

# HOLLOW POINT PELLET Specs & Performance Chart: .22cal / 5.5mm

## ■ Principles for Effective Hollow Point Performance ■

Matthias | JungleShooterX@gmail.com | 2022-06-20

<b>■ What kills is a Permanent HOLE</b> in the quarry – nothing else = the permanent wound cavity, not simply “energy.”  ■ For the HOLE to kill – it must be in the <b>right place</b> in the quarry ( <b>shot placement!!!</b> ).	<b>■ Better HOLES</b> are made by • <b>larger</b> , • <b>faster</b> , • <b>bulldozer-nose</b> (= large meplat), and • <b>expanding</b> HP projectiles (that last part is the point of hollow points!).	<b>■ Better hollow point (HP) expansion</b> is achieved by • <b>faster</b> , • <b>softer</b> HP projectiles with • <b>wider</b> , • <b>deeper</b> HP cups, and • <b>expansion aids</b> (detachable tips, slits).	<b>■ Minimum <i>impact</i> velocities needed</b> to achieve hollow point (HP) expansion: • <b>800fps+</b> on impact: → most .22 HP pellets expand, and well • <b>700–800fps</b> : → many HP expand, and <i>fairly</i> well • <b>600–700fps</b> : → few expand, and often not by much	<b>■ Exception – if it needs to break through a tough skull:</b> In that case the projectile should: • have higher impact velocity (=threshold velocity) • be harder lead • be domed or pointed rather than with large meplat • have higher sectional density	<b>Abbreviations:</b> ME = muzzle energy in FPE   MV = muzzle velocity in fps   IV = impact velocity in fps   IE = impact energy in FPE   RBFx = rebounded from x   RBAx = rebounded as x   HP = hollow point   ∅ = average   \$ = expensive <b>Color Coding for Specs Evaluation:</b> Most specs are color coded to indicate if a spec is positive or negative – mostly for <i>pellet expansion</i> for a larger permanent wound cavity and for more <i>tissue crushing</i> : <b>green</b> = very conducive or positive   black = normal, or neither exceptionally positive nor negative   <b>orange</b> = marginal, somewhat negative   <b>red</b> = quite negative
--	--	---	--	--	--

## ■ Hollow Point Pellet Specs | Sorted acc. to Weight ■

Pellet selection made acc. to availability in the US (mostly).

