AG Silencer Specs Table

Silence is golden, and not ILLEGAL

Airgun Silencers[Note 13] = Moderators = Suppressors = Lead Dust Collectors (LDCs) — Mainly for PCPs

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  - ▸From $26 to $270
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Also included, after the Silencer Specs Table:

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Caliber[1]	Loudness Comparisons[2] (*not* between tests!!)														Diameter[3]	Length[4]	Weight[5]	Brand	Name, Info	Looks[6]	$$[7]→Link	Connectors Available[8]
FPE, Q or S[9]	33,Q	80,Q	23,Q	19,S	23,S	56,S	56,S	59,S	12,Q	53,Q	30,S	29,S	26,S									
Shrd?,Cal.[10]	Y.22	Y.30	N.22	Y.22	Y.22	Y.25	Y.25	Y.30	Y.20	Y.22	Y.22	Y.22	N.22									
w/o Silencer	288[A]	638[B]	67[C]	109[D]	107[E]	117[F]	?[G]	105[H]	104[I]	87.5[J]	99[K]	104[+L]	105[+M]									
.177; .22; .25; .30	162[A]	609[B]													1.22" (2.8cm)	2.91" (7.4cm)	1.1oz (30g)	**STO**[15]	Brevitas	Plain	50[P20]	½" x 20 UNF | M20x1 Flow factor max. 2,011[12]
.177; .22; .25; .30									88[I]						? (fairly slim)	Adds only[14] 3.0"-3.5" (7.6"-8.9cm)	3.2oz-6.7oz (92g-105g)	**Day**state	Airstream Mk. VI Reflex (many Mk. versions!)	CarbF	Krale (not to US): 189. UK: 101.	½" x 20 UNF | Daystate barrels (model specific!) OAL = 6.00"-7.00" (15.2cm-17.8cm)
.177/.22; .25															1.22" (3.1cm)	3.50" (8.9cm)	2.5oz (71g)	**Hug**gett	Atom max. 12FPE	Deco	100[P1]; 125	½" x 20 UNF | M14x1.25 | Slip-on (AirArms S400/410) | M20x1 (FX)
.177/.22; .25															1.22" (3.1cm)	4.06" (10.3cm)	?	**Huma**	MOD30-1/2 = Mini	(Deco)	94[P3]	½" x 20 UNF | M20x1 Length (sections) adjustable!
.22; .25; .30															1.6" (4.1cm)	4.25" (10.8cm)	4.1oz (116g)	**Don**nyFL	Tatsu	Deco	130[P35]	½" x 20 UNF | M20x1 | M14x1.25 | .30 only with ½" x 20 UNF
.177/.22; .25; .30					98[E]					86.2[J]	87.6[K]	84.2[L]	81.3[M]		1.25" (3.2cm)	4.30" (11.0cm)	3.8oz (108g)	**0DB**	110C	Deco	120[P40] at retailers	½" x 20 UNF

Caliber[1]	Loudness Comparisons[2] (*not* between tests!!)														Diameter[3]	Length[4]	Weight[5]	Brand	Name, Info	Locks[6]	$$[7]→Link	Connectors Available[8]
FPE, Q or S[9]	33,Q	80,Q	23,Q	19,S	23,S	56,S	56,S	59,S	12,Q	53,Q	30,S	29,S	26,S									
Shrd?,Cal.[10]	Y.22	Y.30	N.22	Y.22	Y.22	Y.25	Y.25	Y.30	Y.20	Y.22	Y.22	Y.22	N.22									
w/o Silencer	288[A]	638[B]	67[C]	109[D]	107[E]	117[F]	?[G]	105[H]	104[I]	87.5[J]	99[K]	104+[L]	105+[M]									
.177/.22; .25	75[A]								91[I]						1.22" (3.1cm)	4.72" (12.0cm)	3.4oz (97g)	**Hug**gett	Belita max. 12FPE	Deco	126[P1]; *red:* 140[P1]; 150; 170	½" x 20 UNF | M14x1.25 | Slip-on (AirArms S400/410) | M20x1
.177/.22; .25															1.22" (3.1cm)	4.88" (12.4cm)	?	**Huma**	MOD30-2/1 = Mini+	(Deco)	106[P4]	½" x 20 UNF | M20x1 Length (sections) adjustable!
.22; .25; .30															**1.57" (4.0cm)**	4.96" (12.6cm)	**6.4oz (182g)**	**Hug**gett	Mini-Magna max. 70FPE	Deco	150[P1]; 200, 190	½" x 20 UNF | M14x1.25 | Slip-on (AirArms S400/410) | M20x1
.22; .25; .30	**71**[A]				86[E]						84.6[K]	82.5[L]	83.7[M]		1.22" (3.1cm)	**5.00" (12.7cm)**	3.5-4.1oz (99-116g)	**Donn**yFL	Tanto	Deco	99[P37]	½" x 20 UNF | M20x1 | M14x1.25
.22/.25; .25/.30; .357	**73**[A]									85.6[J]					1.36" (3.5cm)	**5.00" (12.7cm)**	c. 4.7oz **(133g)**	**Donn**yFL	FX/DonnyFl	Deco	120[P30]	½" x 20 for .22/.25 and .25/.30 | M18x1 for .357
???															**1.57" (4.0cm)**	**5.28" (13.4cm)**	**4.6oz (130g)**	**Weih**-rauch	Moderator XL-K	Deco	107[P50] +20 S/H	½" x 20 UNF
.177; 22					98[E]						85.9[K]	84.7[L]			1.2" (3.1cm)	**5.43" (13.8cm)**	c. 1.6oz (45g)	**Geo**	1/2-20 Series: 1.2" x 5.43"	CarbF	27[P18]	½" x 20 UNF
.177; .20; .22; .25				87[D]											0.88" (2.2cm)	**5.50" (14.0cm)**	2.1oz (60g)	**Hill**	5.5 ½"-20 UNF	Plain	120[P5] incl. S/H	½" x 20 UNF
.177/.22; .25															1.22" (3.1cm)	**5.70" (14.5cm)**	3.8oz (108g)	**Huma**	MOD30-3/0 = Compact	(Deco)	119[P6]	½" x 20 UNF | M20x1
.177; .22; .25; .30							112[G]								**1.4" (3.7mm)**	5.9" (14.9cm)	5.0oz **(141g)**	**Hug**gett	Astille max. 100FPE	Deco	160[P1]	½" x 20 UNF | M20x1 Extensions available
.177/.22; .25; .30								96[H]							**1.57" (4.0cm)**	**5.70" (14.5cm)**	**6.4oz (180g)**	**Huma**	MOD40-3/0 = Compact	(Deco)	129[P7]	½" x 20 UNF | M20x1 Length (sections) adjustable!
.177; 22			63[C]												0.94" (2.4cm)	**6.00" (15.2cm)**	1.39oz (39g)	**Geo**	1/2-20 Series: 0.94" x 6"	CarbF	26[P18]	½" x 20 UNF
.177; .20; .22; .25															**1.38" (3.5cm)**	**6.00" (15.2cm)**	**4.7oz (133g)**	**Hill**	6 ½"-20 UNF	Plain	140[P2] incl. S/H	½" x 20 UNF | Gauntlet $120[P10]
.22; .25/.30	108[A] →?!?		62[C]		86[E]			96[H]			83.4[K]	81.4[L]	80.2[M]		1.6" (4.1cm)	**6.25" (15.9cm)**	5.6oz (159g)	**Donn**yFL	Sumo	Deco	150[P33]	½" x 20 UNF | M20x1 | M14x1.25

