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A “System Family”



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Police pistols

An sophisticated

ARMS AND EQUIPMENT TECHNOLOGY

By Marc Roth²

The SFP9 has been on the market since 2015; together with its nearly identical variant, the VP9, roughly 750,000 units have been shipped worldwide. This makes the SFP/VP family the most successful model of pistols in the nearly 75-year history of Heckler & Koch.

The SFP9-TR⁴ / SFP9M-TR variant makes up more than 110,000 of the roughly 240,000 HK pistols³ in total that are in use in German state and federal police as well as intelligence agencies. Since the SFP9 and P30 use identical magazines, this magazine and interface are the most widespread in all of Germany, with approx. 190,000 SFP9 and P30 pistols in service.

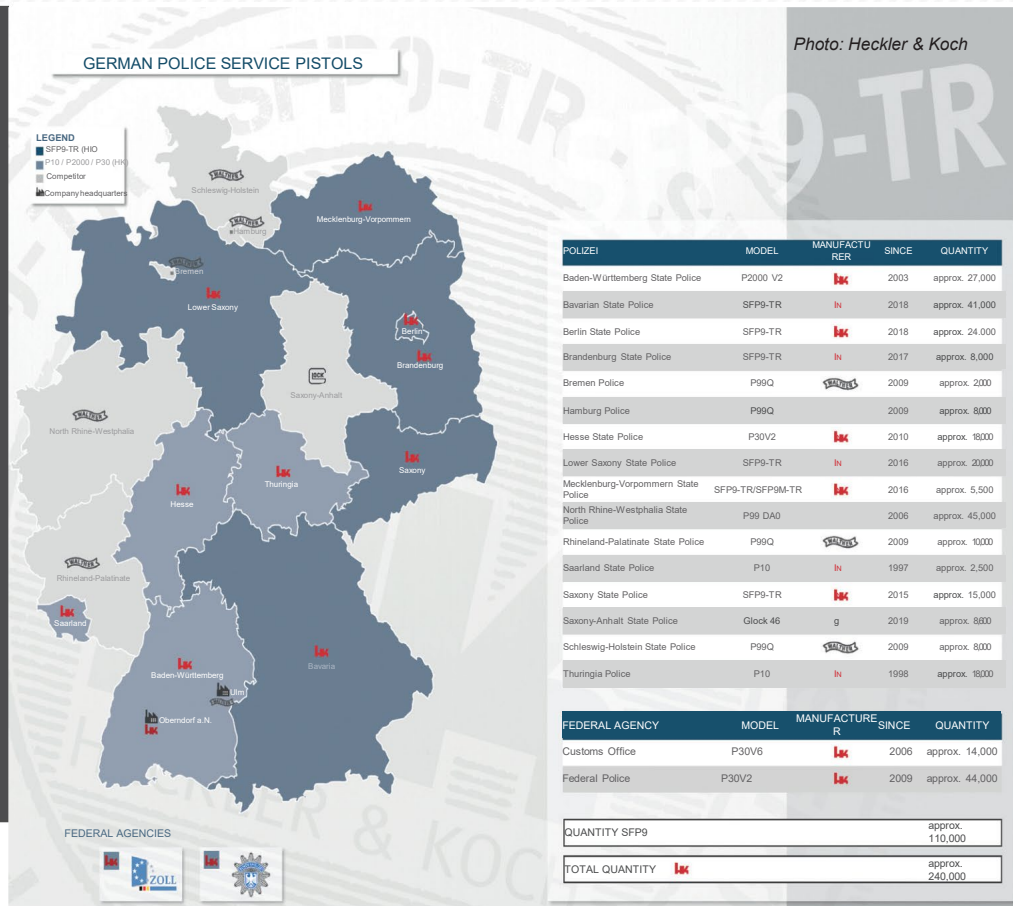


Photo: Heckler & Koch

SFP9 - A "system family"

The SFP9 is conceived as a family of government service pistols which covers all conventional categories and variants for duty carry.

Aside from the most widespread standard size, there is also the smaller subcompact (SK) variant as well as the compact version, which is in between. There are also versions with extra-long barrels/slides, such as the SFP9L. Beyond that, long-barrelled variants and coordinated signature suppressors as well as subsonic ammunition are available for special forces. The system is complemented by a wide range of optional accessories.

Fig. 1: Distribution of Heckler & Koch pistols (as per Technical Specifications [TR]) in German state and federal police forces. Alongside the SFP9, older HK models such as the P10, P2000 and P30 are still in service. In addition, the SFP9 is in use with the special forces in the Schleswig-Holstein State Police, as well as with specialised forces⁵ in several variants in non-TR versions with the SF⁶ trigger.

