy is reduced in all three directions. The relationship between fixed and movable parts has also been adjusted in recent years.

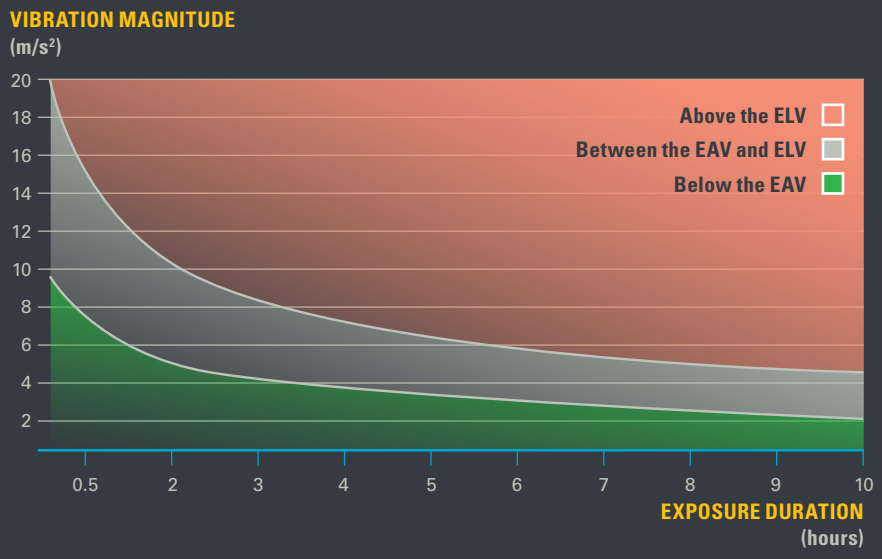
THIS IS VIBRATION

There are two types of forces that result in vibration. The first type comes from the machine itself. It occurs when the piston accelerates, when internal parts are in imbalance or when the tools are in imbalance. We battle this type of vibration with HAPS technology.
The second vibration-source we have to battle is caused by the impact energy from the breaking itself. By using the right breaking techniques you can reduce the effect of impact-induced vibration.

10 SIMPLE WAYS TO REDUCE VIBRATION

- Use HAPS-enabled machines
- Use the right machine for the right job
- Use the proper machine maintenance
- Keep tools sharp
- Let go of the trigger while extracting the tool from the broken surface
- Switch work tasks
- Take regular breaks
- Don't grip the machine too hard
- Keep hands warm and dry
- Massage your fingers during breaks

RELATION BETWEEN VIBRATION AND EXPOSURE LEVEL*



The Exposure Limit Value (ELV) is 5 m/s²
The red area = **immediate action to stop**

