

= FN 5 @. @ 7 × 28mm =

The FN 5 @. @ 7 × 28mm is a small @-@ caliber , high @-@ velocity cartridge designed and manufactured by FN Herstal in Belgium . It is a bottlenecked centerfire cartridge that is somewhat similar to the .22 Hornet or .22 K @-@ Hornet . The 5 @. @ 7 × 28mm was developed in conjunction with the FN P90 personal defense weapon (PDW) and FN Five @-@ seven pistol , in response to NATO requests for a replacement for the 9 × 19mm Parabellum cartridge .

In 2002 and 2003 , NATO conducted a series of tests with the intention of standardizing a PDW cartridge as a replacement for the 9 × 19mm Parabellum cartridge . The tests compared the relative merits of the 5 @. @ 7 × 28mm cartridge and the 4 @. @ 6 × 30mm cartridge , which was created by Heckler & Koch as a competitor to the 5 @. @ 7 × 28mm . The NATO group subsequently recommended the 5 @. @ 7 × 28mm cartridge , citing superior performance in testing , but the German delegation objected and the standardization process was indefinitely halted .

By 2006 , FN 's 5 @. @ 7 × 28mm firearms ? the P90 personal defense weapon and Five @-@ seven pistol ? were in service with military and police forces in over 40 nations throughout the world . In the United States , 5 @. @ 7 × 28mm firearms are currently used by numerous law enforcement agencies , including the U.S. Secret Service .

In addition to being used in the FN P90 and FN Five @-@ seven firearms , the 5 @. @ 7 × 28mm cartridge has subsequently been used in a number of other weapons , such as the AR @-@ 57 and FN PS90 carbines . Excel Arms has developed four firearms chambered in 5 @. @ 7 × 28mm , and MasterPiece Arms offers three different firearms in 5 @. @ 7 × 28mm . The 5 @. @ 7 × 28mm cartridge itself is produced in a number of varieties , two of which ? the SS195LF and SS197SR ? are currently offered by FN to civilian shooters .

= = History = =

= = = Development = = =

The 5 @. @ 7 × 28mm cartridge was designed in response to NATO requests for a replacement for the 9 × 19mm Parabellum cartridge . According to the NATO requirement , the new cartridge was to have greater range , accuracy , and terminal performance than the 9 × 19mm cartridge . Additionally , it was to be capable of penetrating body armor . FN Herstal responded to the NATO requirement by developing the 5 @. @ 7 × 28mm cartridge and two associated weapons : the FN P90 personal defense weapon (PDW) and FN Five @-@ seven pistol .

The original 5 @. @ 7 × 28mm cartridge , called the SS90 , was introduced in 1990 . It used a 1 @. @ 5 gram (23 grain) plastic @-@ core projectile , which was propelled at a muzzle velocity of roughly 850 m / s (2 @, @ 800 ft / s) when fired from the P90 . A United States patent application for the projectile design used in the SS90 was filed by FN 's Jean @-@ Paul Denis and Marc Neuforge in 1989 . U.S. Patent 5 @, @ 012 @, @ 743 (" High @-@ Performance Projectile ") was received in 1991 .

The 5 @. @ 7 × 28mm SS90 cartridge was discontinued , and replaced , in 1993 , with the 5 @. @ 7 × 28mm SS190 . The SS190 uses a 2 @. @ 7 @-@ mm (0 @. @ 11 in) shorter projectile with a weight of 2 @. @ 0 g (31 grains) , which has , when fired from the P90 , a muzzle velocity of roughly 715 m / s (2 @, @ 350 ft / s) . The shorter length of the SS190 projectile allows it to be more conveniently used in the 5 @. @ 7 × 28mm FN Five @-@ seven pistol , which was also being developed at that time .

In 1993 , FN introduced a modified version of the P90 with a magazine adapted to use the SS190 cartridge . Several specialized 5 @. @ 7 × 28mm varieties were also developed alongside the SS190 , such as the L191 tracer round and the subsonic SB193 bullet for sound @-@ suppressed use . The 5 @. @ 7 × 28mm chambered FN Five @-@ seven pistol then went into production in 1998 .

== NATO evaluation ==

In 2002 and 2003 , NATO conducted a series of tests with the intention of standardizing a PDW cartridge as a replacement for the 9 × 19mm Parabellum . The tests compared the relative merits of the 5 @. 7 × 28mm cartridge and the HK 4 @. 6 × 30mm cartridge , which was created by German small arms manufacturer Heckler & Koch as a competitor to the 5 @. 7 × 28mm . The results of the NATO tests were analyzed by a group formed of experts from Canada , France , the United Kingdom , and the United States , and the group 's conclusion was that the 5 @. 7 × 28mm was " undoubtedly " the more efficient cartridge .

Among other points , the NATO group cited superior effectiveness (27 percent greater) for the 5 @. 7 × 28mm against unprotected targets and equal effectiveness against protected targets . It also cited less sensitivity to extreme temperatures for the 5 @. 7 × 28mm , and cited a greater potential risk of barrel erosion with the 4 @. 6 × 30mm . In addition , the group pointed out that 5 @. 7 × 28mm is close to the 5 @. 56 × 45mm NATO by its design and manufacture process , allowing it to be manufactured on existing production lines . The group also noted that 5 @. 7 × 28mm firearms had existed for a longer period of time than 4 @. 6 × 30mm firearms , and that the 5 @. 7 × 28mm FN Five @- seven pistol was already in production at that time , while the 4 @. 6 × 30mm Heckler & Koch UCP pistol was a new concept .