				✕	✕	✕	non-US	✕	✕	✕		✕	✕	✕		✕			✕		non-US		✕	✕	✕	✕		
Brand + Quality in color	Gamo	RWS	Crosman	Crosman	Crosman	Gamo	Coal	Norica	Daisy	Gamo	Gamo	JSB	JSB	JSB	H&N	H&N	SIG	Skenco	JSB	Crosman	Norica	Skenco	H&N	H&N	H&N	Skenco	JSB	
Model	PBA Armor (\$)	Super-H-Point	Hollow Point	Piranha	Des-troyer	Rocket (\$)	Hollow Point	Hollow Point, RBF Apollo	Hollow Point (@ Spain V.3]	Red Fire (\$)	Expander	Hades	JSB Pred. Polymag Short (\$)	JSB Pred. Polymag (\$)	Hornet (\$\$)	Terminator	Zero Lead	UltraShock Hollow Point	JSB Pred. Metalmag (\$)	Gold Tipped (\$\$)	HollowPoint Copper, RBF Apollo	UltraMag Metal Tip	Crow Magnum	Baracuda Hunter	Baracuda Hunter Extreme	NewBoy Hollow Point	UltraShock Heavy (\$)	
Weight (gr) [For discrepancies cf. Notes]	10.65	14.20	14.30	14.30	14.30	14.53	14.66	15.00	15.27 <sup>V.3</sup> 15.40 <sup>V.2</sup>	15.42	15.42 <sup>V.2</sup> 15.43 <sup>V.1</sup>	15.89	15.89	16.00	16.20 <sup>V.2</sup> 16.00 <sup>V.1</sup>	16.36	16.66	16.66	17.00	17.40	18.00	18.20	18.21	18.21	18.52 <sup>V.2</sup> 19.09 <sup>V.1</sup>	20.37	25.39	
BC (some BC in [brackets] had to be estimated; sources of BC data below)	0.015 / 0.018 <sup>36</sup> 37	0.012 <sup>1</sup> / 0.011 <sup>13.9gr</sup> 2	0.020 <sup>6C</sup> / 0.023 <sup>1</sup> / 0.013 <sup>4</sup> / 0.027 <sup>6D</sup> / 0.019 <sup>15</sup>	0.014 <sup>1</sup>	0.017 / 0.027 <sup>1</sup>	0.019 <sup>1.37</sup>	[0.017] ?	[0.017] ?	[0.018] ?	0.019 / 0.016 <sup>1</sup>	0.019 / 0.023 <sup>36, 37</sup>	0.023 <sup>105</sup> / 0.021 <sup>18</sup>	0.023 <sup>1</sup>	0.024 <sup>6D</sup> / 0.022 <sup>2</sup> / 0.026 <sup>9</sup> / 0.028 <sup>17.0gr</sup> 1	0.024 <sup>V.2:1</sup> / 0.021 <sup>V.1: 0Y, 36</sup>	0.020 <sup>00</sup> / 0.021 <sup>1</sup>	[0.020] ?	[0.020] ?	0.028 <sup>1.34</sup> ?	[0.023] ?	[0.021] ?	[0.026] ?	0.021 <sup>0N, RB, 2, 3, 4, 5, 12 / 0.012<sup>1.6C</sup> / 0.017<sup>6D, 15</sup></sup>	0.025 <sup>2</sup> / 0.024 <sup>1</sup> / 0.026 <sup>0L</sup> / 0.028 <sup>7L</sup> / 0.028 <sup>OK</sup> / 0.033 <sup>26</sup>	0.026 <sup>V.2:2</sup> / 0.023 <sup>1</sup> / 0.027 <sup>V.1:</sup>	[0.022] ?	0.027 <sup>7D / 7K</sup> / 0.022	
High Velocity Tests good   marginal   bad												33y: 961 <sup>V1</sup> 66y: 961 <sup>V2</sup>	33y: 953 <sup>V3</sup> 66y: 938 <sup>V3</sup>	33y: 953 <sup>V1</sup> 66y: 953 <sup>V2</sup>	33y: 948 <sup>V1</sup> 66y: 948 <sup>V2</sup>							33y: Not <sup>V1, V2</sup>	33y: 901 <sup>V1</sup> 66y: 901 <sup>V2</sup> 50y: 950 <sup>V4</sup>	33y: 903 <sup>V1</sup> 66y: 903 <sup>V2</sup>				