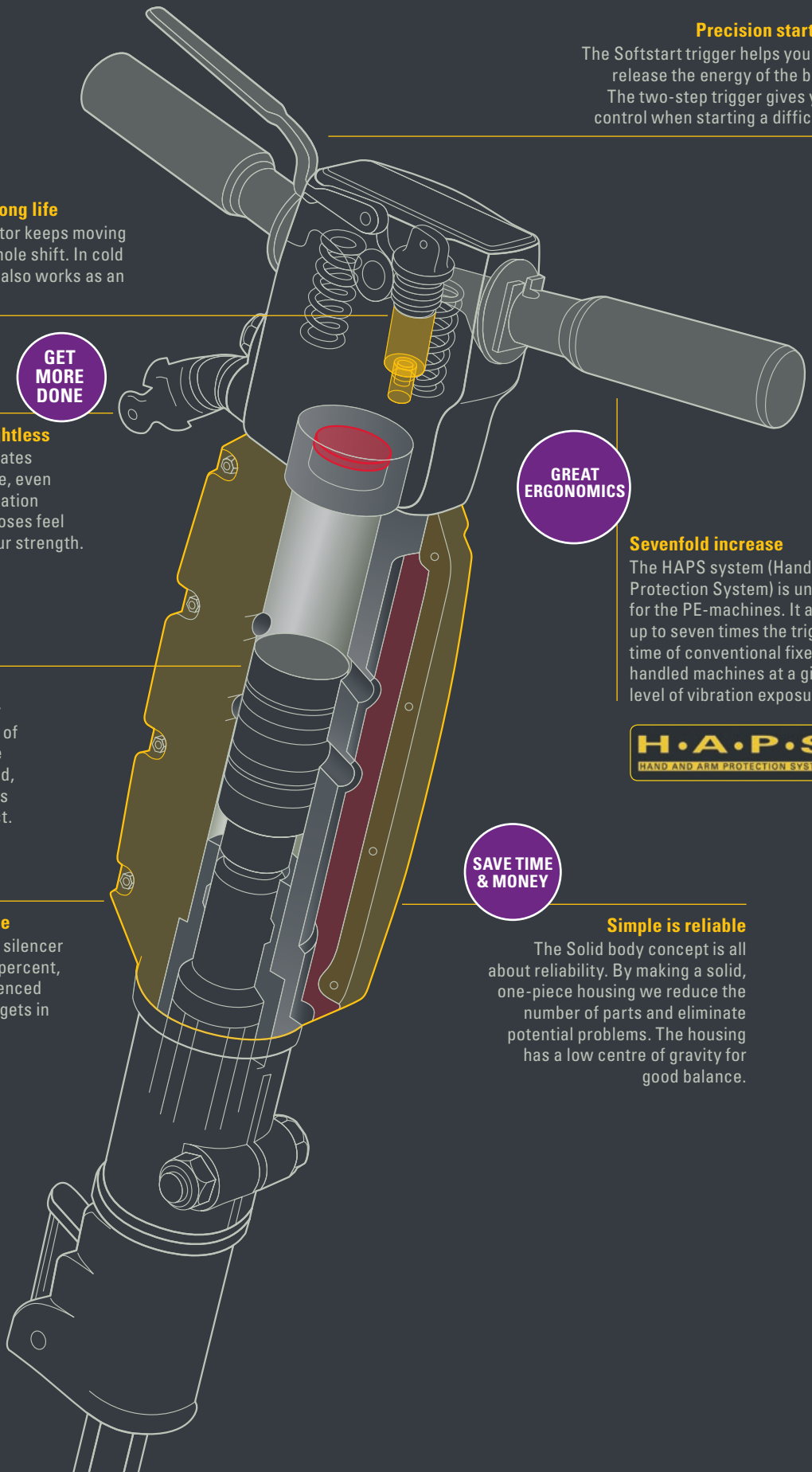
The Exposure Action Value (EAV) is 2.5 m/s²
The grey area = **establish an action plan**

*Go to page 13 to find out more on how to get more done with less vibration.

LET THE MACHINE WORK

THIS IS HOW TO BEST USE YOUR HAPS-ENABLED MACHINE

Vibration-dampened HAPS-machines have prestressed spring handles. If you push down too hard on them, you hit a stop and lose the effect of the springs. Press the handle half-way down, and the right amount of feed force is applied automatically. Allow the machine to "float" between the handles.



Precision starts here
The Softstart trigger helps you slowly release the energy of the breaker. The two-step trigger gives you full control when starting a difficult cut.

Easy lubrication for long life
The integrated lubricator keeps moving parts in shape for a whole shift. In cold conditions lubrication also works as an anti-freeze.

GET MORE DONE

Rotation makes weightless
The air inlet swivel rotates through 360° with ease, even when pressurized. Rotation makes heavy rubber hoses feel lighter and it saves your strength.

GREAT ERGONOMICS

Sevenfold increase
The HAPS system (Hand Arm Protection System) is unique for the PE-machines. It allows up to seven times the trigger time of conventional fixed-handled machines at a given level of vibration exposure.

H·A·P·S
HAND AND ARM PROTECTION SYSTEM

Air stops vibration
The piston turns on air cushions at either end of the cylinder. When the machine works off-load, it practically eliminates metal-to-metal contact.