1 The technical basics and history of the SFP9 weapon system were already presented in detail in specialty publications shortly after its marketing launch in 2015 and successful TR certification – see in particular the article by Roth, Marc / Damm, Hans "SFP9 - Das neue Polizei-Pistolen-System von Heckler & Koch" in the professional journal *Polizei Verkehr und Technik (PVT)*, issue 06/2015, pages 22-25, available in PDF at <https://www.heckler-koch.com/de/unternehmen/downloads.html> at the bottom of the website; this earlier article is highly recommended for additional reading. This article of *Polizeipraxis* expands on the article in *PVT* and focuses on the new developments and refinements of the system, as well as individual models and features.

2 The author is a publicly appointed and sworn expert in firearms, suppressors and ammunition since 1848, and works as authorised representative at Heckler & Koch GmbH in the roles of Head of Product Strategy and Head of Special Tasks. In his work, he has been advising Tier 1 military and police special forces, as well as intelligence agencies of various nations, for around 20 years, and focused on US Special Forces in connection with the anti-terror operations in Afghanistan and Iraq between 2003 and 2013. Since 2004, he has been handling many topics of focus for the company in the context of procurement and introduction of German police pistols as general and special forces armaments in the federal government and states, as well as in a German intelligence agency. He has played a major role in the design and development of the SFP9/VP9 and SFP9CC family of police pistols in his activities since 2008.

3 Divided into the following TR-certified HK pistol models: P10, P2000V2, P30V2/V6, and SFP9-TR/SFP9M-TR

4 "Technical Specifications 9 mm x 19 Police Pistols" of the Police Technical Institute (PTI) of the German Police University (DHPol)

5 MEKs etc.

6 SF = Special Forces trigger with short release travel, resistance and reset travel (and thus not in conformity with the Technical Specifications); developed based on the trigger characteristics of the Glock models 17/19/26.

family SFP9

and proven police weapon system¹



Photo: Heckler & Koch

Fig. 2: SFP9-SF⁷-OR⁸-SD⁹, a “sneaker” weapon for making a quiet approach, such as in indoor reconnaissance, equipped with a signature suppressor, magazine well with lanyard eyelet for rapid insertion of the 20-round magazine. The weapon is equipped with a dedicated slide release so that its flat profile prevents it from being accidentally activated during firing, yet has no direct manual triggering function. For that reason, a round can only be chambered with the bolt open by pulling back on the slide. The weapon can be supplied with subsonic ammunition specially coordinated and tested by HK. In functional terms, this poses the lowest implementation risk with this less conventional type of ammunition. The example shown here is a Trijicon RMR red dot sight which, alongside the Leupold Delta Point and Aimpoint ACRO, is one of the few red dot sights that’s truly fit for official duty. The photo also shows the special elevated HK sights for use in conjunction with signature suppressors and red dot sights. This system issue is not trivial and has to be “reverse declined” in consistency with the diameter of the signature suppressor: the suppressor diameter determines the minimum height of the front sight, which in turn dictates the minimum height of the rear sight, which in turn defines the installation height of the red dot sight (starting from the desired relative position in relation to the front sight-rear sight-sight picture).

■ Safety first – Absolute disassembly safety

All models of SFP9 are one of the few police duty pistols to have a concept of absolute disassembly safety.

This means that the trigger does not have to be pulled before disassembly¹⁰ and the weapon cannot be disassembled without a chambered round having to be extracted from the chamber and ejected¹¹ and the magazine having to be removed.

This is ensured through forced control, in which disassembly does not require decocking by pulling the trigger and the disassembly lever can only be actuated once the slide is locked back and the magazine has been removed.

Moreover, the slide (with barrel) is automatically decocked as soon as it is pulled forwards and out of the frame during disassembly.

■ Relax: Decocked carry – maximum operating safety in any situation

The cocked SFP9 is automatically decocked during disassembly as soon as the slide with barrel is removed from the frame. But if the weapon is to be put into storage after being unloaded (at the end of a shift, for example), it will be cocked because the slide had been racked during the safety check (to make sure the chamber/barrel is clear) and – thanks to the deliberate omission of a manual decocker – cannot be cocked without further action.

Once again, the safety concept of the SFP9 combines two aspects through effective forced control: if, after a safety check, the operator inserts the “HK safety flag” in the empty chamber, it will not be possible to close the slide all the way, so the weapon will automatically be (or remain) decocked.

