

# Magnum Big Block Chevy

- Drag Racing • Power Boats • Tractor Pulls
- Extreme Street Machines



Years of research and development have been invested to bring you the ultimate in bolt on performance for your Big Block Chevrolet. AFR is proud to introduce our new line of BB Chevy Aluminum cylinder heads. All four AFR Big Block heads feature the highest flow numbers in their class. Our new, highly efficient port designs outflow the competition at every lift-point, even those with considerably larger runner volumes. An exclusive new combustion chamber design provides impressive swirl figures and help our heads generate big low and mid-lift airflow numbers. Considerable time has been spent to bring you a cylinder head which maximizes the entire flow curve, not just the big peak numbers. This aids in a much better “cylinder fill” and dramatically increases engine “average” airflow consumption (also spelled Horsepower!) Our high velocity port designs help enhance engine acceleration as well as torque output. Structural features like our trademark 3/4” head deck (a must for blown or nitrous engines), reinforced rocker stud bosses, and thick wall runners provide unparalleled durability, helping to create the strongest Big Block Chevy castings available today. Both intake and exhaust valve angles have been rolled two degrees to improve flow characteristics and provide a more efficient burn in the combustion chamber. Our fully CNC ported competition packages will be offered with intake port volumes of 315, 335, 357 and 375cc, one of which is sure to provide a solution for any rpm or cubic inch requirement. Our Race Ready versions will feature “as cast” ports and combustion chambers with intake ports

available at 305, 325, and 345cc’s. Our combustion chamber volume will be standard at 107cc as cast in race ready trim while our fully CNC ported versions will be 121cc’s. Premium stainless steel one piece valves, chrome silicon 1.625” roller springs, and 10 degree chrome moly steel locks and retainers will come standard. Titanium valves, retainers, and different spring packages will be available as options. Be sure to ask your sales technician for details on customizing these heads to fit your exact requirements. Finally, a world class, true bolt-on performance piece for your Big Block Chevy, with no special parts required (see footnotes page 47). Educate yourself before purchasing your next set of BB Chevy cylinder heads, and we are confident you will choose AFR!!

**NOTE:** With some domed aftermarket pistons, it may be necessary to slightly clearance or modify the piston due to our more modern (efficient) heart shaped combustion chamber design. Most of the newer manufacturer’s dome profiles will clear. Note that usually less than 1 cc of aluminum is removed which only equates to a weight reduction in the piston of one to two grams. If your rotating assembly is already balanced this is a non-event and creates a VERY slight overbalance which in theory brings your engine into a better balance at slightly higher RPM. While some of you might be inclined to remove the material from the actual cylinder head note that all of the combustion chamber shapes are very critical to flow and altering the cylinder head can and will effect flow and power production. The easiest way to check for this is turning the engine over slowly with the cylinder head installed without the head gasket. See web site for more details.

# 265cc Oval Port Magnum BBC "As Cast"

Small Port, High Velocity,  
Torque Monster



## Specifications, Features, and Optional Supporting Components

Head Torque -----75 Ft. Lbs.  
Intake Port Volume (as cast)----- 265cc  
Intake Port Gasket -----Fel-Pro #1212, AFR #6857

**Important:** Do not port match your intake manifold to Fel-Pro gasket not as it does precisely fit AFR heads.

Intake Valve Size 2.190----- AFR# 7601  
Exhaust Port Volume (as cast) ----- 115  
Exhaust Port Gasket ----- AFR #6858  
Exhaust Valve Size 1.880----- AFR #7630  
Head Gasket ----- 4.370 bore, Fel Pro #1027, AFR #6851  
----- 4.540 bore, Fel Pro #1017, AFR #6850  
Head Bolts & Studs ----- Standard ARP, AFR #6308, #6307  
Head Bolt Washers ----- Manley, AFR #6320  
Stud Girdle----- AFR #6210  
Sugg.. Manifold----- Vic Jr, RPM Performer, Wieand Stealth  
Spark Plug Starting Range ----- Autolite 3935  
Combustion Chambers ----- As Cast 107cc CNC 112cc  
Spring Pocket can be cut to 1.750, no deeper.  
Valve Spacing----- Standard  
Rocker Arms----- Standard  
Valve Angle ----- 24°/4° Intake, 15°/4° Exhaust  
Angle Mill (milling options available), 97cc Maximum----- .009" per cc  
Flat Mill (milling options available), 102cc Maximum ----- .006" per cc