Evaluation of Expansion + Crushing Probability*	2,3,0,6 = -2.5	0,1,1,3 = -3.0	0,1,2,2 = -2.5	0,2,1,3 = -2.5	1,2,1,1 = +0.5	2,4,0,0 = +4.0	?	0,4,1,0 = +1.5	2,1,2,0 = +1.5	4,2,0,0 = +5.0	1,3,0,3 = -0.5	0,6,1,0 = +2.5	2,4,0,0 = +4.0	2,4,0,0 = +4.0	1,4,1,2 = +0.5	0,4,1,1 = +0.5	?	2,1,2,0 = +1.5	2,2,2,0 = +2.0	1,2,3,0 = +0.5	1,1,3,0 = +0.0	0,4,2,0 = +1.0	3,1,1,0 = +3.0	1,3,1,0 = +2.0	2,3,4,0 = +1.5	3,1,1,0 = +3.0	2,2,0,1 = +2.5	
Meplat Width *x2 (=flat part of nose)	0.18"= 4.5mm	0.13"= 3.4mm	0.13"= 3.2mm	0.14"= 3.5mm	0.17"= 4.5mm	0.18"= 4.5mm	?	0.17"= 4.4mm	0.17"= 4.0mm	0.18"= 4.6mm	0.17"= 4.3mm	No Meplat, 3 Holes	0.18"= 4.5mm	0.18"= 4.5mm	0.17"= 4.3mm	0.18"= 4.5mm	?	0.18"= 4.6mm	0.17"= 4.2mm	0.16"= 4.1mm	0.17"= 4.2mm	0.19"= 4.7mm	0.19"= 4.8mm	0.17"= 4.4mm	0.15"= 3.9" <sup>mm</sup> Slits	0.21"= 5.3mm	0.19"= 4.8mm	
Lead Softness*	Extra!!!! Hard <sup>50%</sup>	Harder?	Harder	Harder	Harder	Softer?	Harder ?	Harder	Softer	Softer	Softer?	Softer	Softer	Softer	Harder	Harder	Softer ?	Harder	Softer	Harder	Harder	Harder	Harder	Harder	Harder	Harder	Harder	Softer?
Cup Width* If detachable tip: width of main cup, not tip channel w/ Ball	0.15"= 3.9mm	0.12"= 3.0mm	0.09"= 2.3mm	0.07"= 3.0mm	0.16"= 4.0mm	0.15"= 3.9mm	?	0.12"= 3.1mm	0.13"= 3.4mm	0.15"= 3.9mm	0.15"= 3.8mm	40% of 0.16"= 4.1mm	0.14"= 3.5mm	0.14"= 3.5mm	0.14"= 3.5mm	0.13"= 3.2mm	?	0.10"= 2.5mm	0.14"= 3.5mm	0.14"= 3.5mm	0.14"= 3.5mm	0.14"= 3.5mm	0.10"= 2.4mm	0.14"= 3.6mm	0.11"= 2.9mm	0.08"= 1.9mm; Slits: 0.15"=3.9	0.15"= 3.8mm	0.08"= 2.0mm
Cup Depth* If detachable tip: + add Tip Channel Depth (Narrow) for = Total Depth	0.10"= 2.4mm	0.03"= 0.7mm	0.06"= 1.5mm	0.06"= 1.5mm	0.02"= 0.5mm	0.10"= 2.4mm	?	0.05"= 1.1mm	0.07"= 1.8mm	∅0.05" + ∅0.10" = 0.15" // 1.3mm + ∅2.2mm = ∅3.4mm	?	0.04"= 1.0mm	0.04" + 0.11" = 0.15" // 1.0mm + 2.5mm = 3.5mm	0.05" + 0.10" = 0.15" // 1.3mm + 2.2mm = 3.5mm	?	[deep]	0.02"= 0.5mm	?	[deep]	0.05" + 0.10" = 0.15" // 1.3mm + 2.2mm = 3.5mm	?	[deep]	0.05"= 1.2mm	?	0.05"= 1.4mm	0.10"= 2.5mm	0.10"= 2.4mm	0.06"= 1.6mm
Expansion Aids: * • Slits? (predet. tearing pts.)		!!!! Head breaks off		8xSlits Domed								3xHoles Domed			Tip rarely detaches	5x Corners	5x Corners			copper coat=hard				4xSlits				
• Tip Detaches?	Yes				No	Yes				Yes	No		Yes	Yes	Yes–But	No	No		Yes	Yes		Yes						
Tip: Shape, Material	Short Blunt, CopperBall				Short Blunt, Metal	Short Blunt, CopperBall				Long Sharp, Plastic	Short Blunt, Metal		Long Sharp, Plastic	Long Sharp, Plastic	Long Sharp, Metal	Short Blunt <sup>V.2</sup> , Metal	Short Blunt, Metal		Long Blunt, Metal	Long Blunt, Metal		Short Sharp, Metal						

