

9×18mm Makarov

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9×18mm Makarov cartridge
(Full metal jacket bullet and steel case)

Type	Pistol		
Place of origin	■ Soviet Union		
Service history			
Used by	Russian military, Ukrainian Military, Cuban Revolutionary Armed Forces, Vietnamese Military, Bulgarian army, Chinese military, Czech military, Slovak military		
Production history			
Designer	B.V. Semin		
Designed	1946		
Produced	1951–present		
Specifications			
Case type	Rimless, tapered		
Bullet diameter	9.27 mm (0.365 in)		
Neck diameter	9.91 mm (0.390 in)		
Base diameter	9.95 mm (0.392 in)		
Rim diameter	9.95 mm (0.392 in)		
Rim thickness	1.25 mm (0.049 in)		
Case length	18.10 mm (0.713 in)		
Overall length	25.00 mm (0.984 in)		
Case capacity	0.83 cm ³ (12.8 gr H ₂ O)		
Rifling twist	240.00 (1 in 9.45 in)		
Primer type	Berdan or Boxer small pistol		
Maximum pressure	160.00 MPa (23,206 psi)		
Ballistic performance			
Bullet weight/type	Velocity	Energy	
95 gr (6 g) FMJ	319 m/s (1,050 ft/s)	313 J (231 ft·lbf)	

<i>Test barrel length: 97 mm</i> <i>Source(s): C.I.P.^[1]</i>	
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The **9×18mm Makarov** (designated **9 mm Makarov** by the C.I.P. and often called **9×18mm PM**) is a Russian pistol and submachine gun cartridge. During the latter half of the 20th Century it was a standard military pistol cartridge of the Soviet Union and the Eastern Bloc, analogous to the 9×19mm Parabellum in NATO and Western military use.

History

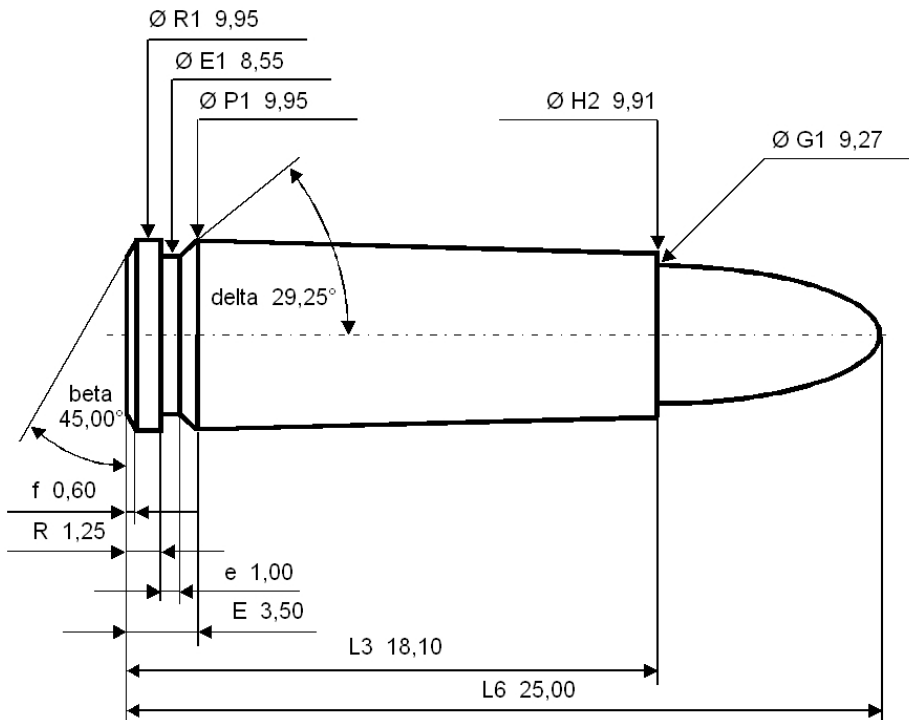
During the Second World War and the early Cold War, the 7.62×25mm Tokarev was the standard automatic pistol round for the Soviet Union and its satellites in Eastern Europe. This ammunition is still in use by many of these countries today. During the war the Red army had found a few shortcomings of its 7.62mm TT-33 pistol, one of which was a tendency to inadvertently drop its magazine while in operation. The army wanted something that was lighter, with a heel release instead of a button and different ammunition. A direct blowback design was chosen for the pistol's operation, since it would be quick and cheap to manufacture, as well as accurate, due to the fixed barrel design allowed by direct blowback operation.

The 9×18mm Makarov round was designed by B.V. Semin in 1946, and was intended to be a relatively powerful round with modest bolt thrust that could function safely in a simple or direct blowback pistol. It was based on the 9×18mm Ultra cartridge which was developed in 1936 by Gustav Genschow & Co. for the German Luftwaffe, as a more powerful alternative to the 9×17mm used in the Walther PP, also a simple blowback design pistol. Nikolay Fyodorovich Makarov went on to design the Makarov PM pistol around the 9×18mm Makarov round in 1948.

The Soviet military required that their ammunition should be incompatible with NATO firearms, so that in the event of armed conflict a foreign power would be unable to use captured Soviet ammunition supplies. 9×18mm Makarov ammunition uses a larger diameter bullet than other common 9 mm rounds. Indeed 9 mm Parabellum is 9.017 mm (0.355 inches), however 9×18mm Makarov rounds are loaded with bullets measuring 9.27 mm (0.365 in). After its introduction in 1951, the 9×18mm Makarov round spread throughout the militaries of Eastern Bloc nations.