Caliber[1]	Loudness Comparisons[2] (*not* between tests!!)													Diameter[3]	Length[4]	Weight[5]	Brand	Name, Info	Looks[6]	$$[7]→Link	Connectors Available[8]
FPE, Q or S[9]	33,**Q**	80,**Q**	23,Q	19,S	23,S	56,S	56,S	59,S	12,Q	53,Q	30,S	29,S	26,S								
Shrd?,Cal.[10]	Y.22	Y.30	N.22	Y.22	Y.22	Y.25	Y.25	Y.30	Y.20	Y.22	Y.22	Y.22	N.22								
w/o Silencer	288[A]	638[B]	67[C]	109[D]	107[E]	117[F]	?[G]	105[H]	104[I]	87.5[J]	99[K]	104+[L]	105+[M]								
.25; .30; .357; .457/.50	104[A] →?!?					107[F]	110[G]							**2.0" (5.1cm)**	**6.25" (15.9cm)**	**10.4oz (295g)**	**Don**nyFL	Ronin	Deco	185[P38]	½" x 20 UNF | M20x1 | M14x1.25 | for .457/.50 only with M18x1 Extension available
.177/.22; .25; .30	**63**[A]									85.8[J]				1.25" (3.2cm)	**6.30" (16.0cm)**	5.2oz (147g)	**0DB**	160C	Deco	190[P40] at retailers	½" x 20 UNF
.177; .22; .25; .30	93[A]					109[F]	111[G]							1.38" (3.5cm)	**6.30" (16.0cm)**	4.0oz (113g)	**Ra**mus	Trident	Deco	225[P41]	½" x 20 UNF | with regular end cap –
						114[F]	112[G]														and with flip compensator end cap – for high powered rifles – but louder (+$25)
.177; .22														0.875" (2.2cm)	**6.50" (16.5cm)**	?oz (?g)	**TKO**	.875" Stage-V Mod 1/2-20 UNF	Colors Plain	78[P24] incl. S/H	½" x 20 UNF | 10mm Airmax [Diana-SPA-Artemis] | 14mm and 15mm barrel | and non-threaded
.177; .22; .25	82[A]										86.3[K]	87.3[L]	83.3[M]	1.00" (2.5cm)	**6.50" (16.5cm)**	2.5oz[11] (73g)	**TKO**	1" Stage-V Mod 1/2-20 UNF	Colors Plain	92[P23] incl. S/H	½" x 20 UNF | and/or slip-on models
.177/.22; .25														1.22" (3.1cm)	**6.54" (16.6cm)**	?	**Huma**	MOD30-3/1 =Compact+	(Deco)	125[P8]	½" x 20 UNF | M20x1 Length (sections) adjustable!
.177/.22; .25; .30														1.57" (4.0cm)	**6.54" (16.6cm)**	5.9oz (166g)	**Huma**	MOD40-3/1 = Compact+	(Deco)	153[P9]	½" x 20 UNF | M20x1 Length (sections) adjustable!
.177/.22; .25; .30	50[A]	89[B]									84.4[K]	82.6[L]	81.3[M]	1.57" (4.0cm)	**6.69" (17.0cm)**	6.4oz (180g)	**STO**[15]	Falx	Plain	129[P21]	½" x 20 UNF | M18x1; M20x1 | M14x1.25 In 3 Flow factors: Std., Mod., Hi[12]
.177/.22; .25; .30; others?										86.4[K]				1.22" (3.1cm)	**6.73" (17.1cm)**	4.6oz (129g)	**Hug**gett	Snipe, or "Standard" max. 50FPE	Deco	160[P1]; 200, 180	½" x 20 UNF | M14x1.25 (Vulcan) | Slip-on (AirArms S400/410) | M20x1
.177; .22; .25; others?			63[C]	94[D]	93[E]						85.2[K]	84.4[L]	80.9[M]	1.0" (2.5cm)	**6.87" (17.5cm)**	3.3oz (94g)	**Roc**ker1	Also available in true carbon fiber	CarbF	65[P19]	½" x 20 UNF | and others most likely, incl. Artemis/ SPA
.177; .22; .25; others?													79.5[M]	1.0" (2.5cm)	**7.03?" (17.9cm)**	3.7oz (105g)	**Roc**ker2	Also available in true carbon fiber	CarbF	70[P19]	½" x 20 UNF | and others most likely, incl. Artemis/ SPA
.22; .25; .30				87[D]										1.22" (3.1cm)	**7.00" (17.8cm)**	4.6-5.0oz (130-142g)	**Don**nyFL	Koi	Deco	145[P36]	½" x 20 UNF | M20x1 | .25 also for Skyhawk (Artemis)