## ■ ME (FPE) Needed for Various Impact Velocities at Different Ranges (in Yards) ■

Brand	Gamo	RWS	Crosman	Crosman	Crosman	Gamo	Coal	Norica	Daisy	Gamo	Gamo	JSB	JSB	JSB	H&N	H&N	SIG	Skenco	JSB	Crosman	Norica	Skenco	H&N	H&N	H&N	Skenco	JSB
Model	PBA Armor	Super-H-Point	Hollow Point	Piranha	Des-troyer	Rocket	Hollow Point	Hollow Point, RBFApollo	Hollow Point @ Spain V.2]	Red Fire	Expander	Hades	JSB Pred. Polymag Short	JSB Pred. Polymag	Hornet	Terminator	Zero Lead	UltraShock Hollow Point	JSB Pred. Metalmag	Gold Tipped	HollowPoint Copper, RBFApollo	UltraMag Metal Tip	Crow Magnum	Baracuda Hunter	Baracuda Hunter Extreme	NewBoy Hollow Point	Ultra Shock Heavy
ME <sup>MV</sup> for 800fps @ 30y	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.4 <sup>941</sup>	—	—	36.9 <sup>955</sup>	—	37.4 <sup>962</sup>	37.5 <sup>955</sup>	—	50.7 <sup>948</sup>
ME <sup>MV</sup> for 800fps @ 25y	—	—	29.1 <sup>958</sup>	—	—	—	—	—	—	—	—	30.6 <sup>932</sup>	30.6 <sup>932</sup>	30.4 <sup>925</sup>	30.8 <sup>925</sup>	33.3 <sup>958</sup>	33.9 <sup>958</sup>	33.9 <sup>958</sup>	30.8 <sup>904</sup>	33.6 <sup>932</sup>	35.9 <sup>948</sup>	34.3 <sup>922</sup>	36.3 <sup>948</sup>	34.1 <sup>919</sup>	34.3 <sup>913</sup>	39.8 <sup>940</sup>	46.5 <sup>908</sup>
ME <sup>MV</sup> for 800fps @ 20y	—	—	27.4 <sup>929</sup>	—	29.1 <sup>958</sup>	28.4 <sup>938</sup>	29.9 <sup>959</sup>	30.6 <sup>959</sup>	30.7 <sup>947</sup>	30.1 <sup>937</sup>	30.0 <sup>937</sup>	29.1 <sup>909</sup>	29.1 <sup>909</sup>	29.0 <sup>903</sup>	29.4 <sup>904</sup>	31.3 <sup>929</sup>	31.9 <sup>929</sup>	31.9 <sup>929</sup>	29.7 <sup>887</sup>	31.9 <sup>909</sup>	34.0 <sup>921</sup>	32.3 <sup>894</sup>	34.3 <sup>921</sup>	32.6 <sup>898</sup>	32.9 <sup>894</sup>	37.7 <sup>915</sup>	44.6 <sup>890</sup>
ME <sup>MV</sup> for 700fps @ 50y	—	—	—	—	—	—	—	—	—	—	—	31.6 <sup>947</sup>	31.6 <sup>947</sup>	30.9 <sup>933</sup>	31.3 <sup>933</sup>	—	—	—	29.8 <sup>888</sup>	34.7 <sup>948</sup>	—	33.2 <sup>907</sup>	—	34.1 <sup>919</sup>	33.9 <sup>908</sup>	42.0 <sup>965</sup>	45.5 <sup>898</sup>