However , the German delegation and others rejected the NATO recommendation that 5 @. 7 × 28mm be standardized , halting the standardization process indefinitely . As a result , both the 4 @. 6 × 30mm and 5 @. 7 × 28mm cartridges (and the associated weapons) have been independently adopted by various NATO countries , according to preference ; both the P90 and Five @- seven are currently in service with military and police forces in over 40 nations throughout the world .

== Present ==

In 2004 , the SS192 hollow @- point cartridge was introduced to civilian shooters alongside the new IOM variant of the Five @- seven pistol . After being met with controversy , the SS192 variety was discontinued in the same year , and in 2005 the SS196SR variety was introduced using a 2 @. 6 g (40 grain) Hornady V @- Max projectile . The SS196 was also quickly discontinued in favor of the newer SS195LF and SS197SR varieties , which are currently offered to civilian shooters for use in 5 @. 7 × 28mm firearms , followed by the SS198LF variety , which is currently produced but is restricted by FN to military and law enforcement customers .

FN 's 5 @. 7 × 28mm ammunition types were briefly manufactured by Olin @- Winchester , but today they are made by FN Herstal in Belgium and (since 2006) Fiocchi in the United States . In 2009 , the National Rifle Association added 5 @. 7 × 28mm firearms to its NRA Tactical Police Competition standards , allowing law enforcement agencies to compete in this event using 5 @. 7 × 28mm firearms . Starting in 2012 , Federal began producing a new 5 @. 7 × 28mm round for civilian shooters , designated the AE5728A .

== Design details ==

The 5 @. 7 × 28mm cartridge was designed by FN Herstal specifically for use in the FN P90 personal defense weapon and FN Five @- seven pistol . Subsequently , it has been used in a number of other weapons , such as the FN PS90 carbine and the AR @- 57 , an upper receiver for M16 and AR @- 15 rifles . The ST Kinetics CPW can be configured for the 5 @. 7 × 28mm cartridge by changing the barrel and magazine groups . Excel Arms has developed four firearms chambered in 5 @. 7 × 28mm , and MasterPiece Arms offers three different 5 @. 7 × 28mm firearms .

The 5 @. 7 × 28mm cartridge weighs 6 @. 0 grams (93 grains) ? roughly half as much as a typical 9 × 19mm Parabellum cartridge ? making extra ammunition less burdensome , or allowing more ammunition to be carried for the same weight . Since the 5 @. 7 × 28mm cartridge also has

a relatively small diameter , a relatively high number of cartridges can be contained in a magazine . The cartridge has a loud report and produces considerable muzzle flash (when fired from a pistol) , but it has roughly 30 percent less recoil than the 9 × 19mm cartridge , improving controllability . Due to its high velocity , the 5 @. @ 7 × 28mm also exhibits an exceptionally flat trajectory .

One of the design intents of the SS190 variety of this cartridge was that it have the ability to penetrate Kevlar protective vests ? such as the NATO CRISAT vest ? that will stop conventional pistol bullets . Fired from the P90 , the SS190 is capable of penetrating the CRISAT vest at a range of 200 m (219 yd) , or a Level IIIA Kevlar vest at the same range . However , sporting variants of the 5 @. @ 7 × 28mm are classified by the U.S. Bureau of Alcohol , Tobacco , Firearms and Explosives (ATF) as not armor @-@ piercing .

According to FN , the 5 @. @ 7 × 28mm cartridge has an effective range of 200 m (219 yd) and a maximum range of 1 @, @ 800 m (1 @, @ 969 yd) when fired from the P90 , and an effective range of 50 m (55 yd) and a maximum range of 1 @, @ 510 m (1 @, @ 651 yd) when fired from the Five @-@ seven . In testing , the SS190 and similar 5 @. @ 7 × 28mm projectiles consistently turn base over point (" tumble ") as they pass through ballistic gelatin and other media , using the 21 @. @ 6 @-@ mm (.85 in) projectile length to create a larger wound cavity . However , some are skeptical of the bullet 's terminal performance , and it is a subject of debate among civilian shooters in the United States .

The 5 @. @ 7 × 28mm projectile potentially poses less risk of collateral damage than conventional pistol bullets , because the projectile design limits overpenetration , as well as risk of ricochet . The lightweight projectile also poses less risk of collateral damage in the event of a miss , because it loses much of its kinetic energy after traveling only 400 m (437 yd) , whereas a conventional pistol bullet such as the 9 × 19mm retains significant energy beyond 800 m (875 yd) . This range exceeds the engagement distances expected for the 5 @. @ 7 × 28mm cartridge 's intended applications , so the cartridge 's limited energy at long range is not conversely considered to be disadvantageous .

Since the 5 @. @ 7 × 28mm SS190 projectile does not rely on fragmentation or the expansion of a hollow @-@ point bullet , the cartridge (and 5 @. @ 7 × 28mm firearms) are considered suitable for military use under the Hague Convention of 1899 , which prohibits the use of expanding bullets in warfare .

FN 's 5 @. @ 7 × 28mm cartridge cases are covered with a special polymer coating for easier extraction with the PS90 carbine due to the high chamber pressures and lack of case tapering . In addition , this coating ensures proper feeding and function in the magazines .

= = Cartridge dimensions = =

The 5 @. @ 7 × 28mm has a cartridge case capacity of 0 @. @ 90 ml (13 @. @ 85 grains H₂O) .