In this state, the weapon can then be put down or stored, so as to ensure that it is decocked without having to pull the trigger and enable storage without any springs being under tension or other parts being under stress,

⁷ SF = Special Forces trigger with short release travel, resistance and reset travel (and thus not in conformity with the Technical Specifications); developed based on the trigger characteristics of the Glock models 17/19/26.

⁸ OR = Optics Ready; the slide has an interface for a total of 5 different adapter plates for virtually all conventional small reflex or red dot sights.

⁹ SD = Signature Damper; the weapon has a long barrel to mount the SD and is optimised in function for SD use in conjunction with subsonic ammunition.

¹⁰ Unlike the standard Glock models 17/19/26

¹¹ Unlike the standard Glock models 17/19/26

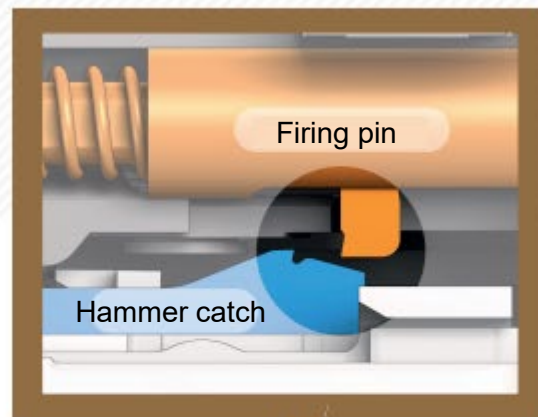
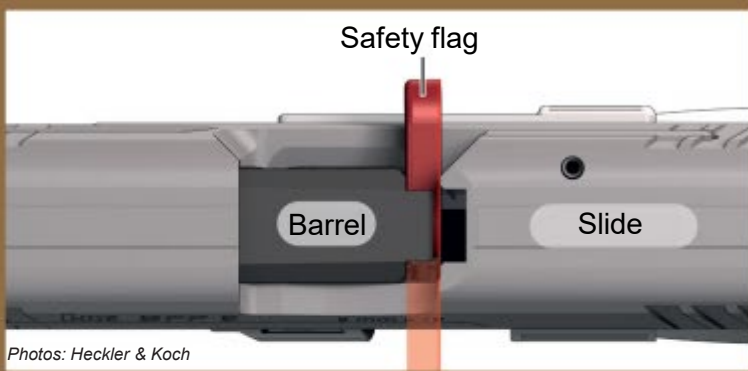


Fig. 3 to 5: SFP9 with the safety flag¹³ inserted in the chamber:
The weapon is guaranteed to be decocked and there is no way for a cartridge to be in the chamber. The magazine should always be checked for ammunition and stored separately if it is necessary to make sure that a loaded magazine is not inserted.

while at the same time the safety flag in the chamber clearly indicates the weapon's loading condition¹² without any need to handle the weapon at all.

Not a question of faith: Magazine release optionally with paddle or push-button operation

Just as with the new family of longarms based around the HK433 assault rifle, HK also offers a choice of grips with paddle or push-button magazine release for the SFP9 system. This is based on the fact that there is no "right or wrong" answer to this question, since both release mechanisms are equally reliable in technical terms and offer their respective advantages and disadvantages – so the operating concept one decides on is purely a question of priorities:

If the focus is on minimum training time with maximum stress resistance and minimum ammunition consumption, a procurement officer will generally be more inclined to demand exactly the magazine release that the superseded predecessor model has.

In this respect, the pushbutton is primarily aimed at SIG and Glock users, while the paddle will appeal more to HK and Walther users.

If there is a tactical priority regarding ideal use in the wounded drill (shooting hand incapacitated and weapon switched to other hand), having a symmetric magazine release on both sides is practically mandatory, so the paddle is ideal, since the pushbutton releases for official duty can never be actuated or positioned on both sides, even though they can be switched from left to right.

Furthermore, even the pushbutton on (only) one side poses the significant risk that the magazine will be unintentionally released by the grip pressure of the palm of the hand when the weapon is switched to the other hand. On the other hand, a pushbutton release is more intuitive and thus easier to operate under stress; at the same time, it has I. the above-mentioned

drawbacks in the wounded drill and is generally considered to be more susceptible to accidental magazine release (such as in the car, when buckling up or getting out, etc.).

Regardless of these considerations, almost every drawback can be compensated for by increased training efforts and the subjective feeling of safety of the user – who, in extreme cases, has internalized one of the two operating drills for decades and/or over thousands of rounds with predecessor weapons – will always play a major role in the decision to select one trigger system or the other.