Brand + Quality in color	Gamo	RWS	Crosman	Crosman	Crosman	Gamo	Coal	Norica	Daisy	Gamo	Gamo	JSB	JSB	JSB	H&N	H&N	SIG	Skenco	JSB	Crosman	Norica	Skenco	H&N	H&N	H&N	Skenco	JSB
Model	PBA Armor (\$)	Super- H-Point	Hollow Point	Piranha	Des- troyer	Rocket (\$)	Hollow Point	Hollow Point, RBFApollo	Hollow Point [ @ Spain V.3]	Red Fire (\$)	Expander	Hades	JSB Pred. Polymag Short (\$)	JSB Pred. Polymag (\$)	Hornet (\$\$)	Termi- na- tor	Zero Lead	UltraShock Hollow Point	JSB Pred. Metalmag (\$)	Gold Tipped (\$\$)	HollowPoint Copper, RBFApollo	UltraMag Metal Tip	Crow Magnum	Baracuda Hunter	Baracuda Hunter Extreme	NewBoy Hollow Point	UltraShock Heavy(\$)
ME MV for 700fps @ 40y	—	—	26.9 <sup>920</sup>	—	—	28.3 <sup>937</sup>	—	—	31.2 <sup>956</sup>	30.0 <sup>936</sup>	30.0 <sup>936</sup>	27.4 <sup>882</sup>	27.4 <sup>882</sup>	27.0 <sup>872</sup>	27.3 <sup>872</sup>	30.7 <sup>919</sup>	31.3 <sup>920</sup>	31.3 <sup>920</sup>	26.8 <sup>842</sup>	30.1 <sup>882</sup>	32.7 <sup>905</sup>	29.6 <sup>856</sup>	33.1 <sup>905</sup>	30.1 <sup>863</sup>	30.1 <sup>855</sup>	35.9 <sup>893</sup>	40.6 <sup>849</sup>
ME MV for 700fps @ 30y	20.0 <sup>919</sup>	—	23.0 <sup>851</sup>	28.2 <sup>942</sup>	24.9 <sup>885</sup>	23.9 <sup>861</sup>	25.5 <sup>885</sup>	26.1 <sup>885</sup>	26.0 <sup>872</sup>	25.3 <sup>860</sup>	25.3 <sup>860</sup>	24.1 <sup>827</sup>	24.1 <sup>827</sup>	23.9 <sup>821</sup>	24.2 <sup>821</sup>	26.3 <sup>851</sup>	26.8 <sup>851</sup>	26.8 <sup>851</sup>	24.2 <sup>801</sup>	26.4 <sup>827</sup>	28.3 <sup>842</sup>	26.5 <sup>810</sup>	28.7 <sup>842</sup>	26.9 <sup>815</sup>	27.0 <sup>810</sup>	31.3 <sup>834</sup>	36.6 <sup>806</sup>
ME MV for 700fps @ 20y	16.3 <sup>830</sup>	24.0 <sup>872</sup>	20.0 <sup>794</sup>	22.5 <sup>842</sup>	21.0 <sup>813</sup>	20.6 <sup>799</sup>	21.5 <sup>813</sup>	22.0 <sup>813</sup>	22.2 <sup>806</sup>	21.8 <sup>799</sup>	21.8 <sup>799</sup>	21.5 <sup>780</sup>	21.5 <sup>780</sup>	21.4 <sup>777</sup>	21.7 <sup>777</sup>	22.9 <sup>794</sup>	23.3 <sup>794</sup>	23.3 <sup>794</sup>	22.1 <sup>765</sup>	23.5 <sup>780</sup>	24.8 <sup>789</sup>	24.0 <sup>771</sup>	25.2 <sup>789</sup>	24.2 <sup>774</sup>	24.4 <sup>771</sup>	27.7 <sup>784</sup>	33.2 <sup>768</sup>
ME MV for 600fps @ 40y	16.4 <sup>833</sup>	26.9 <sup>923</sup>	18.5 <sup>763</sup>	23.3 <sup>856</sup>	20.2 <sup>798</sup>	19.3 <sup>773</sup>	20.7 <sup>798</sup>	21.2 <sup>798</sup>	21.1 <sup>785</sup>	20.4 <sup>773</sup>	20.4 <sup>773</sup>	19.2 <sup>738</sup>	19.2 <sup>738</sup>	19.0 <sup>732</sup>	19.3 <sup>732</sup>	21.1 <sup>762</sup>	21.5 <sup>763</sup>	21.5 <sup>763</sup>	19.0 <sup>710</sup>	21.0 <sup>738</sup>	22.7 <sup>754</sup>	20.9 <sup>720</sup>	23.0 <sup>754</sup>	21.3 <sup>726</sup>	21.3 <sup>720</sup>	25.0 <sup>745</sup>	28.8 <sup>715</sup>