SAVE TIME & MONEY

Less noise, more done
The slim polyurethane silencer cuts noise by up to 75 percent, compared to a non-silenced machine. And it never gets in your line of sight.

Simple is reliable
The Solid body concept is all about reliability. By making a solid, one-piece housing we reduce the number of parts and eliminate potential problems. The housing has a low centre of gravity for good balance.

TRIED AND TRUSTED

As a professional, you are on top of your game when you face the toughest materials. We will assist with knowledge, technology and sheer power.

Tough materials and hard work means you plan and prepare, just like an athlete before a race. We have been preparing since 1901, when the pneumatics division was formed within Atlas Copco. So when you grab a TEX heavy demolition breaker we want you to have one single thought in mind:
– There are no weaknesses here.
To keep that promise we have gathered knowledge about your work and about our breakers all over the world for decades. One lesson we have learned is to keep things simple. A solid body concept from a single cast reduces the need for bolts that might break. The anvil block has been refined to handle and deliver impact energy.

But heavy tools and massive power means a lot of responsibility on our behalf. We are especially proud of HAPS (Hand Arm Protection System) that reduce vibration levels and allow up to seven times as much trigger time compared to a conventional breaker. Together with the slim polyurethane silencer that reduces noise by 75 percent, we keep the most important part in shape. You.

TEX Pneumatic heavy breakers		32²PS	39²PS	33²PE	40 PE	280¹PE
Vibro-reduced		NO	NO	NO	YES	YES
Weight	kg	34	39	37	42	31.5
Length	mm	745	750	745	750	690
Air consumption at 6 bar	l/s	34	40	34	40	32
Impact rate	blows/min	1,200	1,100	1,200	1,110	1,230
Vibration level 3 axes (ISO 28927-10)	m/s²	13.7	14.3	5.7	4.2	4.8
Sound power level guaranteed (2000/14/EC)	Lw, dB(A)	111	111	111	111	105
Sound pressure level (ISO 11203)	Lp, r=1m	99	99	99	99	92
Shank size: Hex [1)]	mm	28x160	28x160	28x160	28x160	28x160
Part number		8461 0227 03	8461 0228 03	8461 0227 01	8461 0228 05	8461 0226 32
Shank size: Hex [2)]	mm	32x160	32x160	32x160	32x160	32x160
Part number		8461 0227 05	8461 0228 01	8461 0227 00	8461 0228 04	8461 0226 33

Important: Full details of measurement are available in the Safety and Operating Instruction of the product (1) part no 9800 0683 90, 2) part no 9800 0650 90)). They can be found on www.acprintshop.com

TEX Pneumatic heavy breakers		P60 S	P90 S
Weight	kg	33	43
Length	mm	690	710
Air consumption at 6 bar	l/s	36	40
Impact rate	blows/min	1,500	1,260
Vibration level 3 axes (ISO 28927-10)	m/s²	16.8	15.3
Sound power level guaranteed (2000/14/EC)	Lw, dB(A)	109	111
Sound pressure level (ISO 11203)	Lp, r=1m	97	99
Shank size: Hex	mm	28x160	28x160
Part number		8461 0227 22	8461 0228 22
Shank size: Hex	mm	32x160	32x160
Part number		8461 0227 23	8461 0228 23

Important: Full details of measurement are available in the Safety and Operating Instruction of the product (part no 9800 0650 90). They can be found on www.acprintshop.com

Accessories	Part number
Hand hose 20 mm x 3 m complete with claw coupling, wing nut and hose clamps	9030 2048 00
Claw coupling, Atlas Copco Standard	9000 0306 00
Claw coupling, Atlas Copco Standard with strainer	9000 0306 01

Please note: the above hand hose is equipped with Atlas Copco standard claw couplings.

TEX heavy breaker

Move easy
The rotating air inlet swivel makes sure you can move fast, even when the hose is under pressure.

Solid body
The one-piece housing means that your machine will last longer and need less maintenance.