¹² "Chamber clear!" check

¹³ HK Ident. No.: 243576



Fig. 6 and 7: Only the frame differs depending on magazine release mechanism – via paddle (left) or pushbutton (right) – all other components and accessories, especially the magazines themselves, are interchangeable or even identical. As an added bonus, the SFP9 family uses the P30 magazine without requiring any modifications. This means that enormous savings on costs for (extra) magazines when replacing the P30 with the SFP9.



Fig. 9: The U-shaped "Grip Clip" provides a further option for grip design, for instance if the support of the hand is to be additionally optimized by the outer slopes of the magazine well, especially for smaller hands, in order to achieve a kind of positive "clamping" of the hand and thus an even more comfortable hand position, which counteracts the weapon's recoil or muzzle climb.

Maximum ergonomics – nearly 90 grip sizes can be configured in total

Just like the P30, the SFP9 family not only has interchangeable back straps, but also interchangeable side plates, so that the grip can also be individually adapted to hand volume and finger length over its entire circumference – even asymmetrically. This patented system of interchangeable side shells cannot be found on any other TR-certified police pistol.

While initially "only" 27 grip sizes could initially be configured for the SFP family (as was the case with the P30), there are now 90 different grip sizes or volumes.

Based on user feedback, back straps have now been developed in M and L Extended versions with beavertail¹⁴, as well as an XS size (without beavertail), so that statistically rather rare hand volumes and finger lengths can now be covered with optimal ergonomics.

Fig. 8: The 3D depiction gives an idea of the total of approx. 90 possible grip configurations¹⁵

Photos: Heckler & Koch

¹⁴ Back strap extension to the rear to counteract the leverage from the recoil which causes muzzle flip

¹⁵ The aforementioned XS grip back is not shown; a combination of the U-shaped "Grip Clip" for the webbing between thumb and index finger with the Extended back straps is not recommended, so it is not included in the number of variants with regard to grip volumes – otherwise the configuration possibilities would number well over 100.



Fig. 10 and 11:
Various magazine capacities (left to right 10/12¹⁶ - far left and 2nd from left, 13/15¹⁷ and 15/17¹⁸ rounds) of the SFP9 Subcompact variant with ergonomically adjusted adapters which form a practically seamless continuation of the grip geometry.

Photos: Heckler & Koch

The ergonomics concept is also pursued consistently in the subcompact variant (SK) of the SFP9, which is more difficult to control when firing for physical reasons: the SFP9-SK is one of the few duty pistols in which even the smaller magazine area is equipped with adapters that create overall ergonomics similar to a full-size pistol grip – each matching the larger magazine capacity/length.

■ Ergonomic slide release variants too

In addition to the previous standard slide catch/release lever with a moderately pronounced grip, there is also an optional one with a pronounced grip in pyramid geometry analogous to that of the P30. There is a dedicated release lever intended for users who want to minimize or practically eliminate the risk of the lever being accidentally actuated by being pushed up or down during firing and who do not want to give up a firm grip of the shooting hand when chambering a round because they have to rotate the weapon in their hand to trip the lever. In the case of a dedicated locking lever, the operating drill would have to be changed so that the shooter holds the weapon with his trigger hand unchanged and the weapon is charged exclusively by pulling back the slide with the non-trigger hand. The latter operating concept is quite widespread with special forces in particular due to the high stress resistance¹⁹ and significantly reduced risk of accident²⁰.



Fig. 12 to 14: (from top to bottom) In addition to a dedicated lanyard eyelet adapter, magazine wells known as Jet Funnels can also be mounted without tools, both without and with lanyard eyelet.

In each of the three installation scenarios shown, all magazine sizes from 15 to 20 rounds can be used without restriction. The magazine wells offer the additional ergonomic advantage of optimally supporting the edge of the hand, thus maximally counteracting the weapon's muzzle flip when fired – especially in combination with the extended/beavertail back straps. This makes it possible to fire off strings of shots even faster and with greater control.

Another major and as yet little noticed advantage of magazine wells is that they protect the magazine floor plate – both in the holster and in the hand – from the effects of extreme force caused by impact, shock or getting caught on edges, which cannot be covered by TR tests at present. This is especially relevant for use by regular police forces, especially in situations such as the holstered weapon making lateral impact after a fall (such as when pursuing a perpetrator in icy conditions), as well as the magazine floor plate getting caught when getting out of a car or in hand-to-hand situations (such as during protests).