Caliber[1]	Loudness Comparisons[2] (*not* between tests!!)														Diameter[3]	Length[4]	Weight[5]	Brand	Name, Info	Looks[6]	$$[7]→Link	Connectors Available[8]
FPE, Q or S[9]	33,**Q**	80,**Q**	23,Q	19,S	23,S	56,S	56,S	59,S	12,Q	53,Q	30,S	29,S	26,S									
Shrd?,Cal.[10]	Y.22	Y.30	N.22	Y.22	Y.22	Y.25	Y.25	Y.30	Y.20	Y.22	Y.22	Y.22	N.22									
w/o Silencer	288[A]	638[B]	67[C]	109[D]	107[E]	117[F]	?[G]	105[H]	104[I]	87.5[J]	99[K]	104[+L]	105[+M]									
.177; 22			61[C]								85.6[K]	83.8[L]	81.5[M]		1.2" (3.1cm)	**7.00" (17.8cm)**	1.8oz (51g)	**Geo**	1/2-20 Series: 1.2" x 7.0"	CarbF	28[P18]	½" x 20 UNF
.177/.22; .25															1.22" (3.1cm)	**7.28" (18.5cm)**	4.6oz (130g)	**Huma**	MOD30-4/0 = Standard	(Deco)	148[P11]	½" x 20 UNF | M20x1 Length (sections) adjustable!
.177/.22; .25; .30					81[E]						83.6[K]	82.3[L]	79.0[M]		1.57" (4.0cm)	**7.36" (18.7cm)**	6.6oz (187g)	**Huma**	MOD40-4/0 = Standard	(Deco)	160[P13]	½" x 20 UNF | M20x1 Length (sections) adjustable!
.177/.22; .25; .30															1.57" (4.0cm)	**7.36" (18.7cm)**	**7.6oz (216g)**	**Huma**	MOD40-4/0 = Standard for AGT	(Deco)	160[P12]	M14x1.25 Length (sections) adjustable!
.22												83.5[L]	79.6[M]		1.13" (2.9cm)	**7.38" (18.7cm)**	**4.2oz (119g)**	**(from independent GTA members: 2021)**	MM1 (prototype of A.U.O.)	Plain	c. 70	½" x 20 UNF
.22													79.1[M]		1.13" (2.9cm)	**7.38" (18.7cm)**	**4.1oz (116g)**		A.U.O. (production version of MM1)	Plain	c. 70	½" x 20 UNF
.22												84.8[L]	83.4[M]		1.13" (2.9cm)	**7.5" (19.1cm)**	**3.0oz (85g)**		MM2 (prototype)	Plain	c. 70	½" x 20 UNF
.177; .22; .25; .30															1.18" (3.0cm)	**7.48" (19.0cm)**	?	**W**olf	K-Baffles	Plain	89[P27] +20 S/H	½" x 20 UNF
?															1.57" (4.0cm)	**7.72" (19.6cm)**	6.70oz (190g)	**Weih**-rauch	Moderator XL	Deco	107[P49] +20 S/H	½" x 20 UNF
.117/.22; .25									84[I]						1.18" (3.0cm)	**7.76" (19.7cm)**	3.9oz (110g)	**Weih**-rauch	Weihrauch 1/2 UNF, *the original HW100-version*	Plain	65[P39]	½" x 20 UNF Up to 45FPE. Originally designed to fit the HW100.
.22; .25; .30															1.57" (4.0cm)	**7.80" (19.8cm)**	**9.2oz (260g)**	**Hug**gett	Magna max. 100FPE	Deco	200[P1]; 270	½" x 20 UNF | M14x1.25 | Slip-on (AirArms S400/410) | M20x1
.177; .20; .22; .25															1.38" (3.5cm)	**8.00" (20.3cm)**	**5.7oz (162g)**	**Hill**	8½"-20 UNF	Plain	133[P42]	½" x 20 UNF
.25; .30															1.6" (4.1cm)	**8.00" (20.3cm)**	**7.2oz (204g)**	**Don**nyFL	Shogun	Deco	185[P34]	½" x 20 UNF | M20x1 | M14x1.25
.177/.22; .25															1.22" (3.1cm)	**8.15" (20.7cm)**	?	**Huma**	MOD30-4/1 = Standard+	(Deco)	153[P14]	½" x 20 UNF | M20x1 Length (sections) adjustable!

Caliber[1]	Loudness Comparisons[2] (*not* between tests!!)														Diameter[3]	Length[4]	Weight[5]	Brand	Name, Info	Looks[6]	$$[7]→Link	Connectors Available[8]
FPE, Q or S[9]	33,Q	80,Q	23,Q	19,S	23,S	56,S	56,S	59,S	12,Q	53,Q	30,S	29,S	26,S									
Shrd?,Cal.[10]	Y.22	Y.30	N.22	Y.22	Y.22	Y.25	Y.25	Y.30	Y.20	Y.22	Y.22	Y.22	N.22									
w/o Silencer	288[A]	638[B]	67[C]	109[D]	107[E]	117[F]	?[G]	105[H]	104[I]	87.5[J]	99[K]	104+[L]	105+[M]									
.177; .22; .25															1.18" (3.0cm)	**8.28" (21.0cm)**	?	**W**olf	1/2 UNF	Plain	49[P25]	½" x 20 UNF
.177; .22; .25															1.18" (3.0cm)	**8.28" (21.0cm)**	?	**W**olf	4 Conical Baffles 1/2 UNF	Plain	49[P26]	½" x 20 UNF
.177/.22; .25; .30															1.57" (4.0cm)	**8.15" (20.7cm)**	**7.3oz (207g)**	**Huma**	MOD40-4/1 = Standard+	(Deco)	189[P15]	½" x 20 UNF | M20x1 Length (sections) adjustable!
.177/.22; .25															1.22" (3.1cm)	**9.00" (22.8cm)**	5.5oz (155g)	**Huma**	MOD30-5/0 = Long	(Deco)	177[P16]	½" x 20 UNF | M20x1
.177/.22; .25; .30															1.57" (4.0cm)	**9.00" (22.8cm)**	**8.8oz (250g)**	**Huma**	MOD40-5/0 = Long	(Deco)	196[P17]	½" x 20 UNF | M20x1 Length (sections) adjustable!
.177; .22; .25; .30															1.38" (3.5cm)	**9.06" (23.0cm)**	?	**W**olf	K-Baffles High Efficiency	Plain	109[P28]	½" x 20 UNF
?															**2.00" (5.1cm)**	**10.00" (25.4cm)**	?	**Don**nyFL	Emperor V2	Deco	220	½" x 20 UNF
.177/.22; .25; .30	**38**[A]	**65**[B]													1.57" (4.0cm)	**10.00" (25.5cm)**	**9.2oz (260g)**	**STO**[15]	Sarissa	Plain	164[P22]	½" x 20 UNF | M18x1 | M20x1 | M14x1.25 In 3 Flow factors: Std., Mod., Hi[12]
.177; .22; .25; .30	90[A]														1.57" (4.0cm)	**10.04" (25.5cm)**	**10.5oz (297g)**[11]	**W**olf	K-Baffles High Efficiency Premium	Plain	129[P29]	½" x 20 UNF
.22/.25/.30; .308/.357; .457/.50	81[A]														**2.00" (5.1cm)**	**10.50" (26.7cm)**	**15.4oz (437g)**[11]	**Don**nyFL	Emperor V3	Deco	240[P31]	½" x 20 UNF and M20x1 | for .308/.357 and .457/.50 only with M18x1 Extension available
Extensions and Accessories																						
.22/.25/.30; .308/.357; .457/.50															**2.00" (5.1cm)**	6.26" (15.9cm)	?	**Don**nyFL	Emperor or Ronin V3 *6.26 inch-Extender*	Plain	60[P32]	½" x 20 UNF | M18x1; M20x1) | M14x1.25
.177; .22; .25; .30							109[G]								1.4" (3.7mm)	1.5" (3.9cm)	1.3oz (36g)	**Hug**gett	Astille *Extension*	Plain	50[P1]	½" x 20 UNF | M20x1 Various can be combined
.177/.22; .25															1.22" (3.1cm)	5.23" (2.1cm)	0.5oz (15g)	**Huma**	Chamber for MOD30, 20mm	(Deco)	23[P43]	n/a