Silence
The slim polyurethane silencer cuts noise by 75 percent. And it's designed to stay out of sight.

GREAT FOR BUSINESS

HAPS is more business
The anti-vibration system HAPS means you will have seven times more trigger time than with a conventional machine.

H·A·P·S
HAND AND ARM PROTECTION SYSTEM

Air cushioned
To minimise vibration and machine wear, the piston turns on air cushions at both ends.

Full shift lubricator
We have made it easy for you to keep the gear in shape, even in below zero conditions. Just fill up with Atlas Copco Air-Oil and go!

33 PE

ERGO KIT

Complete kits for converting TEX PS models into vibration-dampened breakers (PE-model)

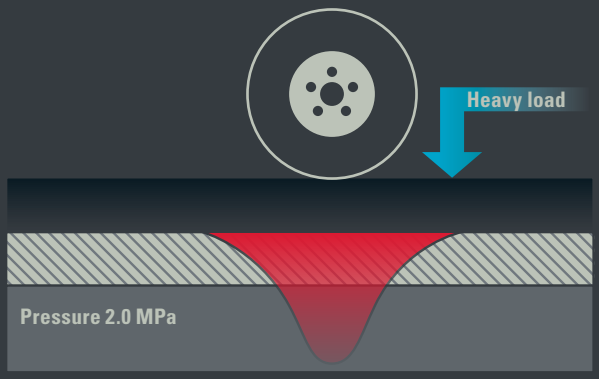
Kits	TEX 32, 39
Part number	3310 1105 60

BREAKING PAVEMENTS THE RIGHT WAY

Asphalt is a flexible wearing course. A reinforced concrete course is rigid and can handle heavier loads than asphalt. That means you should use different breakers for different pavements.

ASPHALT
USE MEDIUM BREAKERS
Flexible pavement

A part of the asphalt to be removed – medium breakers 25-30 kg



FATIGUE CRACKING

These are linear cracks that extend across the entire slab. Typically, these cracks divide an individual slab into two to four pieces. Water can infiltrate the cracks and cause erosion of the subbase. It causes spalling and disintegration if the cracks are not sealed.

Cracks can be caused by:

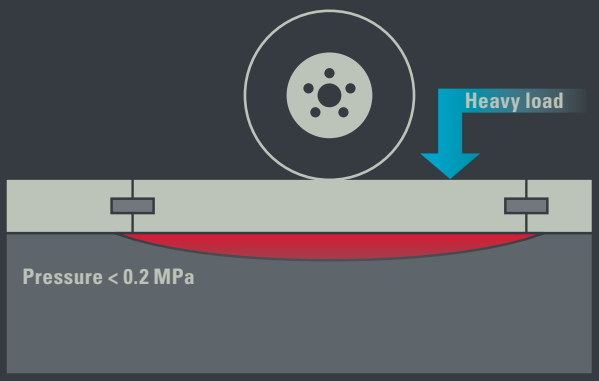
- Heavy traffic
- Temperature differences in the top and bottom of the slab may cause it to curl upwards or downwards, which can result in cracks
- Moisture
- Loss of support

Sealing can repair a single crack. More than one linear crack usually requires a full depth patch.

REINFORCED CONCRETE
USE HEAVY BREAKERS

Rigid pavement

A concrete slab to be broken
– heavy breakers > 30 kg



PUNCHOUT

A punchout is an isolated piece of slab that breaks into several pieces. That in turn may cause spalling and disintegration. Water can infiltrate the pavement, which causes erosion of the subbase.

Punchouts can be caused by:

- Inadequate consolidation
- Steel corrosion
- Inadequate amount of steel
- Too wide shrinkage cracks
- Too narrow shrinkage cracks

A full depth patch is recommended.

SPALLING

Spalling is the cracking, breaking or chipping of the edges near a concrete joint or crack. It generally indicates more advanced deterioration beneath the surface.