ME MV for 600fps @ 30y	13.8 <sup>763</sup>	20.9 <sup>815</sup>	16.3 <sup>717</sup>	19.2 <sup>777</sup>	17.4 <sup>741</sup>	16.9 <sup>724</sup>	17.9 <sup>741</sup>	18.2 <sup>740</sup>	18.3 <sup>732</sup>	17.9 <sup>724</sup>	17.9 <sup>724</sup>	17.3 <sup>700</sup>	17.0 <sup>695</sup>	17.2 <sup>695</sup>	17.4 <sup>695</sup>	18.7 <sup>717</sup>	19.0 <sup>717</sup>	19.0 <sup>717</sup>	17.5 <sup>680</sup>	18.9 <sup>700</sup>	20.1 <sup>710</sup>	19.1 <sup>687</sup>	20.4 <sup>711</sup>	19.3 <sup>691</sup>	19.4 <sup>687</sup>	22.4 <sup>705</sup>	26.4 <sup>684</sup>
ME MV for 600fps @ 20y	11.7 <sup>702</sup>	16.9 <sup>732</sup>	14.5 <sup>675</sup>	16.0 <sup>711</sup>	15.1 <sup>689</sup>	14.9 <sup>679</sup>	15.5 <sup>689</sup>	15.8 <sup>689</sup>	16.0 <sup>684</sup>	15.8 <sup>679</sup>	15.8 <sup>679</sup>	15.6 <sup>664</sup>	15.6 <sup>664</sup>	15.6 <sup>662</sup>	15.8 <sup>662</sup>	16.5 <sup>674</sup>	16.9 <sup>675</sup>	16.9 <sup>675</sup>	16.0 <sup>652</sup>	17.0 <sup>664</sup>	18.0 <sup>671</sup>	17.4 <sup>657</sup>	18.2 <sup>671</sup>	17.6 <sup>659</sup>	17.7 <sup>657</sup>	20.1 <sup>688</sup>	24.0 <sup>654</sup>
Range for 800fps @ 26FPE	—	10	17	12	14	15	13	12	11	12	12	12	12	12	10	8	7	7	8	4	1	1	—	—	—	—	—
Range for 750fps @ 26FPE	—	16	27	19	23	25	22	20	20	21	21	23	23	24	22	18	17	17	22	16	12	13	11	13	12	2	—
Range for 700fps @ 26FPE	—	23	38	27	32	35	31	30	30	32	32	36	36	37	36	29	28	28	37	29	24	28	23	27	26	14	—
Range for 650fps @ 26FPE	—				43	47		40	41	43			50	51		42							36	43		28	
ME for 950fps MV	—	28.5	28.7	28.7	28.7	29.1	29.4	30.1	30.9	30.9	30.9	31.8	31.8	32.1	32.5	32.8	33.4	33.4	34.1	34.9	36.1	36.5	36.5	36.5	37.1	40.7	50.9
Length mm										8.9			8.8	10.4	9.6				10.2	9.8		7.6					8.47
Length in										.349"			0.345"	0.409"	0.378"				0.402"	0.385"		0.299"					0.334"
Brand	Gamo	RWS	Crosman	Crosman	Crosman	Gamo	Coal	Norica	Daisy	Gamo	Gamo	JSB	JSB	JSB	H&N	H&N	SIG	Skenco	JSB	Crosman	Norica	Skenco	H&N	H&N	H&N	Skenco	JSB
Model	PBA Armor	Super- H-Point	Hollow Point	Piranha	Des- troyer	Rocket	Hollow Point	Hollow Point, RBFApollo	Hollow Point [ @ Spain V.2]	Red Fire	Expander	Hades	JSB Pred. Polymag Short	JSB Pred. Polymag	Hornet	Termi- na- tor	Zero Lead	UltraShock Hollow Point	JSB Predator Metalmag	Gold Tipped	Hollow Point Copper	UltraMag Metal Tip	Crow Magnum	Baracuda Hunter	Baracuda Hunter Extreme	NewBoy Hollow Point	Ultra Shock Heavy
				✕	✕	✕	non-US	✕	✕	✕		✕	✕	✕		✕			✕		non-US		✕	✕	✕	✕	