Caliber[1]	Loudness Comparisons[2] (*not* between tests!!)													Diameter[3]	Length[4]	Weight[5]	Brand	Name, Info	Looks[6]	$$[7]→Link	Connectors Available[8]
FPE, Q or S[9]	33,Q	80,Q	23,Q	19,S	23,S	56,S	56,S	59,S	12,Q	53,Q	30,S	29,S	26,S								
Shrd?,Cal.[10]	Y.22	Y.30	N.22	Y.22	Y.22	Y.25	Y.25	Y.30	Y.20	Y.22	Y.22	Y.22	N.22								
w/o Silencer	288[A]	638[B]	67[C]	109[D]	107[E]	117[F]	?[G]	105[H]	104[I]	87.5[J]	99[K]	104+[L]	105+[M]								
.177/.22; .25														1.22" (3.1cm)	1.63" (4.2cm)	0.8oz (23g)	**Huma**	Chamber for MOD30, 40mm	(Deco)	33[P44]	n/a
.177/.22; .25														1.22" (3.1cm)	2.24" (5.7cm)	?oz (?g)	**Huma**	Start Piece for MOD30, 40mm	(Deco)	43[P45]	½" x 20 UNF | M20x1
.177/.22; .25; .30														1.57" (4.0cm)	0.81" (2.1cm)	?oz (?g)	**Huma**	Chamber for MOD40, 40mm	(Deco)	29[P46]	n/a
.177/.22; .25; .30														1.57" (4.0cm)	1.61" (4.1cm)	1.3oz (36g)	**Huma**	Chamber for MOD40, 40mm	(Deco)	35[P47]	n/a
.177/.22; .25; .30														1.57" (4.0cm)	2.32" (5.9cm)	1.3oz (36g)	**Huma**	Start Piece for MOD40, 40mm	(Deco)	41[P48]	½" x 20 UNF | M20x1
Caliber[1]	**Loudness Comparisons[2]** (*not* between tests!!)													**Diameter[3]**	**Length[4]**	**Weight[5]**	**Brand**	**Name, Info**	**Looks[6]**	**$$ →Link**	**Connectors Available[8]**

Notes

[1] **Caliber:** If the caliber sizes are separated by a forward slash / this means that both calibers are combined for this model. If caliber sizes are separated by a semicolon ; this means both calibers are separate products for this model.

[2] **Loudness:** ▲Do not compare silencer test results from different tests with each other – only compare silencer test results from the same test – because the numbers are not comparable between tests due to wildly different test protocols! Each column presents the results from one test, and designated by a letter that appears raised after each loudness number. The details of each test are described in a separate section.

[3] **Diameter:** (or thickness) It is visually indicated with the thickness of the font that declares the diameter.
thin = under 3.2cm=1.25" | normal = 3.2cm–4.5cm=1.3"–1.8" | **thick = over 4.5cm=1.8"**

[4] **Length:** It is visually indicated with the thickness of the font that declares the length.
Silencers are between 3.5" and 10.5" long = between 9 and 27cm long.
short = under 5"=12.7cm | compact = 5"–6"=12.7–15.2cm | **medium = 6"–7"=15.2–17.8cm** | **long = 7"–9"=17.8–22.9cm** | **extra long = longer than 9"=22.9cm**

[5] **Weight:** It is visually indicated with the thickness of the font that declares the weight.
Most silencers are between 100g and 200g; a few up to 300g, and a few below 100g; and one 450g.
light = under 120g=4.2oz | normal = 120–200g=4.2–7.1oz | **heavy = 200–300g=7.1–10.6oz** | **extra heavy = over 300g=10.6oz**

[6] **Looks:** *Deco* = Alu with decorative indentations and cutouts, often not only on the body but on the front end | *Plain* = Plain Alu | *CarbF* = Carbon Fiber

[7] **Prices**

The prices given are typical retail. Sometimes you can find a discount. Buying used seems the way to go as silencers really don't get "used up" – unless their finish gets damaged. The prices are followed by a footnote in blue, which usually is a link to the manufacturer's webpage, or a seller.

[8] **Connectors available:**

M20x1 ➔ for FX

M14x1.25 ➔ for AGT Vulcan, Uragan

[9] **Test conditions:** Muzzle energy in FPE? | Test trustworthiness?: S = simple test; Q = quality test (sophisticated setup and/or equipment); **Q** = high quality

[10] **Test conditions:** Shrouded gun or not? | Caliber of gun = ? [.17 (=.177) | .22 | .25 | .30]

[11] **Source:** https://www.silentthunderordnance.com/blog/2019/3/1/airgun-moderator-design-performance-and-development-the-big-test-part-5

[12] Most of the STO silencers are available for three different *flow factors* – essentially three different amounts of air that require silencing:

- Standard (Std.) = Tuned for *shrouded* FX Crown .22 with 32FPE ➔ Flow factor = 460. Without silencer w/ extended shroud = 288 loudness number
- Moderate (Mod.) = Tuned for *shrouded* FX Crown .30 with 80FPE ➔ Flow factor = 1,111. W/o silencer, but w/ extended shroud = 638 loudness number
- High (Hi.) = Tuned for *unshrouded* FX Dreamline .30 with 87FPE ➔ Flow factor = 6,500. W/o silencer and w/o shroud = 3,668 loudness number

https://www.silentthunderordnance.com/moderator-configuration-application-optimization

[13] You don't like the term *silencer*? Well, that's the name this device was patented with, cf. Andy's detailed discussion here: https://youtu.be/nlKx9e7sOPU?t=408

[14] The Daystate silencer uses a "reflex" design, where about half of the silencer extends forward of the shroud/barrel end, and the other half backwards ("reflexes backwards"?), like an *add-on quick-attach shroud*.