Spalling can be caused by:

- Excessive stress due to infiltration of incompressible materials in the joints and subsequent expansion
- Freeze and thawing
- Inadequate consolidation during construction
- Heavy traffic

When spalling is further than 75 mm from the crack face it also indicates a possible spalling at the joint bottom. A full depth patch is recommended.

CORNER BREAK

It's a crack that intersects the slab joints near a corner. "Near" is typically defined as around two metres from the corner. The damage extends through the entire slab and is caused by high stresses in the area. Water can infiltrate the crack and cause erosion of the subbase. It in turn causes spalling and disintegration.

Corner breaks are caused by:

- Load repetitions combined with a loss of support
- Poor load transfer across the joint
- Curling stresses due to temperature differences at the top and bottom of the slab

A full depth patch is recommended.

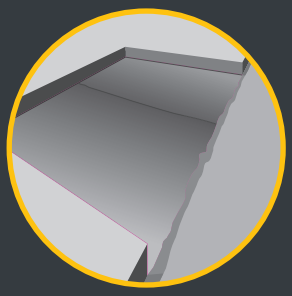
FIXING A HOLE

There are two main ways of repairing a damaged pavement.
The width and depth of the damaged area decides which is in question.

PARTIAL DEPTH PATCH

With a partial depth patch you restore slab damages about 50 - 75 mm deep and covering less than one square metre.

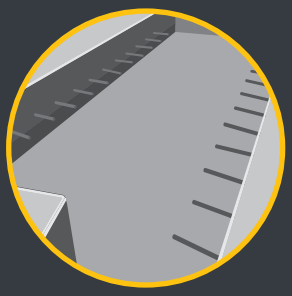
Use: Hammer and/or light and medium breaker



FULL DEPTH PATCH

A full depth patch restores spalling, punchouts, scaling, corner breaks and cracks of an area bigger than one square metre and that originate from the bottom. Measure the spalls when you decide between a partial or full depth patch for spalling and slab cracking. If spalls extend beyond 75 mm from the joint – do a full depth patch.

Use: Heavy and/or medium breaker



COMPRESSOR GUIDE STEP-BY-STEP

Our compressors can often run several breakers and hammers at once. This guide helps you choose the right combination of hammers, breakers and compressor.

TEX Pick hammers | **TEX Light & medium breakers** | **TEX Heavy breakers**

XAS Compressors

		05 PE	09 PE	12 PE	150 PE	190 PE	230 PE	280 PE	33 PE	40 PE
	kg [1]	6.5	10.5	12	19	23	27	31.5	37	42
	l/s [2]	10	17	20	25	26	30	32	37	42
37 KD	33	3	2	1	1	1	1	1	-	-
47 KD	42	4	2	2	1	1	1	1	1	1
57 DD	50	5	3	2	2	1	1	1	1	1
67 DD	62	6	3	3	2	2	2	1	1	1
77 DD	72	7	4	3	2	2	2	2	2	1
97 DD	89	8	5	4	3	3	2	2	2	2
137 DD	120	12	7	6	4	4	4	3	3	2

1) Weight 2) Air consumption at 6 bar

SINGLE GUIDE

1. If you have one type of hammer and breaker: use **Single Guide.**
2. Find the model you want to use in the top row.
3. Find the compressor you want to use in the far left column.
4. Where the row and column meet you will find the number of hammers or breakers you can run with a particular compressor.
5. For instance, you can run two TEX 190 PE with a XAS 77 DD and three units with a XAS 97 DD.

MORE DONE WITH LESS VIBRATION

Working smart with vibrating tools means planning ahead. Thanks to the exposure points system you can make sure your talent will last a lifetime.