**Note:** Milling Head Deck Will Affect Flow Numbers Angle mills might require a .120 thick intake gasket.

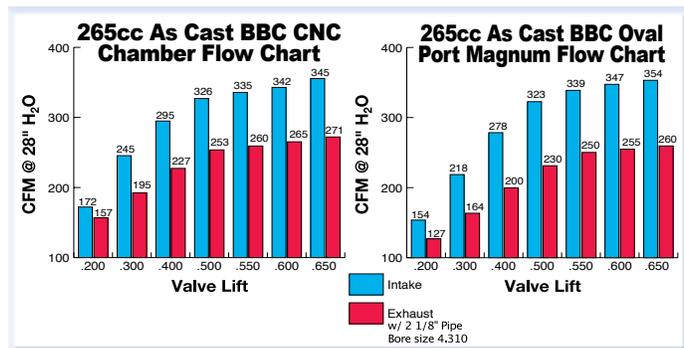
Want to wake up the Big Block in your favorite tow vehicle? AFR's 265cc high velocity oval port is just the ticket! They are also ideal on smaller cubic inch street performance applications (396-468 CID), providing "gobs" of bottom end torque, tremendous throttle response, and great all around power. With AFR's trademark 3/4" deck, reinforced rockerstud bosses, and thick rugged castings, you can own the strongest and most efficient heads on the market today. Premium hardware such as 2.19/1.880 one piece stainless valves, 1.550 double springs, 10 degree locks and retainers, and high quality studs and guideplates all come as standard equipment. Take note the higher flowing exhaust ports are raised .375 over stock location, and therefore these heads might not be a direct bolt-on in every application. These heads have no EGR and are not emissions legal. (see footnotes page 47)

**Note:** Optional stud girdle required for 2° rolled valve angles and 1" longer head bolts needed on four bottom exhaust bolt holes.

**Note:** With some domed aftermarket pistons, it may be necessary to slightly clearance or modify the piston due to our more modern (efficient) heart shaped combustion chamber design. Most of the newer manufacturer's dome profiles will clear. Note that usually less than 1 cc of aluminum is removed which only equates to a weight reduction in the piston of one to two grams. If your rotating assembly is already balanced this is a non-event and creates a VERY slight overbalance which in theory brings your engine into a better balance at slightly higher RPM. While some of you might be inclined to remove the material from the actual cylinder head note that all of the combustion chamber shapes are very critical to flow and altering the cylinder head can and will effect flow and power production. The easiest way to check for this is turning the engine over slowly with the cylinder head installed without the head gasket. See web site for more details.

Pairs of Cylinder Heads Complete With Parts & Ready To Install			
Runner Volume	Combustion Chamber	Part #	
<b>Competition Package (CNC Ported Heads With No Parts)</b>			
265cc As Cast w/o Parts w/ CNC bowl blend	107cc	3600	
265cc As Cast w/Hydraulic Roller Springs w/ CNC bowl blend	107cc	3610	
265cc As Cast w/Solid Roller Springs CNC bowl blend	107cc	3620	
265cc As Cast w/o Parts w/ CNC Chambers & CNC bowl blend	112cc	3600-1	
265cc As Cast w/Hydraulic w/ CNC Chambers Roller Springs & CNC bowl blend	112cc	3610-1	
265cc As Cast w/solid Roller Springs CNC Chambers & CNC bowl blend	112cc	3620-1	

Basic Package Components	Part #
40% CNC Ported Exhaust Ports (Bowl Blend) 80% CNC Ported Intake Ports (Bowl Blend) & Gasket Port Match 3-angle Valve Job/Radiused Exhaust	
Intake Valve, 2.190" stainless steel	AFR #7601
Exhaust Valve, 1.880" stainless steel	AFR #7630
1.550" O.D. Hydraulic Dual Valve Spring with dampener, 170 lbs. on seat, 430lb open	AFR #8002
1.625 O.D. Solid Roller Spring 255 lbs. on seat, 633 lbs. open	AFR #8031
10° 1.450 Chrome Moly Retainers	AFR #8511
10° Valve Locks	AFR #9005
Guide Plates	AFR #6109
Viton Valve Seals	AFR #6611
Hardened Spring Seat	AFR #8045
Intake Valve Seats	AFR #9065
Exhaust Valve Seats	AFR #9064
Bronze Valve Guides Intake	AFR #9045
Bronze Valve Guides Exhaust	AFR #9046
AFR BB Chevy 7/16 Exhaust Studs	AFR #6406
AFR BB Chevy 7/16 Intake Studs	AFR #6407