[15] STO = Silent Thunder Ordnance

Silencers – Limited to Certain Gun Brands or Models – or Springers

- **SOS (Talon Tunes):** FOR: Airforce airguns
  https://talontunes.com/product-category/shroud-sound-moderators/
- **Hill Airgun:** FOR: Crosman/ Benjamin airguns
  https://hillairgun.com/store/
- **Wolf (Poland):** FOR: Hatsan | Weihrauch [not the original] | Evanix | Crosman | Sumatra | QB78 | QB79 | Hammerli | 15mm | 16mm
  http://wolfairguns.com/
- **DonnyFl:** FOR: Umarex Hammer | and others
  https://donnyfl.com
- **Mac 1:** FOR: Discovery | 15mm | 16mm | MRod | PRod | Benjamin
  https://www.mac1airgunshop.com/product-p/mgeiibr.htm
- FOR: AGT (Vulcan, Uragan), with M14x1.25
  https://www.airgunsofarizona.com/airgun-silencers/agt-vulcan/uragan-airgun-silencer-with-m14-threads/

Makers of Custom Silencers

- **Rocker1 and Rocker2:** David
  Highly praised for their value (performance per cost). Carbon fiber foil wrap over aluminum tube. Possibly available also in real carbon fiber.
  Email: davidjfurr@outlook.com
  User name at GTA: Rocker1
  Profile: https://www.gatewaytoairguns.org/GTA/index.php?action=profile;u=21
  Some threads on his silencer: https://www.gatewaytoairguns.org/GTA/index.php?topic=182340
- **Neil Clague:** http://petersoncorner.com/clague/contact.htm
  Highly praised for good performance.
  User name at AirGunGuild.com: Jaycee
  Some info: https://www.airgunnation.com/topic/neil-clague-moderator-internals/
  All his silencers are custom made and designs vary widely, according to customers' requests. He offers both (a) regular silencers and (b) a what some call "reflex" silencers – the latter is basically an *add-on quick-attach shroud:* it screws onto the barrel end/ shroud end with a recessed internal thread, and extends both backward and forward of that end. That way they are very effective, but also shorter than regular silencer designs. Daystate uses this "reflex" design as well. Cf. discussion here:
  https://www.gatewaytoairguns.org/GTA/index.php?topic=179072
- **Silent Thunder Ordnance:**
  https://www.silentthunderordnance.com/secret-menu
  Besides the standard models, it seems he would do customization as well.
  Some info: cf. his blog, extensive silencer tests, and the silencer series he developed
- **TKO: Mike Tiehen:** http://tko22.com
  Some info: On his webpage you can find his own silencer series. In a gallery you can find many pics to give you some ideas:
  http://www.tko22.com/TKO_Gallery/
  Email: Sales@TKO22.com | TKOAirguns@gmail.com | Tel. (402) 889 9222

Loudness Comparisons: Test Details

▲ Do not compare silencer test results from different tests *with each other* – only compare silencer test *results from the same test* – because the numbers are not comparable between tests due to wildly different test conditions and measurement tools.

Note that the power, caliber, and the tune of the gun can have a large effect on the loudness. More a few details, cf. the discussion below under the title: *Factors Influencing the Loudness of a Gun.*

There have been many tests, and each column presents the results from one such test. The raised letter after the comparative loudness number references the details of the test, cf. below.

Most of these tests do not attempt to measure true dB, but simply measure the differences between different models, hopefully under exactly the same conditions.

Tests can be done using cell phone or cheap China sound meters, or not eliminating outside sources of error, or not meticulously keeping the conditions the same. These are the normal tests that can be found on the forums. Rare are the tests that use expensive sound meter equipment costing hundreds of dollars, using a carefully designed experimental design that eliminates outside factors and keeps conditions exactly the same. Tests that are more like the former are marked with an S, for simple test. Tests that are more like the latter are marked with a Q, for quality test.

Some Issues to Consider:

The loudness impression to the human ear is not always the same as the loudness measured by the electronic measuring instrument – loudness has much to do with impressions. In some shooting situations it is sufficient to lower the loudness on the one hand, and change its sound impression on the other, so

that the impression of a shot changes to something else that fit more naturally into the environment (which can be the woods or suburbia).

There are many components that one would need to measure, and unless one has a whole lab to do this, "normal" tests will be rather limited (mrbulk, aka Charlie, on GTA):

- db of the sound, at the peak
- total length of the sound
- pitch of the sound (low thud, sharp crack, etc.)
- type of the sound (hiss, mechanical pinging/ringing, etc.)

Test A: By Silent Thunder Ordnance (2018-2019)

Q: Fairly scientific test with high quality equipment. https://www.silentthunderordnance.com

33FPE | Shrouded | .22cal | 890fps | 18.13gr | 135 bar regulated | FX Crown

Flow factor 460 – explained at:

https://www.silentthunderordnance.com/moderator-configuration-application-optimization

https://www.silentthunderordnance.com/blog/2019/3/1/airgun-moderator-design-performance-and-development-the-big-test-part-5

The tests data for the silencers he made to sell are found with the product description on the particular webpage.

▲ The data for the Sumo and the Ronin make absolute no sense to me ➔ ?!?

To put these higher numbers into perspective, though, consider how loud the gun was with the (extended!) shroud: 288! Considering that the difference from 70 to 100 isn't all *that* much.

Test B: By Silent Thunder Ordnance (2018-2019)

Q: Fairly scientific test with high quality equipment. https://www.silentthunderordnance.com

80FPE | Shrouded | .30cal | FX Crown

Flow factor 1111 – explained at:

https://www.silentthunderordnance.com/moderator-configuration-application-optimization

https://www.silentthunderordnance.com/blog/2019/3/1/airgun-moderator-design-performance-and-development-the-big-test-part-5

Test C: By luge007 (Matt) at GTA (2000)

Q: Sound meter same as used by PyramydAir. 5 shot average.

23FPE | Not shrouded | .22cal | Benjamin Maximus

Results saved separately

https://www.gatewaytoairguns.org/GTA/index.php?topic=178083

Test D: By Fit to a 'T' (2020)

S: Simple setup. Cheap sound meter. 3 shot average.

19FPE | Shrouded | .22cal | 750fps | 14.3gr | Benjamin Marauder Pistol (P-Rod)

https://www.youtube.com/watch?v=GKZBlmuFEC8

Test E: By mrbulk (Charlie) (2020-09-17)

S: Simple setup. Cheap sound meter. Many walls for distorting reflection. Sound meter 10ft in front of the muzzle and slightly off to the side. 3-shot averages.

23FPE | Shrouded | .22cal | 750fps | 18.13g | Kral NP-03

https://www.gatewaytoairguns.org/GTA/index.php?topic=177832.msg156019383#msg156019383

Test F: By Aero Sentinels (2019)

S: Simple setup. Sound meter about 1-2ft in front of the muzzle, about 10º off the shot line. Quite a bit of wind.