¹⁶ Identical magazine housing for 10 and 12 rounds; the two figures on the left show the magazine with or without the trapezoidal floor plate to support the little finger of the trigger hand, which, for such small pistols and relatively powerful calibres, makes a considerable difference in controllability when firing.

¹⁷ Identical magazine housing for 13 and 15 rounds

¹⁸ Identical magazine housing for 15 and 17 rounds

¹⁹ Since stress often impairs the motor skills, it is much easier to safely grasp and operate the relatively large slide rather than turning the weapon in the shooting hand and safely operating the relatively small slide release lever.

²⁰ When turning the weapon in the shooting hand in order to be able to better access/actuate the slide release, the hand position is often destabilised (especially in the case of shooters without much training) so much that it could become physically unstable and thus risky to handle the weapon, and it could even be dropped.

Fig. 15 to 17: The three slide release variants (from left to right): Standard with moderate ribbing, extra-grip pyramid shape analogous to P30, and dedicated locking lever.



Fig. 15a to 17a: When removed, it can be seen that the first two shapes are symmetrical on both sides, but all three shapes can also be interchangeable or mounted asymmetrically.

The SFP "Direct Clip" is available for all users who want to fasten the weapon to their gear without a holster for the fastest possible or ergonomically optimized access. This serves above all to attach the weapon to the outside of the belt while it is tucked into the trousers, or to attach it to the standard 25mm NATO muzzle loops on the chest. The clip is fastened on the left or right side in the pockets of the slide in place of the relevant half of the charging supports and is shaped so as to functionally replace the omitted charging support by means of an additional wave-shaped recess with corresponding texture.

**“Lesson learned”: Maritime version
-- for coast guards, harbour police
and states on the coast**

For the first time in the history of German police pistols, a maritime version is now being used by the regular forces of a German state police force:

Mecklenburg-Vorpommern, with its great stretch of coastline, was the first federal state to introduce the SFP9M-TR. Originally developed primarily for maritime special forces based on the expertise of the HK MK23 as well as the HK foreign weapon analysis of the Glock P9M, more and more coastal users are now following an international trend and recognizing the advantages of weapon systems designed specifically for maritime use.

For instance, the Japanese armed forces in particular have introduced the SFP9M, a maritime pistol, as the standard pistol for all special forces (including the army and air force).

Already in the 2000s, corrosion caused by extremely salty air near the coast had led to unattractive cosmetic issues and premature small part wear amongst users such as the British Ministry of Defence (MoD) and the U.S. Department of Homeland Security in the use of HK MP7, USP Compact (P10) and P2000 weapons. In some cases, moisture containing rust had collected in cracks and recesses of the weapons and in individual cases started dripping out of the weapons like white coffee – and all this without the weapons having ever come into direct contact with salt water or the sea. Instead, the weapons were just being carried near the coast or on ships. A geographic check quickly revealed that the UK's complaints came from British units which were predominately deployed on the coast. And in the case of the U.S. department, complaints were only filed for a few hundred out of tens of thousands of weapons delivered and in use throughout the U.S. Absolutely all of them were from the operational areas of Florida and Puerto Rico – i.e. close to the sea with a hot and humid climate.

Photos: Heckler & Koch



Fig. 18: Holster-free carry – The SFP “Direct Clip” – the grooved recess at the back takes over the function of the charging support that (for assembly reasons) is omitted on this side of the slide.

Later came demands from a German intelligence service to provide the SFP9 in a variant that was primarily intended for boarding personnel and offers increased corrosion protection in sea air and splash water when used on inflatable boats; in addition, the weapon was to be functionally safe even