# 290cc Oval Port Magnum

The Ultimate Street Strip Weapon



## Specifications, Features, and Optional Supporting Components

Head Torque	-----75 Ft. Lbs.
Intake Port Gasket	-----Fel-Pro# 1212, AFR# 6857
<b>Important: Do not port match your intake manifold to Fel-Pro gasket as it does not precisely fit AFR heads.</b>	
Exhaust Port Volume (as cast)	----- N/A
Exhaust Port Gasket	----- AFR #6858
Exhaust Valve Size 1.880	----- AFR# 7630
Head Gasket	----- 4.370 Bore Fel Pro #1027, AFR #6851
	----- 4.540 Bore Fel Pro #1017, AFR #6850
Head Bolts & Studs	----- Standard ARP, AFR #6308 & #6307
Head Bolt Washers	----- Manley, AFR #6320
Suggested Manifold	-----Victor Jr, RPM Performer, or Weiland Stealth
Spark Plug Starting Range	-----Autolite 3935
Combustion Chambers	----- As Cast 107cc CNC 112cc
Spring Pocket can be cut to 1.750, no deeper.	
Stud Girdle	----- AFR# 6210
Valve Spacing	----- Standard
Rocker Arms	----- Standard
Valve Angle	----- 24°/4° Intake 15°/4° Exhaust
Angle Mill (milling options available)	-----97cc Maximum .009/cc
Flat Mill (milling options available)	----- 102cc Maximum .006/cc

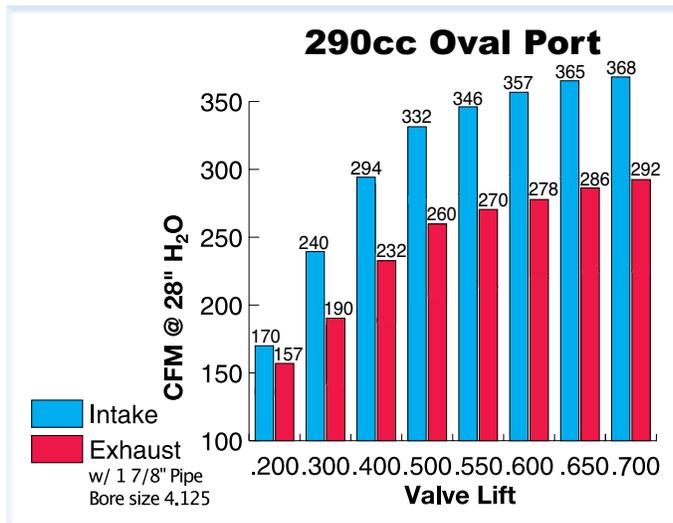
**Note: Milling Head Deck Will Affect Flow Numbers. Angle mills might require a .120 thick intake gasket**

For the ultimate in "Oval Port" performance, the fully CNC ported AFR 290 has no competition. With flow figures most small to medium sized rectangular port castings would be envious of, these high flowing "Ovals" produce tremendous airspeed and really pack a punch. Ideally suited for 296-509 CID street and strip performance, as well as circle track applications which require strong low and mid-range torque to help accelerate a car coming off a corner. Once again, AFR has included it's trademark 3/4" deck, reinforced rocker stud bosses, and thick rugged castings, so you can own the strongest and most efficient heads on the market today. Premium hardware such as 2.25/1.880 one piece stainless valves, 1.550 double springs, 10 degree locks and retainers, and high quality studs and guideplates all come as standard equipment. Take note the higher flowing exhaust ports are raised .375 over stock location, and therefore these heads might not be a direct bolt-on in every application. These heads have no EGR and are not emissions legal. (see footnotes page 47)

**Note:** Optional stud girdle required for 2° rolled valve angles and 1" longer head bolt needed on four bottom exhaust bolt holes.