56FPE | Shrouded | .25cal | 865fps | 34gr | Brocock Commander Magnum

117db = 115dB + 119dB without silencer

114dB = 114dB + 115dB with Ramus: Trident – with the flip compensator end cap – for high powered rifles

109db = 109dB +109dB with Ramus: Trident – with the regular end cap (quieter)

107dB = 107dB + 108dB with DonnyFL: Ronin

https://www.youtube.com/watch?v=-nquYbm8vF8

Test G: By Aero Sentinels (2020)

S: Simple setup. Sound meter 6" in front of the muzzle. Indoors with walls and furniture to reflect sound.

56FPE | Shrouded | .25cal | 865fps | Brocock Commander Magnum

112dB Hugget: Astille – regular

109dB Hugget: Astille – with Extender

111dB Ramus: Trident – with Regular End Cap

112dB Ramus: Trident – with Flip Compensator End Cap

110dB DonnyFL: Ronin

https://www.youtube.com/watch?v=0Er5QAyh9_A

Test H: By Wisconsin AirGunners (2019)

S: Simple setup. Sound meter (iPhone with external $50 microphone) about a foot ahead of the muzzle. Outdoors.

59FPE | Shrouded | .30cal | 771fps | 44.5gr | FX Crown

105dB without silencer, with *extended* shroud

96dB Huma MOD40-3/0 = Compact in .30

96dB DonnyFL Sumo .30

https://www.youtube.com/watch?v=nQu5leWL_3g

Test I: By AAR Andy's Airgun Review

Q: Three meters. Averages of 3 shot and 3 meters. Sound meter about a foot to the side of the muzzle.

12FPE | Shrouded | .20cal✔ | Daystate Huntsman

Results saved separately

https://www.youtube.com/watch?v=CVGZ83yNyyo

Test J: By scratchcoobster (Jack) (2020-08-11)

S: Sound meter. Outside in the desert with nothing to reflect sound back. Sound meter 1ft from the muzzle. 5-shot averages. 5,000ft elevation, 15% humidity, BP 30.06.

53FPE | Carbon Fiber Shroud | .22cal | Silencers were .25cal(!) | 972fps | 25.39gr | FX Daystate Red Wolf Safari HP

https://www.airgunnation.com/topic/moderator-effectiveness-test/#post-901065

Test K: By mrbulk (Charlie) (2020-10-23)

S: Simple setup. Cheap sound meter. Many walls for distorting reflection.

Sound meter 6ft to the side of the muzzle, same elevation as muzzle. 3-shot averages.
30FPE | Shrouded | .22cal | 860fps | 18.13g | Regulator 1800psi | Air Venturi Avenger
https://www.gatewaytoairguns.org/GTA/index.php?topic=179339

UNIT	L x W (inches)
Wolf 30mm	8.375 x 1.125 ➔ "Weihrauch HW100T and HW100S Airgun Silencer" ➔ This does not appear to be a genuine Weihrauch silencer! https://www.wolfairguns.com/product_info.php?cPath=32&products_id=66&osCsid=eg830cbqg305ls5c1a1gvrsdb7
Wolf 35mm	8.3125 x 1.3125 ➔ "Weihrauch HW100T and HW100S High Efficiency Silencer" ➔ This does not appear to be a genuine Weihrauch silencer! https://www.wolfairguns.com/product_info.php?cPath=32&products_id=65&osCsid=eg830cbqg305ls5c1a1gvrsdb7
N Clague	7.9375 x 1.4375 ➔ Custom built for: Avenger .22, for up to 40FPE
Huma 40mm Std	7.375 x 1.5625
Geo Long	6.9375 x 1.1875
Geo Short	5.46875 x 1.1875
TKO Slim	6.6875 x 1
STO Falx	6.625 x 1.5625
Rocker1	6.5 x 1
DonnyFL Sumo	6.3125 x 1.5625
DonnyFL Tanto	5.4375 x 1.1875
Zero DB 110C	4.625 x 1.25

Test L: By mrbulk (Charlie) (2020-11-13)
S: Simple setup. Cheap sound meter. Many walls for distorting reflection. Sound meter 25ft downrage almost in the line of fire. 3-shot averages. 2,000ft elevation, 16% humidity.
29FPE | Shrouded | .22cal | 853fps | 18.13g | Regulator 1800psi, HST 2.75 in | Air Venturi Avenger
https://www.gatewaytoairguns.org/GTA/index.php?topic=180075

Test M: By mrbulk (Charlie) (2021-01-18)
S: Simple setup. Cheap sound meter. Many walls for distorting reflection. Sound meter 50ft(!) downrage almost in the line of fire. 3-shot averages.
26FPE | NOT Shrouded, and in this configuration clearly "not backyard friendly" | .22cal | 800fps | 18.13g | Regulator 1800psi, HST 2.75 in | Evanix AR6K Renegade
https://www.gatewaytoairguns.org/GTA/index.php?topic=182738

Factors Influencing the Loudness of an Airgun Shot

General Factors

If you are interested in reducing the loudness of a shot, *for who* do you want to reduce it?

- *I want to reduce the loudness for me, the shooter:* The action of the gun is very close to your ear, and it will be difficult to reduce the loudness by much. However, it probably only appears loud to you and to no-one else, since you're the only one with the gun close to the ear. The muzzle is also close to your ears, and the loudness can be significantly reduced by a shroud and/or silencer. However, others probably won't perceive the gun as loud as you do because they are farther away from the muzzle and likely not in the direction that the muzzle is pointing.
- *I want to reduce the loudness for my neighbors:* Neighbors are usually much farther off from the gun than you, the shooter, so they will hear less of the shot than you. However, with guns that are already quieted down well the impact noise might actually be louder than the noise from the muzzle! Here it helps to use soft backstops (old bunched up fabric, rubber mulch, sand or dirt, etc.). Even a target card creates a sharp ping when hit by a pellet!
  When shooting quarry and impact noise is a concern, use domed pellets rather than wadcutters or hollow points, use smaller rather than larger calibers, and use slower rather than faster impact velocities.
  Note: A pellet whirring through the air *does* make a small noise in flight.

- *If the gun is a springer*, the loudness comes mainly from the mechanical parts working inside the action (the piston slamming forward, etc.). This noise can not be reduced by much. Spring airguns do not benefit *much* from silencers. PCP airguns, however, can benefit a whole lot from shrouds and silencers, as their action is very quiet.
- Shooting projectiles *at supersonic velocities* is very loud* as the projectiles breaks the sound barrier.
  *1079fps at 25°F (-4°C) | 1106fps at 50°F (10°C) | 1133 at 75°F (24°C) | 1160 at 100°F (38°C)
- The gun is louder if you shoot it *without a pellet* (or slug).
- The gun is louder if *more air* is being used. More air is being used when the muzzle energy is higher, with all others things the same.
- The gun is louder, at the same muzzle energy, when the *barrel is shorter*. This is because the air that pushes the projectile up to the desired muzzle velocity/energy will have a higher pressure at the muzzle, making it louder. In a longer barrel the air that pushes the projectile will be done pushing before it gets to the muzzle and so will have less pressure.
- The gun is louder, at the same muzzle energy, *when "the tune" of a PCP* (i.e.,

regulator setting and hammer spring tension setting) is set to give *longer blows* of *lower* pressured air (rather than *shorter sips* of *higher* pressured air, cf. below for more details).