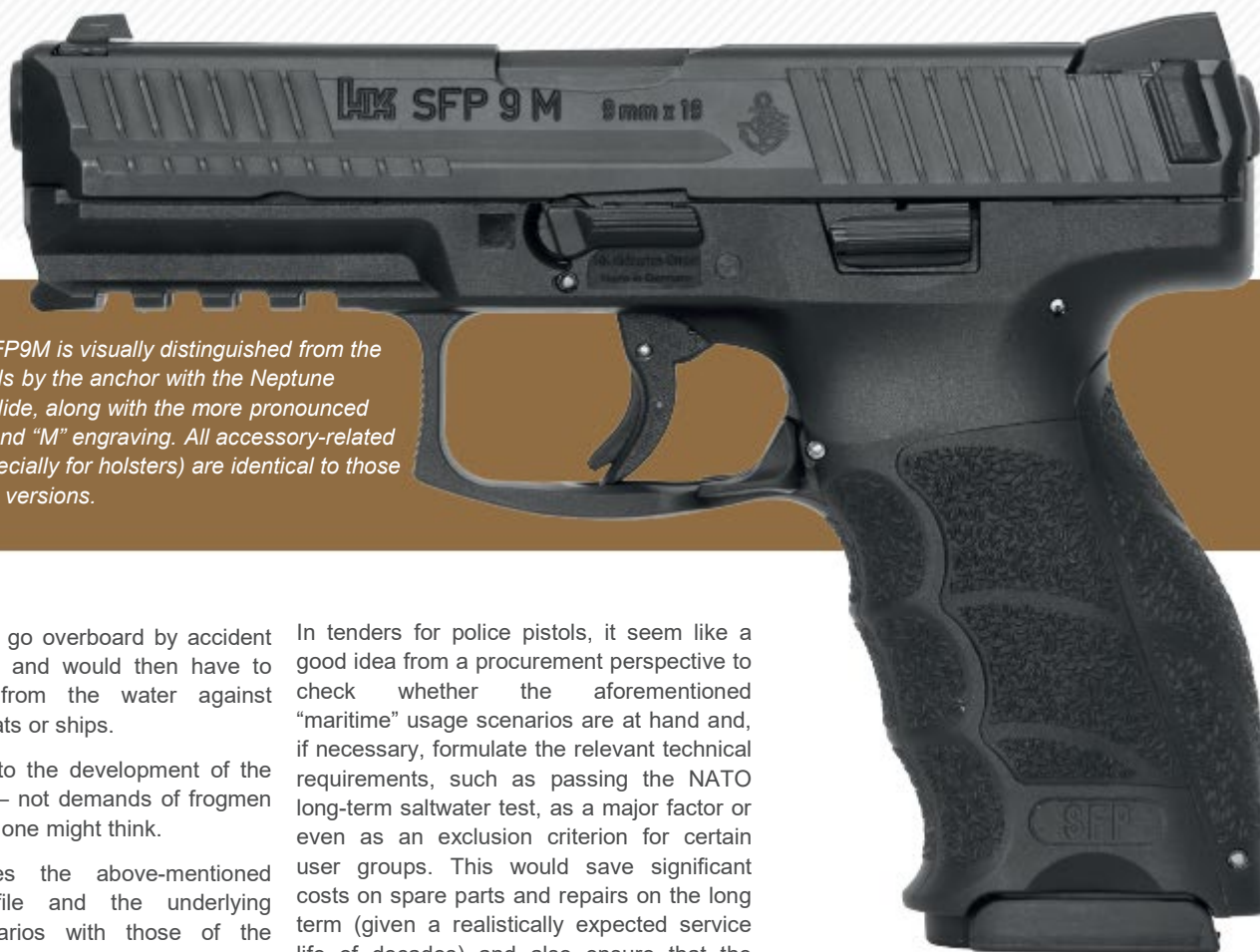


Fig. 19: The SFP9M is visually distinguished from the standard models by the anchor with the Neptune trident on the slide, along with the more pronounced slide grooves and "M" engraving. All accessory-related interfaces (especially for holsters) are identical to those of the standard versions.

if the user should go overboard by accident or during combat and would then have to defend himself from the water against attackers from boats or ships.

This is what led to the development of the maritime SFP9M – not demands of frogmen or mine divers, as one might think.

If one compares the above-mentioned requirement profile and the underlying operational scenarios with those of the regular (German) police forces, it quickly becomes clear that they are practically identical to those of patrol officers deployed near the coast, waterway police/coast guards and officials working primarily in (sea) harbour areas.

In tenders for police pistols, it seems like a good idea from a procurement perspective to check whether the aforementioned "maritime" usage scenarios are at hand and, if necessary, formulate the relevant technical requirements, such as passing the NATO long-term saltwater test, as a major factor or even as an exclusion criterion for certain user groups. This would save significant costs on spare parts and repairs on the long term (given a realistically expected service life of decades) and also ensure that the weapon would have a presentable cosmetic appearance (without corrosion spots) over its entire service life.