Pairs of Cylinder Heads Complete With Parts & Ready To Install			
Runner Volume		Combustion Chamber	Part #
<b>Competition Package Ported Heads</b>			
290cc	CNC Ported w/o Parts	121cc	3630
290cc	CNC Ported w/ Hydraulic 1.550 OD Roller Springs	121cc	3640
290cc	CNC Ported w/ 1.625 OD Solid Roller Springs	121cc	3650

Basic Package Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports 3-angle Valve Job/Radiused Exhaust	
Intake Valve, 2.250" stainless steel	AFR #7620
Exhaust Valve, 1.880" stainless steel	AFR #7630
1.550" O.D. Hydraulic Roller Dual Valve Spring with dampener, 170 lbs. on seat, 430 lbs open	AFR #8002
1.625 O.D. Solid Roller Spring 255 lbs. on seat, 633 lbs. open	AFR #8031
10° 4140 Chrome Moly Retainers	AFR #8511
10° Valve Locks	AFR #9005
Guide Plates	AFR #6109
Viton Valve Seals	AFR #6611
Hardened Spring Seat	AFR #8045
Intake Valve Seats	AFR #9065
Exhaust Valve Seats	AFR #9064
Bronze Valve Guides Intake	AFR #9045
Bronze Valve Guides Exhaust	AFR #9046
AFR BB Chevy 7/16 Exhaust Stud	AFR #6406
AFR BB Chevy 7/16 Intake Stud	AFR #6407



\*See Web Page for Latest Flow Numbers

# 305/315cc Magnum BBC

AFR's Torque Monster



## Specifications, Features, and Optional Supporting Components

Head Torque -----75 Ft. Lbs.  
 Intake Port Gasket, 1.700" x 2.430" with 1/2" radius ----- AFR #6855  
 ----- Fel-Pro #1211

**Important:** Do not port match your intake manifold to Fel-Pro gasket as it does not precisely fit AFR heads.

Exhaust Port Gasket ----- AFR #6858  
 Head Gasket ----- 4.540 bore, Fel Pro #1017, AFR #6850  
 ----- Mark V-VI-up to 4.500 Bore Fel-Pro #17048 or #1047  
 ----- Mark V-VI-4.500 to 4.600 Bore Fel-Pro #17049  
 Head Bolts & Studs ----- Standard ARP, AFR #6308, #6307 & 6306  
 Head Bolt Washers ----- Manley, AFR #6320  
 Stud Girdle ----- AFR #6210  
 Sugg.. Manifold ----- Edelbrock #2907 & #2927, AFR #5500 & #5502  
 ----- Dart #6200, #6201, #6202 & #6203  
 ----- Brodix HVH #2000, #2001, #2005 & #2006

Spark Plug Starting Range ----- Champion C59C Autolite 3932  
 Combustion Chambers ----- As Cast 115cc CNC 121cc  
 Spring Pocket can be cut to 1.750, no deeper.

Valve Spacing ----- Standard  
 Rocker Arms ----- Standard  
 Valve Angle ----- 24°/4° Intake, 15°/4° Exhaust  
 Angle Mill (milling options available), 104cc Maximum ----- .009" per cc  
 Flat Mill (milling options available), As Cast 108cc CNC 114cc Maximum .006" per cc

Note: Milling Head Deck Will Affect Flow Numbers. Angle mills might require a .120 thick intake gasket

### Pairs of Cylinder Heads Complete With Parts & Ready To Install

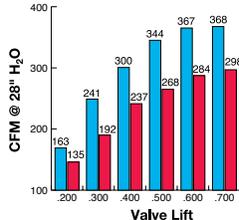
Runner Volume	Combustion Chamber	Part #
<b>Competition Package (CNC Ported Heads With No Parts)</b>		
305cc As Cast w/o Parts w/ CNC bowl blends	115cc	3050
305cc As Cast w/Parts w/ CNC bowl blends	115cc	2100
305cc As Cast w/o Parts w/ CNC chambers & CNC bowl blends	121cc	3050-1
305cc As Cast w Parts CNC chambers & CNC bowl blends	121cc	2100-1
315cc CNC Ported w/o Parts	121cc	3150
315cc CNC Ported w/Parts	121cc	2000