EQUIVALENT VIBRATION
Total value $a_{hv.eq}$ m/s²

	0.1 h 6 min	0.2 h 12 min	0.5 h 30 min	1 h 60 min	2 h 120 min	3 h 180 min	4 h 240 min	5 h 300 min	6 h 360 min	8 h 480 min
2.5	1	3	6	13	25	38	50	63	75	100
3	2	4	9	18	36	54	72	90	108	144
3.5	2	5	12	25	49	74	98	123	147	196
4	3	6	16	32	64	96	128	160	192	256
4.5	4	8	20	41	81	122	162	203	243	324
5	5	10	25	50	100	150	200	250	300	400
5.5	6	12	30	61	121	182	242	303	363	484
6	7	14	36	72	144	216	288	360	432	576
6.5	8	17	42	85	169	254	338	423	507	678
7	10	20	49	98	196	294	392	490	588	784
7.5	11	23	56	113	225	338	450	563	675	900
8	13	26	64	128	256	384	512	640	768	1,024
8.5	14	29	72	145	289	434	578	723	867	1,156
9	16	32	81	162	324	486	648	810	972	1,296
9.5	18	36	90	181	361	542	722	903	1,083	1,444
10	20	40	100	200	400	600	800	1,000	1,200	1,600
10.5	22	44	110	221	441	662	882	1,103	1,323	1,764
11	24	48	121	242	484	726	968	1,210	1,452	1,936
11.5	26	53	132	265	529	794	1,058	1,323	1,587	2,116
12	29	58	144	288	576	864	1,152	1,440	1,728	2,304
12.5	31	63	156	313	625	938	1,250	1,563	1,875	2,500
13	34	68	169	338	676	1,014	1,352	1,690	2,028	2,704
13.5	36	73	182	365	729	1,094	1,458	1,823	2,187	2,916
14	39	78	196	392	784	1,176	1,568	1,960	2,352	3,136
14.5	42	84	210	421	841	1,262	1,682	2,103	2,523	3,364
15	45	90	225	450	900	1,350	1,800	2,250	2,700	3,600
15.5	48	96	240	481	961	1,442	1,922	2,403	2,883	3,844
16	51	102	256	512	1,024	1,536	2,048	2,560	3,072	4,096
16.5	54	109	272	545	1,089	1,634	2,178	2,723	3,267	4,356
17	58	116	289	578	1,156	1,734	2,312	2,890	3,468	4,624
17.5	61	123	306	613	1,225	1,838	2,450	3,063	3,675	4,900
18	65	130	324	648	1,296	1,944	2,592	3,240	3,888	5,184
18.5	68	137	342	685	1,369	2,054	2,738	3,423	4,107	5,476
19	72	144	361	722	1,444	2,166	2,888	3,610	4,332	5,776
19.5	76	152	380	761	1,521	2,282	3,042	3,803	4,563	6,084
20	80	160	400	800	1,600	2,400	3,200	4,000	4,800	6,400

EXPOSURE DURATION
(hours/minutes)

WHEN YOU ARE ABOVE EXPOSURE ACTION VALUE (EAV)

If you have more than 100 points and less than 400 points per day, the employer should introduce a programme of controls to eliminate risk or reduce exposure to as low a level as is reasonably practicable.

WHEN YOU ARE ABOVE DAILY EXPOSURE LIMIT VALUE (ELV)

If you have more than 400 points, employer should take immediate action to reduce the exposure level below the limit value.

EXAMPLE:
TEX 33 PE vs 32 PS

The vibration level of the TEX 33 PE is 5.7 m/s². That gives a maximum exposure time of one hour. Using the TEX 33 PE for one hour means you accumulate 72 points.

The vibration level of the TEX 32 PS is 13.7 m/s². That gives a maximum exposure time of 12 min. Using the TEX 32 PS for 12 min means you accumulate 78 points.

If you use more machines during the day, add those points to get a total.

Using a HAPS enabled machine like the TEX 33 PE makes for a safer work environment, better profitability and projects finished on time.

THIS IS HOW YOU UNDERSTAND AND USE THE EXPOSURE POINTS SYSTEM

STEP 1:

Find the vibration level (m/s²) for the tool or process (or the nearest value) in the exposure duration scale at the far left of the table.

STEP 2:

Find the exposure duration time (or the nearest value) on the grey scale at the far bottom of the table.