■ Notes ■

Notes cf. next page!

\* Evaluation of Expansion and Crushing Probability

This is calculated taking into account the following factors, each evaluated on a color-coded scale from **green bold underlined** over **green** and **orange** to **red** (best to worst):

- Lead Softness | •Cup Width | •Cup Depth | •Expansion Aids
- Meplat Width (this counts double as it directly affects the amount of crushed tissue, the wider the more crushed tissue)

Not taken into account: 

- BC (because this is already taken into account when calculating the max. range for certain minimum impact velocities)
- Tip: Shape, Material

Explanation: The evaluation line has *four* numbers, and *one* end result. The first four numbers are really only a calculation aid, each of the represents a counter:

- **The first number** counts how many **green bold underlined** factors the pellet has scored. This number will be multiplied by +1.0 points for the end result.
- **The second number** counts how many **green factors** the pellet scored. This number will be multiplied by +0.5.
- **The third number** counts how many **orange factors** the pellet scored. This number will be multiplied by -0.5.
- **The fourth number** counts how many **red factors** the pellet scored. This number will be multiplied by -1.0.

Example of an evaluation line: **0,2,1,3 =-2.5** |

Calculation: **0** x +1.0 + **2** x +0.5 + **1** x -0.5 + **3** x -1.0 = -2.5 total evaluation

The total evaluation is also color coded, from best to worst: from **green bold underlined** over **green** and **orange** to **red**.

Rebranding (RBA = rebranded as):

H&N: Baracuda Hunter → RBA Remington: Baracuda Hunter

JSB: Ultra Shock Heavy → RBA Cometa: Ultra Shock Heavy

H&N: Crow Magnum → RBA Remington: Crow Magnum

Crosman: Destroyer → RBA Benjamin: Pointed Expanding

H&N: Baracuda Hunter → RBA Stoeger: X-Hollow

Crosman: Hollow Point → RBA Benjamin: Hollow Point

Daisy: Hollow Point V.2 15.40gr [V.3 is 15.27gr] → RBA BSA: Interceptor → RBA Gamo: Hollow Point 10X Multishot

H&N (since 2021): Terminator → RBA BSA: Silverstar

H&N (since 2021): Baracuda Hunter → RBA BSA: Blackstar

ME (Muzzle Energy in FPE) Needed for Various Impact Velocities at Different Ranges:

Calculations based on the (tentative) BC values listed in the table. | Atm.: 29.95"Hg (1013mBar) [local], 68°F (20°C), 65% RH | Calc.: ChairGun Mobile, GA drag model. | No MV is given above 960fps, as precision and BC deteriorate at transonic velocities, especially for such blunt projectiles as HP. Some of the more bluntly shaped HP might very well require much slower velocities to maintain precision. | The calculations assume a constant BC, however drag increases disproportionately at transonic velocities. This is *especially* so for totally blunt projectiles like wadcutters and their slightly less blunt cousins, the hollow point pellets. Therefore, when the chart calls for an MV of over 850 or 900fps the required muzzle energy/ muzzle velocity is likely to be higher than indicated (cf. Bob Sterne, 2019; <https://www.gatewaytoairguns.org/GTA/index.php?topic=159961.msg155778343#msg155778343> ).