The smallest intake volume runners in our line-up, but don't let size fool you. Our 305cc "As Cast" with CNC bowl blends or fully CNC ported 315cc cylinder heads will provide you with flow numbers most medium sized heads, and some larger, can only dream about. This line was designed to optimize low and mid-lift airflow, while still generating impressive peak figures. Their application should be focused on smaller cubic inch Big Blocks (396-502), with a primary operating range of 2500-6800 rpm's (this range is an average and will vary with engine displacement as well as component selection). These heads should also be given strong consideration in larger street driven or marine applications up to 555 CID, where low rpm power and drivability are a factor. The 315 version is extremely versatile with its incredibly strong low and midlift airflow figures as well as peak numbers approaching the 400 CFM mark. Either one of these two cylinder heads would be a great choice if you're looking for big torque, strong low rpm performance, and still have good rpm capabilities. Both the 305cc and the 315cc come standard with AFR's trademark .750" thick head deck, reinforced rocker stud bosses, and are equipped with premium one piece stainless steel 2.250" intake valves and 1.880" exhaust valves. Standard combustion chamber volume is 115 cc's on the 305 "As Cast" pieces, while our fully CNC ported 315cc version comes with a 121cc chamber. Properly selecting the correct cylinder head for an application depends on a large number of variables. Please consult with one of our sales technicians to help assist you in making the best decision for your particular application.

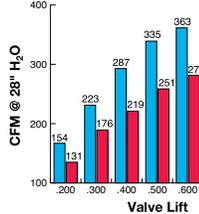
Note: Optional stud girdle required for 2° rolled valve angles and 1" longer head bolts needed on four bottom exhaust bolt holes. Longer push rods might also be required.

See footnotes on page 47 regarding BBC dome piston clearance.

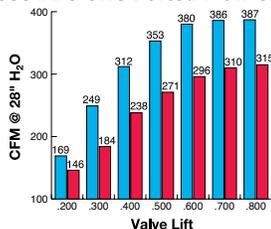
305cc BBC "As Cast" CNC Chambers Flow Chart



305cc BBC "As Cast" Flow Chart



315cc BBC CNC Ported Flow Chart



Intake  
 Exhaust w 2 1/8" Pipe Bore Size 4.600

### Basic Package Components

### Part #

Basic Package Components	Part #
<b>Competition 5-angle Valve Job</b>	
Intake Valve, 2.250" stainless steel	AFR #7620
Exhaust Valve, 1.880" stainless steel	AFR #7630
1.625" OD Roller Dual Valve Spring with dampener, 255 lbs. on seat, .750" maximum lift	AFR #8031
10° Chrome Moly Retainers	AFR #8511
10° Chrome Moly Valve Locks	AFR #9005
Viton Valve Seals	AFR #6611
Hardened Spring Cup	AFR #8046
Intake Valve Seats	AFR #9062
Exhaust Valve Seats	AFR #9064
Bronze Valve Guides Intake	AFR #9045
Bronze Valve Guides Exhaust	AFR #9046
AFR BB Chevy 7/16" Exhaust Stud	AFR #6406
AFR BB Chevy 7/16" Intake Stud	AFR #6407
Guide Plates	AFR #6109

# 325/335cc Magnum BBC

AFR's Best of Both Solution



## Specifications, Features, and Optional Supporting Components

Head Torque ----- 75 Ft. Lbs.  
 Intake Port Gasket, 1.720" x 2.450" with 1/2" radius ----- AFR #6855  
 ----- Fel-Pro #1211

**Important:** Do not port match your intake manifold to Fel-Pro gasket as it does not precisely fit AFR heads.

Exhaust Port Gasket ----- AFR #6858  
 Head Gasket ----- 4.540 bore, Fel Pro #1017, AFR #6850  
 ----- Mark V-VI-up to 4.500 Bore Fel-Pro #17048 or #1047  
 ----- Mark V-VI-4.500 to 4.600 Bore Fel-Pro #17049

Head Bolts & Studs ----- Standard ARP, AFR #6308, #6307 & #6306  
 Head Bolt Washers ----- Manley, AFR #6320  
 Stud Girdle ----- AFR #6210  
 Sugg.. Manifold ----- Edelbrock #2907 & #2927, AFR #5500 & #5502  
 ----- Dart #6200, #6201, #6202 & #6203  
 ----- Brodix HVH #2000, #2001, #2005 & #2006