STEP 3:

Find the value in the table that lines up with the magnitude (m/s²) and exposure duration.

STEP 4:

Compare the points value with the exposure action (100 points) and limit values (above 400 points).

STEP 5:

If you are exposed to more than one tool or process during the day repeat steps 1-3 for each one. Add the points, and compare the total with the exposure action value (100) and the exposure limit value (above 400).

Source: CEN/TR 15350:2006 "Mechanical vibration – Guidelines for the assessment of exposure to hand-transmitted vibration using available information, including that provided by manufacturers of machinery"

32PS, 33PE, 39PS, 40PE, 280PE, P60S, P90S

Shank H 28 x 160 mm	Working length	Total length	Tip width	Part number
Moil point	380	546	-	3083 3271 00
	450	616	-	3083 3272 00
	1,000	1,166	-	3083 3273 00
Narrow chisel	390	556	36	3083 3274 00
	450	616	36	3083 3275 00
	1,000	1,166	36	3083 3276 00
Wide chisel	380	546	75	3083 3277 00
Asphalt cutter	300	466	115	3083 3278 00
Digging chisel	380	546	75	3083 3279 00
Digging spade	380	546	125	3083 3280 00
Clay spade	380	546	140	3083 3281 00
Wedge chisel	400	566	40	3083 3282 00
Shaft for tamping pad	230	396	-	3083 3283 01
Tamping pad, round	-	-	ø180	3083 3301 00
Tamping pad, square	-	-	ø150	3083 3302 00
Driver pad, round	-	-	ø200	3083 3197 00

32PS, 33PE, 39PS, 40PE, 280PE, P60S, P90S

Shank H 32 x 160 mm	Working length	Total length	Tip width	Part number
Moil point	380	546	-	3083 3205 00
	450	616	-	3083 3206 00
	1,000	1,166	-	3083 3207 00
Narrow chisel	380	546	36	3083 3208 00
	450	616	36	3083 3209 00
	1,000	1,166	36	3083 3210 00
Wide chisel	380	546	75	3083 3211 00
Asphalt cutter	300	466	115	3083 3212 00
Digging chisel	380	546	75	3083 3213 00
Digging spade	380	546	125	3083 3214 00
Clay spade	380	546	140	3083 3215 00
Wedge chisel	400	566	40	3083 3216 00
Shaft for tamping pad	235	401	-	3083 3218 01
Tamping pad, round	-	-	ø180	3083 3301 00
Tamping pad, square	-	-	ø150	3083 3302 00
Driver pad, round	-	-	ø200	3083 3197 00

Breaker & hammer AIR-OIL, synthetic lubricant				
Oil volume	L	1	5	20
Weight	kg	1.1	5.8	23
Part number		8099 0202 36	8099 0202 02	8099 0202 15


Moil point


Narrow chisel


Wide chisel


Asphalt cutter


Digging chisel


Digging spade


Clay spade


Wedge chisel


Shaft for tamping pad


Tamping pad, round


Tamping pad, square

Driver pad, round


Bush hammer


Shaft for bush hammer

JUST FOR YOU

In our new profile store you will find everything from Atlas Copco clothing to the latest scale models of our specialist equipment.

TEX 230 PE

This original TEX 230 PE is a medium sized pneumatic breaker, ideal for service jobs and general demolition. The solid body housing design contains fewer parts – and that means greater reliability. The scale model is delivered with a "rock" base with Atlas Copco logo.

FACTS

- **Scale model:** 1:10.3
- **Size:** 10 x 4.7 x 1.7 cm
- **Weight:** 90 grams
- **Material:** Zink alloy
- **Item no:** PS001554
- **Price:** 14.50 EUR/pcs

Note: This product is a collectors model, not a toy.

Check out our new store here: ***www.atlascopco.com/profilestore***

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We stand by our responsibilities towards our customers, towards the environment and the people around us.
We make performance stand the test of time.
This is what we call – Sustainaible Productivity.

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