- *A higher or lower frequency of the shot noise (pitch) can influence how much the noise stands out* – and thus how much it will be noticed – and once noticed, how likely it will be interpreted as a *shot* instead of a non-threatening or non-annoying noise.

  GTA contributor Peter, screen name subscriber, has a much better understanding of that than I do. He explains:

  "Radiated sound intensity drops off with the square of the distance from the source (just like light from a bulb). Higher frequency sound waves are absorbed more by objects (even air molecules, over distance) than low frequencies (hence mostly the thump-thump of distant party music can be heard). So, it is entirely possible for a professional peak sound meter to measure one gun or configuration as louder near the muzzle than another; then for the quieter one to sound louder 25 yards away. It has to do with the mix of frequencies in the report.

  "It is not just loudness of audible sound that matters, but its propensity to grab attention – to make you perk up and actively listen; especially if the sound is repeated at short intervals. Some sounds 'stick out' above ambient sounds more than others. I think that prey animals are instinctively programed to pay attention to the sound of snapping twigs. That sounds signals a large animal moving closer – something that needs immediate attention, in case it is a predator.

  "Predators (including humans) are also attuned to snapping noises, because it signals a large potential meal. So, a sharp snap is much more attentions grabbing for its measurable loudness than a longer 'shoo', that starts (and ends) with a ramp, rather than silent to full intensity in an instant.

  "Repetitive sounds also grab attention out of proportion to their actual loudness. Hence, we may miss a single knock on the door, but not four knocks, repeated in quick succession. With airguns; the report, followed by the sound of the pellet smacking the target can be such an attention grabbing signal. As can just the fact that the same unnatural double-sound repeats every so many seconds.

  "Better for your airgun to sound like a sneeze with an echo, than someone sneaking around in the backyard, stepping on twigs."

  Source: https://www.gatewaytoairguns.org/GTA/index.php?topic=179339

PCP Tuning for a Quieter Gun

- An *unregulated* PCP will progressively get louder over a shot string as the pressure in the air tube gets lower. The reason is that the valve that lets air from the air tube to the barrel closes slower, because the lower pressure in the air tube has less force to push the valve shut. This results in more air being expelled into the barrel, of which the latter part is wasted as the projectile is already toward the end or out of the barrel. That extra air does not help much with increasing the projectile's velocity, but it increases the loudness of the gun.
- In an *unregulated* PCP, and at a certain air tube pressure, when adjusting the hammer spring tension (HST, or "hammer spring preload") for a harder hammer strike the power will go up – until it reaches a *plateau* (say, at 2.5 turns of the hammer spring tensioner screw from the reference mark) (the harder hammer strike will increase the amount of time the valve is open, the *valve dwell*). The *plateau* is where the chrono does not show significant increase in muzzle velocity even though you increase the HST; this is the *plateau velocity*. If the HST is increased beyond the plateau velocity, the valve will still be open and will send air down the barrel at a time when the projectile already has left the barrel. This air is wasted (reducing your shot-count), and it will increase the loudness of the shot as this air will blow out of the muzzle at a relatively high pressure.
- The following factors require a higher HST in order to reach the plateau velocity at a given tank pressure (unregulated gun) or at a given regulator pressure setting (regulated gun): heavier projectiles; longer barrels; larger porting.
- If the gun is a *regulated* PCP, adjusting the HST will also show a plateau in the velocity. For any given combination of regulator setting and projectile weight Bob Sterne recommends to tune the power with the HST to about 3-5% below the plateau velocity. This gives the best balance between power and efficiency, and good muzzle velocity consistency.

  Now, the same gun can be tuned to achieve the same muzzle energy with different tunes (regulator settings and HST settings), with all other things being equal. It could be set to give *shorter sips* of *higher* pressured air – or *longer blows* of *lower* pressured air. *Low pressure blows* will be louder than *high pressure sips*.

  So, one could tune a gun turning the regulator to a *very* high pressure, and turning the HST down for a *very* soft hammer strike. That would still result in a fair amount of muzzle energy, while the sip of air would be very high pressured and very short – resulting in a very low report. However, this *loudness advantage* comes with two disadvantages that you can balance out to match your shooting scenario: (a) *Muzzle velocity variation disadvantage:* When the tune of a gun goes 10% or lower below the plateau velocity, the muzzle velocity tends to fluctuate more as the valve movement is more sensitive at such a light hammer strike. (b) *Muzzle velocity rise disadvantage:* Toward the end of the shot string, when the tank's pressure is close to the pressure that the regulator has been set to (the *regulator setpoint)* the muzzle velocity will increase significantly (before dropping down when the gun is "off the regulator," i.e. when the tank's pressure is below the setpoint). To minimize both disadvantages simply calculate how much muzzle velocity variation you can get away with and still hit your target, and tune your gun accordingly.

Silencer Characteristics for a Quieter Gun

The following points are just general rules as every silencer has a different design, different baffles, and the effectiveness of a silencer depends if it is matched well with the muzzle energies. These general rules imply that all other factors remain the same.

- *The larger the volume* of the silencer the quieter the gun.
- *The longer* the silencer extends beyond the muzzle the quieter the gun.
- A silencer *combined with a shroud* is quieter than the same silencer without a shroud.
- *The tighter the opening* in the silencer the quieter the gun.
  However, because of tolerances of threads and imperfect parts, the tighter the opening the higher the probability of clipping, where the projectile hits ever so slightly the interior of the silencer – and makes the gun throw shots all over the place.
  DonnyFL recommends to buy the appropriate size (e.g., a .22cal silencer for a .22cal gun) if the silencer is attached *directly to the barrel.* If the silencer is *attached to a shroud* he recommends to go one up in size (so, a .25cal silencer for a .22cal gun).
- *Baffles* inside the silencer make the gun quieter. Also *felt or other sound absorbing materials* are said to make it quieter.
- It seems that *most silencers do a fairly good job* to quiet a *medium* powered gun. However, for a *high powered gun* the differences in design and quality are more noticeable.
- If you want to truly *silence* your gun – don't shoot it.
  If you want your gun to be *"mousefart quiet"* – reduce the air used per shot to that of a mouse fart, and reduce the barrel diameter to that of mouse droppings. Voilà!