Spark Plug Starting Range ----- Champion C59C Autolite 3932  
 Combustion Chambers ----- As Cast 115cc CNC 121cc  
 Spring Pocket can be cut to 1.750, no deeper -----

Valve Spacing ----- Standard  
 Rocker Arms ----- Standard  
 Valve Angle ----- 24°/4° Intake, 15°/4° Exhaust  
 Angle Mill (milling options available), 104cc Maximum ----- .009" per cc  
 Flat Mill (milling options available), As Cast 108cc CNC 114cc Maximum .006" per cc

**Note:** Milling Head Deck Will Affect Flow Numbers. Angle mills might require a .120 thick intake gasket

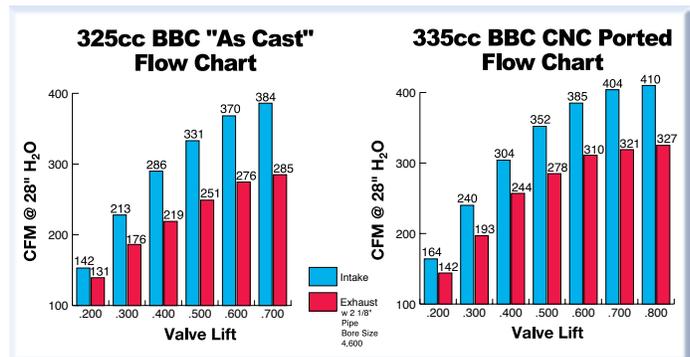
Are you looking for big torque and big horsepower numbers? Our BB Chevy line of medium volume intake runners will provide you with exactly that. The phrase "having your cake and eating it to" would certainly be appropriate with their moderately sized intake runners producing tremendous flow figures across the entire lift range (Our CNC 335 flows 410 CFM!). These high flow/high velocity ports provide extreme versatility and fill the needs of many applications. From a max-effort high compression 454 to a 605 CID low rpm marine application, either one of these cylinder heads would be a great choice. These heads would also be ideal in a larger cubic inch "Pro-Street" application with their broad torque range, as well as significant rpm and horsepower capability. These cylinder heads will work best with a primary operating range of 3000-7000 rpm's (This range is an average and will vary with engine displacement as well as component selection). Both the 325cc and the 335cc come standard with AFR's trademark .750" thick head deck, reinforced rocker stud bosses, and are equipped with premium one piece stainless steel 2.300" intake valves and 1.880" exhaust valves. Standard combustion chamber volume is 115cc's on our 325 "As Cast" pieces, while the fully CNC ported 335 version comes with a 121cc chamber. Properly selecting the correct cylinder head for an application depends on a large number of variables. Please consult with one of our sales technicians to assist you in making the best decision for your particular application.

**Note:** Optional stud girdle required for 2° rolled valve angles and 1" longer head bolts needed on four bottom exhaust bolt holes. Longer push rods might also be required.

See footnotes on page 47 regarding BBC dome piston clearance.

Pairs of Cylinder Heads Complete With Parts & Ready To Install			
Runner Volume		Combustion Chamber	Part #
<b>Competition Package (CNC Ported Heads With No Parts)</b>			
325cc	As Cast w/o Parts w/ CNC bowl blends	115cc	3250
325cc	As Cast w/Parts w/ CNC bowl blends	115cc	2101
325cc	As Cast w/o Parts w/ CNC Chambers & CNC bowl blends	121cc	3250-1
325cc	As Cast w/Parts CNC Chambers & CNC bowl blends	121cc	2101-1
335cc	CNC Ported w/o Part	121cc	3350
335cc	CNC Ported w/Parts	121cc	2001

Basic Package Components	Part #
<b>Competition 5-angle Valve Job</b>	
Intake Valve, 2.300" stainless steel	AFR #7626
Exhaust Valve, 1.880" stainless steel	AFR #7631
1.625" OD Roller Dual Valve Spring with dampener, 255 lbs. on seat, .750" maximum lift	AFR #8031
10° Chrome Moly Retainers	AFR #8511
10° Chrome Moly Valve Locks	AFR #9005
Viton Valve Seals	AFR #6611
Hardened Spring Cup	AFR #8046
Intake Valve Seats	AFR #9062
Exhaust Valve Seats	AFR #9064
Bronze Valve Guides Intake	AFR #9045
Bronze Valve Guides Exhaust	AFR #9046
AFR BB Chevy 7/16" Exhaust Stud	AFR #6406
AFR BB Chevy 7/16" Intake Stud	AFR #6407
Guide Plates	AFR #6109