In addition to special selective coatings to protect from saltwater-induced corrosion, whose suitability the SFP9M has proven in the NATO salt-water immersion test that spans several days, this weapon is not only

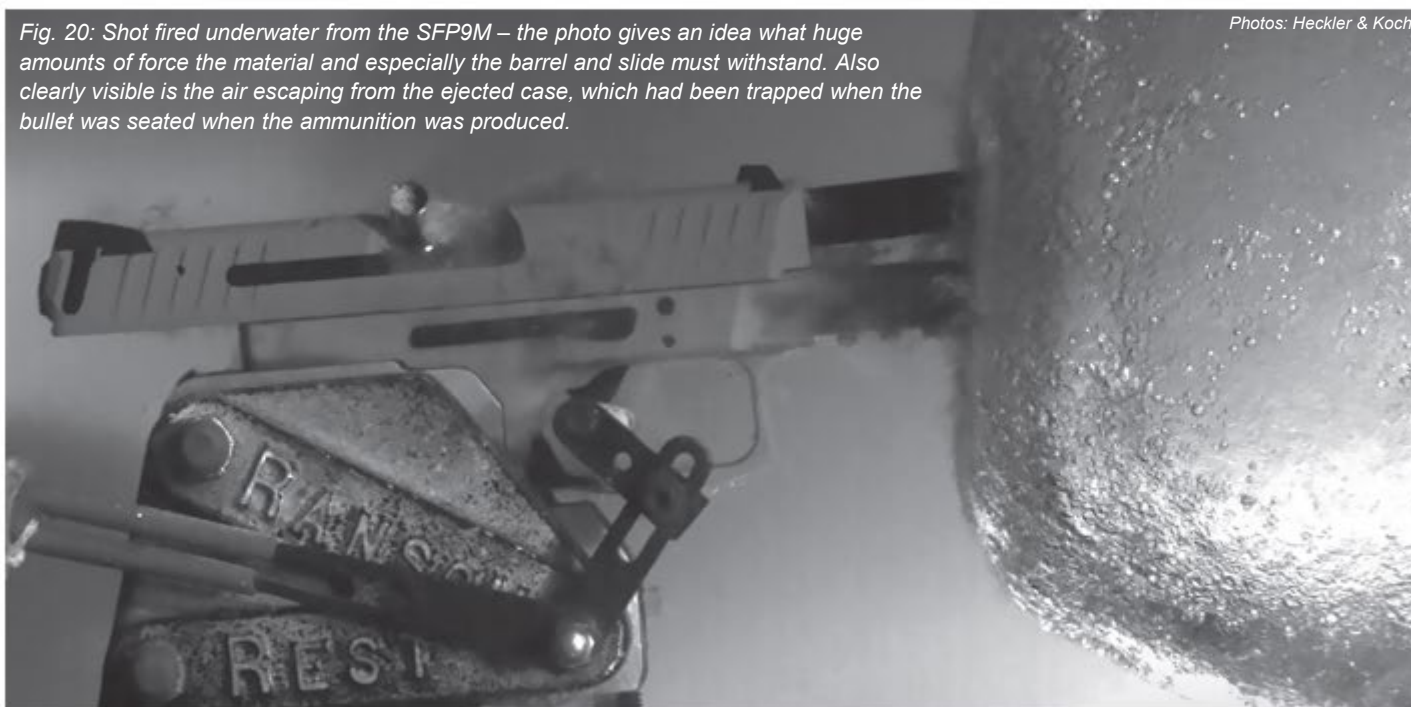


Fig. 20: Shot fired underwater from the SFP9M – the photo gives an idea what huge amounts of force the material and especially the barrel and slide must withstand. Also clearly visible is the air escaping from the ejected case, which had been trapped when the bullet was seated when the ammunition was produced.

Photos: Heckler & Koch



Fig. 21: For maintenance and weapon management, optional variants of passive service and registration chips which have proven themselves in German police pistols for decades can be permanently installed in the SFP9 – after which they can only be removed by destroying the weapon. Various reading devices are offered for this purpose, ranging from simple to very convenient designs, depending on budget and special uses. The chip not only serves for fast and reliable weapon inventory recording, it can also be written manually, such as with maintenance data or (concealed) serial numbers, so that the “identity” of the weapon can still be reconstructed if the physical serial numbers on the weapon are removed. For tactical investigative reasons, this is a symbolic image; in fact, the various chips are located or integrated at varying positions in the weapon where they are visible from the outside.

fully fireable and functional in shallow water up to at least 50 cm²¹, but in particular capable of “over the beach” deployment as well, meaning that the weapon can be fired safely and functionally when semi-submerged and immediately after surfacing or being removed from the water.

²⁷ In in-house tests, the SFP9M fired two 15-round magazines when submerged in 50 cm of water in succession several times without malfunction, and the slide even caught open after the last shot every time.