High Velocity Precision Tests: V1 <https://www.youtube.com/watch?v=gI2BAQLK7A> | V2 <https://www.youtube.com/watch?v=hnHHUNhuJh4> | V3 <https://www.youtube.com/watch?v=gI2BAQLK7A> | V4 <https://www.airgunnation.com/topic/hunting-pellets-25/#post-1218981>

BC Data:

Comments: •For the expansion of the HP the impact velocity (IV) is immensely important. IV depends strongly on the pellet's BC, especially beyond extreme short ranges. Therefore, instead of relying on weak data, I suggest you measure actual velocity with your actual gun at different ranges, using a (protected!) chronograph. | •Due to the less than aerodynamic shape of most hollow points it is likely that the BC will significantly deteriorate above 900fps, as most have "the aerodynamic grace of a frying pan" so some of the usable range data might be a bit optimistic as it assumes a constant BC (thanks to nervoustrigger [GTA] for the graphic illustration). | •The BC values in this table are based on tests under a variety of conditions and with sometimes questionable methods. | •Where BC data was not available, I made a conservative estimation (indicated by the brackets and the ?), in line with the weight and the BC of similarly shaped pellets. | •Below the sources of the BC data in the table are listed. They indicate the following: Author (Year). List-or-Test. Drag-Model. ME. Range | •Sources of BC data: **0F,0H,0I,0K,0L** H&N (2013-12). Test. G1-Model. 30FPE. 50y. | **0O** H&N (2013-12). Test. G1-Model. 31FPE. 50y. | **0V,0W,0Y** H&N (2015-04). 30FPE (probably). G1-Model. 50y. | **1** Hard Air Magazine (2019-00). Test. ChairGun Calc, GA-Model. 29FPE. 30y. | **1B** Hard Air Magazine (2020-08) [same as Test 1]. | **1C** Hard Air Magazine (2021-09) [same as Test 1]. | **2** ChairGun V 4.3.1. (2017). List. GA-Model Calc. Some data from the APP. | **3** ChairGun (2009-07). List. G1-Model Calc. | **4** ChronoConnect.com (2012 and Older). List. | **5** Airgunforum.co.uk (2006-02 -- 2008-11). List. | **6C** Bob Sterne (2007 c.). Test. ChairGun Calc, G1-Model. 8FPE. 25y. | **6D** Bob Sterne (2007 c.). Test. ChairGun Calc, G1-Model. 25FPE. 25y. | **7G** ASRA (2017). Test. GA-Model. 32FPE. 31y. | **7K** ASRA (2017). Test. GA-Model. 35FPE. 50y. | **7L** ASRA (2017). Test. GA-Model. 32FPE. 38y. | **7Q** ASRA (2016). Test. ChairGun 4 Calc, GA-Model. 49FPE. 32y. | **12** MTC Optics.com (2017 and Much Older). List. | **15** AirEnlaces.Blogspot (2015 and Older). List. | **26** Bob Sterne (2013). Test. ChairGun3, G1-Model. 26FPE. 25y. | **34** Test T (2019). BC Calc through POI Change, ChairGun Calc, GA-Model. 28FPE. 28,55,110y. | **36** Strelak Pro (2020-06 and much earlier). List. | **37** Gamo.com (2019 and earlier). Optimistic test without any specifics whatsoever. | **105** Test V (2019). GA-Model. Labrador. 30FPE. 11,22,33,44,55,111y.

**Weight Discrepancies:** Some weights are stated wrong on sellers' websites. The weights in the table are taken from the manufacturers' websites, or from photos of pellet can labels. The Gamo Rocket is 14.50gr, not 14.30gr. The Gamo PBA Armor is 10.85gr, not 10.65gr. The Daisy HP is now (2020) 15.27gr, but that is different than very similarly looking pellets from Gamo and BSA that have a stated weight of 15.40gr.

**Disclaimers:** I try to be cautious with the details, but I'm only human...! The data for meplat and HP cup width are usually calculated by measuring size relations in enlarged photos, and the HP cup depth I measured with rather inadequate tools, so if someone has more accurate data, I gladly include it! For getting the lead softness spec beyond a guesstimation, I recently acquired a kit to measure that – but that'll take some time before I get to that.

**Versions:** Mfctrs update or change their pellet designs sometimes, without renaming them. This list refers to these variations as *versions*, e.g., V.1, V.2, V.3, etc.

**Lead Softness:** H&N wrote me (9Jul20): "We use for our diabolos the same alloy (99.5 Pb and 0.5% Sb [antimony]). The slugs on the other hand are made from almost 100% Pb."