Here are some of the sages from whom I have learned some of this:

Arash: https://www.airgunnation.com/topic/noise-when-90-fpe-doesnti-think-all-this-extra-air-results-sound-like-90-fpe/#post-923089
(and the whole thread from the beginning)

subscriber: https://www.gatewaytoairguns.org/GTA/index.php?topic=169055.msg156019558#msg156019558

Bob Sterne: https://www.gatewaytoairguns.org/GTA/index.php?topic=178367.msg156036759#msg156036759
https://hardairmagazine.com/ham-columns/using-hammer-strike-to-control-pcp-power/

michaelthomas: https://www.gatewaytoairguns.org/GTA/index.php?topic=178367.msg156036798#msg156036798

lloyd-ss and Bob Sterne: https://www.gatewaytoairguns.org/GTA/index.php?topic=164634

Links to Some Sellers and Prices

P1: Search at: https://penchetta.com | https://utahairguns.com

P2: https://hillairgun.com/product/hill-airgun-6-moderator-1-2-20-unf-threads/

P3: https://www.huma-air.com/Modular-Airgun-Silencer-MOD30-1/2-(Mini)

P4: https://www.huma-air.com/Modular-Airgun-Silencer-MOD30-2/1-(Mini)

P5: https://hillairgun.com/product/hill-airgun-5-5-moderator-with-1-2-20-unf-threads/

P6: https://www.huma-air.com/Modular-Airgun-Silencer-MOD30-3/0-(Compact)

P7: https://www.huma-air.com/Modular-Airgun-Silencer-MOD40-3/0-(Compact)

P8: https://www.huma-air.com/Modular-Airgun-Silencer-MOD30-3/1-(Compact)

P9: https://www.huma-air.com/Modular-Airgun-Silencer-MOD40-3/1-(Compact-Plus)

P10: https://hillairgun.com/product/hill-moderator-for-your-gauntlet-air-rifle/

P11: https://www.huma-air.com/Modular-Airgun-Silencer-MOD30-4/0-(Standard)

P12: https://www.huma-air.com/Modular-Moderator-MOD40-4/0-M14x1.25-for-Uragan-and-Vulcan

P13: https://www.huma-air.com/Modular-Airgun-Silencer-MOD40-4/0-(Standard)

P14: https://www.huma-air.com/Modular-Moderator-MOD30-4/1-(Standard-plus)

P15: https://www.huma-air.com/Modular-Airgun-Silencer-MOD40-4/1-(Standard-Plus)

P16: https://www.huma-air.com/Modular-Airgun-Silencer-MOD30-5/0-(Long)

P17: https://www.huma-air.com/Modular-Airgun-Silencer-MOD40-5/0-(Long)

P18: https://www.airgununiverse.net/wp/store/12-20-hunter-class-ldc/

P19: Email: davidjfurr@outlook.com
https://www.gatewaytoairguns.org/GTA/index.php?action=profile;u=21
https://www.gatewaytoairguns.org/GTA/index.php?topic=182340

P20: https://www.silentthunderordnance.com/secret-menu/brevitas

P21: https://www.silentthunderordnance.com/secret-menu/falx

P22: https://www.silentthunderordnance.com/secret-menu/sarissa

P23: http://tko22.com/Section4.html

P24: http://tko22.com/Section5.html

P25: https://www.wolfairguns.com/product_info.php?cPath=37&products_id=42&osCsid=p927aea6k1g7kvj1895rvmjrh1

P26: https://www.wolfairguns.com/product_info.php?cPath=37&products_id=52&osCsid=p927aea6k1g7kvj1895rvmjrh1

P27: https://www.wolfairguns.com/product_info.php?cPath=37&products_id=86&osCsid=p927aea6k1g7kvj1895rvmjrh1

P28: https://www.wolfairguns.com/product_info.php?cPath=37&products_id=82&osCsid=p927aea6k1g7kvj1895rvmjrh1

P29: https://www.wolfairguns.com/product_info.php?cPath=37&products_id=81&osCsid=p927aea6k1g7kvj1895rvmjrh1

P30: https://donnyfl.com/collections/ldc/products/1-36-x-5-inches-fx-donnyfl

P31: https://donnyfl.com/collections/ldc/products/2-x-10-5-inches-emperor-v3

P32: https://donnyfl.com/collections/accessories/products/emperor-v3-6-5-inch-extender

P33: https://donnyfl.com/collections/ldc/products/1-5-x-6-5-inch-sumo

P34: https://donnyfl.com/collections/ldc/products/1-6-x-8-inch-shogun

P35: https://donnyfl.com/collections/ldc/products/1-6-x-4-25-inches-tatsu

P36: https://donnyfl.com/collections/ldc/products/1-22-x-7-inches-koi

P37: https://donnyfl.com/collections/ldc/products/1-22-x-5-inches-tanto

P38: https://donnyfl.com/collections/ldc/products/2-x-6-5-inch-ronin

P39: Ships from UK to USA: https://www.airgunspares.com/weihrauch15unfweihrauchsilencer12unf.html |
▲ Careful when buying from Germany: The gun license-free silencers (those with the F inside the pentagon) are for 6FPE super-low powered airguns only.

I do not know, but suspect, that the *gun license silencers* and the *non-license silencers* are different!

P40: http://www.0dbsilencers.com/where-to-buy/

P41: https://www.airgunsofarizona.com/ramus-technologies/

P42: https://hillairgun.com/product/hill-airgun-8-moderator-1-2-20unf-threads/

P43: https://www.huma-air.com/Optional-20-mm.-volume-chamber-for-the-Modular-Airgun-Silencer-MOD30

P44: https://www.huma-air.com/Optional-40-mm.-volume-chamber-for-the-Modular-Airgun-Silencer-MOD30

P45: https://www.huma-air.com/Optional-40-mm.-startpiece-for-the-Modular-Airgun-Silencer-MOD30

P46: https://www.huma-air.com/Optional-20-mm.-volume-chamber-for-the-Modular-Airgun-Silencer-MOD40

P47: https://www.huma-air.com/Optional-40-mm.-volume-chamber-for-the-Modular-Airgun-Silencer-MOD40

P48: https://www.huma-air.com/Optional-40-mm.-startpiece-for-the-Modular-Airgun-Silencer-MOD40

P49: From Germany:
https://www.waffen-schlottmann.de/1168817_Schalldaempfer-Modell-Moderator-XL-der-Marke-Weihrauch-mit-Innengewinde-0-5-Zoll-UNF.htm

P50: From Germany:
https://www.waffen-schlottmann.de/1168818_Schalldaempfer-Modell-Moderator-XL-K-der-Marke-Weihrauch-mit-Innengewinde-0-5-Zoll-UNF.htm