Dimensions

The 9×18mm Makarov has 0.83 ml (12.8 grains H₂O) cartridge case capacity.



9×18mm Makarov maximum C.I.P. cartridge dimensions. All sizes in millimeters (mm).

The common rifling twist rate for this cartridge is 240 mm (1 in 9.45 in), 4 grooves, ϕ lands = 9.00 mm, ϕ grooves = 9.27 mm, land width = 4.50 mm and the primer type is small pistol.^[2]

According to the official C.I.P. (Commission Internationale Permanente Pour L'Epreuve Des Armes A Feu Portatives) rulings the 9×18mm Makarov case can handle up to 160.00 MPa (23,206 psi) piezo pressure. In C.I.P. regulated countries every pistol cartridge combo has to be proofed at 130% of this maximum C.I.P. pressure to certify for sale to consumers.^[3]

The 9×18mm Makarov is ballistically inferior to the 9×19mm Parabellum cartridge. While there are no official SAAMI pressure specs for the 9×18mm Makarov cartridge, tests indicate that surplus ammunition develop pressures in the mid 20,000 psi, significantly less than the 35,000 psi or more generated by 9mm Parabellum loads.^[1] As such it is designed to be used in low powered blowback semiautomatics, much like the .380 ACP cartridge, rather than locked breech designs encountered, but not always required, for higher pressure cartridges like the 9×19mm Parabellum.

Basic specifications of 21st century Russian service loads

The 9×18mm Makarov rounds in use with the Armed Forces of the Russian Federation are designed for pistols and submachine guns. Currently (2003), there are several variants of 9×18mm Makarov produced for various purposes. All use clad metal as case material.^[4]

The **57-N-181S** cartridge is loaded with a steel-core bullet and is designed to kill personnel at a range of up to 50 m (55 yd). The bullet has a clad metal envelope totally covering the core. The bullet's nose is spherical with no distinguishing color of the tip. It can penetrate a 1.3 mm thick St3 steel plate or 5 mm ordinary steel plate at 20 m (22 yd).

The **RG028** cartridge is loaded with an enhanced penetration bullet and is designed to kill personnel wearing body armour. The bullet has a core of hardened steel.

The **SP-7** cartridge is loaded with an enhanced stopping effect bullet and is designed to defeat live targets. The bullet has a black tip.

The **SP-8** cartridge is loaded with a low-penetration bullet and is designed to engage personnel.

Cartridge designation ^[5]	57-N-181S	RG028	SP-7	SP-8
Cartridge weight	10 g (154 gr)	11 g (170 gr)	8 g (123 gr)	8.5 g (131 gr)
Bullet weight	6 g (92.6 gr)	6 g (92.6 gr)	6 g (92.6 gr)	5 g (77.2 gr)
Muzzle velocity	298 m/s (978 ft/s)	325 m/s (1,066 ft/s)	420 m/s (1,378 ft/s)	250 m/s (820 ft/s)
Muzzle energy	251 J (185 ft-lbf)	317 J (234 ft-lbf)	417 J (308 ft-lbf)	156 J (115 ft-lbf)
Accuracy of fire at 25 m (27 yd) (R_{50})	32 mm (1.3 in)	32 mm (1.3 in)		32 mm (1.3 in)

- R_{50} at 25 m (27 yd) means the closest 50 percent of the shot group will all be within a circle of the mentioned diameter at 25 m (27 yd).

Firearms chambered for 9×18mm Makarov

Pistols

- Makarov PM
- Stechkin APS
- MP-448 Skyph
- ČZ vz. 82
- FEG PA-63
- P-83 Wanad
- P-64 pistol
- R-92
- OTs-01 Stechkin (RSA)
- OTs-27
- OTs-33
- Fort 12

Submachine guns

- Škorpion vz. 65 and vz. 82
- PM-63 RAK
- PM-84 Glauberyt
- PP-90 Penal
- PP-91 KEDR
- PP-93
- OTs-02 Kiparis
- PP-19 Bizon
- PP-19-01
- VEB Maschinenpistole
- Arsenal Shipka



9×18mm Makarov
compared to a .22LR
Hollow Point



9×18mm Makarov case



9×18mm Makarov



9×18mm Makarov
compared to a 9mm
Luger Full Metal Jacket

Synonyms

- 9 mm Makarov
- 9×18mm
- 9×18mm PM
- 9 mm Mak
- 9×18mm Soviet

References

- [2] C.I.P. TDCC datasheet 9 mm Makarov (<http://www.cip-bobp.org/homologation/uploads/tdcc/tab-iv/tabivcal-en-page23.pdf>)
- [3] C.I.P. TDCC datasheet 9 mm Makarov (<http://www.cip-bobp.org/homologation/uploads/tdcc/tab-iv/tabivcal-en-page23.pdf>)
- [4] 9mm CARTRIDGES (<http://warfare.be/?catid=339&linkid=2467&linkname=9mm-CARTRIDGES>)
- [5] Russian 5.45x39mm Assault Rifle Rounds, Land Forces Weapons Export Catalog, page 90 (http://www.military-today.com/russian_land_forces.pdf)

External links

- Ballistics By The Inch 9mm Makarov results (<http://www.ballisticsbytheinch.com/9makarov.html>)
- C.I.P. TDCC datasheet 9 mm Makarov (<http://www.cip-bobp.org/homologation/uploads/tdcc/tab-iv/tabivcal-en-page23.pdf>)

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