Photos: Heckler & Koch

Fig. 22 to 24: “Train as you fight” – in addition to the well-known colour marker weapons for FX-Simunition and UTM, the low-energy colour marker weapon CM (Colour Marker) is offered as a unique selling point. Non-fireable drill weapons for safe handling training (e.g. during basic training) are also available.

Fig. 25 to 27: For safe training with live weapons, HK developed the "Safety Stick"²² for an SFP9 user state based on a similar design for the previous P7 service pistol. After the weapon has been disassembled into its main component assemblies, the "Safety Stick" is inserted from behind into the chamber and barrel of the live weapon at user level. This not only prevents live ammunition from being loaded, the Safety Stick protruding from the muzzle also immediately signals to instructors and training partners that the weapon does not pose a danger. This can save the cost of entire drill weapons or provide an additional training option with all service weapons.



Photos: Heckler & Koch

■ The SFP9CC: a new dimension in concealed carry – "The continuation of the Walther PPK by other means"

In recent years, concealed carry (CC) pistols have fully established themselves both nationally and internationally as an official category of pistols, which, in addition to its minimal size, is largely characterized by magazines which are not interchangeable with full-size, compact and sub-compact models.

The reason for the renaissance of this category of weapons, for both military and police, is the capability gap in concealed carry; for military special forces as a backup or self-defence weapon, especially for plainclothes reconnaissance operations. Since 2003 at the latest, professional armies for regular military forces have also been considering the concept of introducing such a weapon as a "constant companion" on every soldier, even in supposedly secure quarters during deployment.

For the police and intelligence services, these are mainly deployment scenarios in connection with light (summer) clothing or tailored (evening) dress in the context of undercover investigations/operations and/or personal protection tasks, in which carry in small handbags also plays a major role. Although the weapon's recoil or muzzle flip is perceived as being markedly greater due to its significantly lower overall weight in conjunction with the 9mm x 19 TR and NATO cartridge, this category of weapons is rated as generally being more "manageable", especially for the ladies – precisely because of its smaller dimensions and weight – because it can be drawn, brought to bear and aimed much more easily – and therefore quickly – compared to the standard models mentioned above.

²² HK ID no. 253596



Fig. 28: SFP9CC standard – in addition to three types of magazine release, five different back straps, two magazine well shapes, and the prominent optional charging supports on the slide, this weapon also comes with an interface for red dot sights, frame with Picatinny rail, as well as two trigger versions. In addition, all these variants are also offered with extended barrels for specially coordinated signature suppressors and subsonic ammunition.



Fig. 29 and 30: SFP9CC Shape for contour-optimized carry beneath the outer clothing. This is the purpose the Shape owes its name to – it should come as little surprise that this model name was suggested by a female user whose use of this category of weapon made quite an impression on her.

This category of weapons has been covered in the German police since the mid-20th century, especially by the palm-sized PPK, which some police units kept in service until at least until the early 2000s, especially for female criminal investigators. However, the PPK was chambered for the much weaker 7.65mm Browning calibre and was also made entirely of metal.

The SFP9CC concept far surpasses the options of its direct competitors, the Glock 43 and SIG365, in its modularity and diversity of variants:

The design alone enables three different magazine release options:

- Paddle, especially for previous P7, P8, P10 and P30 users
- Push button, especially for previous users of the Glock, SIG, and as a backup for current users of the full-size SFP9-PB²³.
- Heel, especially for users who prioritize maximum risk reduction against unintentional magazine release (especially when carried concealed without a holster) over quick magazine changes.

Grips with and without Picatinny rail adapter interface are also available, as are at least the following trigger variants:

- SF²⁴ trigger analogous to the SFP9-SF with low trigger resistance, release and reset travel; not TR-conform
- TR²⁵ trigger

Beyond that, two basic models are offered:

- Standard – with ambidextrous controls
- Shape – for concealed carry (especially holster-free); with contour-optimised slide, grip and single-sided controls and dedicated slide release lever²⁶. This minimises the risk of the weapon snagging when being drawn, and reduces unnecessary “printing” when body-hugging and/or scant attire is worn.

Initial samples of the SFP9CC Standard and SFP9CC Shape will be delivered to first German Tier1 special forces in early 2024.

Contact for questions and suggestions about the article:

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²³ Pushbutton versions of the SFP9, such as in the Berlin State Police with the SFP9-PB, and the SFP-SK-PB.

²⁴ “Special Forces”

²⁵ “Technical Specifications 9mm x 19 Police Pistols” of the Police Technical Institute (PTI) of the German Police University (DHPol)

²⁶ On the left side of the weapon only