# 345/357cc Magnum BBC

AFR's Magnum Series



## Specifications, Features, and Optional Supporting Components

- Head Torque ----- 75 Ft. Lbs.
- Intake Port Gasket, 1.775" x 2.500" with 1/2" radius ----- AFR #6856
- Fel-Pro #1275
- Important:** Do not port match your intake manifold to Fel-Pro gasket as it does not precisely fit AFR heads.
- Exhaust Port Gasket ----- AFR #6858
- Head Gasket ----- 4.540 bore, Fel Pro #1017, AFR #6850
- Mark V-VI-up to 4.500 Bore Fel-Pro #17048 or #1047
- Mark V-VI-4.500 to 4.600 Bore Fel-Pro #17049
- Head Bolts & Studs ----- Standard ARP, AFR #6308, #6307 & #6306
- Head Bolt Washers ----- Manley, AFR #6320
- Stud Girdle ----- AFR #6210
- Sugg.. Manifold ----- Edelbrock #2907 & #2927, AFR #5500 & #5502
- Dart #6200, #6201, #6202 & #6203
- Brodix HVH #2000, #2001, #2005 & #2006
- Spark Plug Starting Range ----- Champion C59C Autolite 3932
- Combustion Chambers ----- As Cast 115cc CNC 121cc
- Spring Pocket can be cut to 1.750, no deeper.
- Valve Spacing ----- Standard
- Rocker Arms ----- Standard
- Valve Angle ----- 24°/4° Intake, 15°/4° Exhaust
- Angle Mill (milling options available), 104cc Maximum ----- .009" per cc
- Flat Mill (milling options available), As Cast 108cc CNC 114cc Maximum .006" per cc
- Note:** Milling Head Deck Will Affect Flow Numbers. Angle mills might require a .120 thick intake gasket

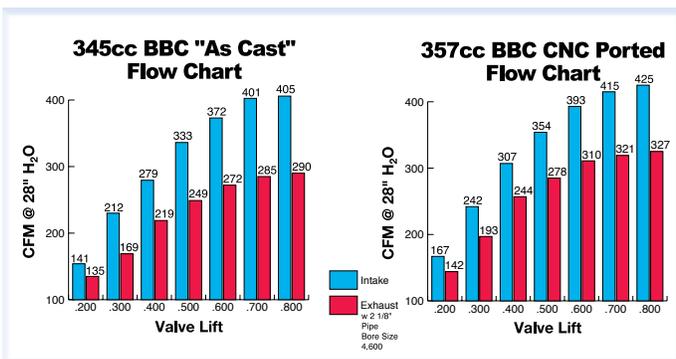
If "Dirty Harry" drove a racecar, it would certainly be fitted with a pair of our 345 or 357 "Magnum" cylinder heads. If huge horsepower is what you are searching for, either of these castings will certainly deliver. With our Race Ready "As Cast" 345cc fliriting with 400 CFM and our fully CNC ported 357cc flowing 425 CFM, these heads represent the ultimate in airflow for your BB Chevrolet. Our 357 "Magnum" flows over 415 CFM @ .700 valve lift! No other production style BB Chevy head even comes close. Both of these heads were targeted at larger cubic inch engines (509-632 CID) looking for maximum horsepower and rpm capability with a primary operating range of 3500-8000 rpm's (This range is an average and will vary with engine displacement and component selection). These heads will also provide impressive torque figures at higher rpm levels. Blown, turbo, and nitrous engines will especially like the larger, higher flowing intake ports. Both of these heads will work best with camshafts exceeding .750 gross valve lift to make better use of the substantial airflow found in the higher lift range. Both the 345cc and the 357cc come standard with AFR's trademark .750" thick head deck, reinforced rocker stud bosses, and are equipped with premium one piece stainless steel 2.300" intake valves and 1.880" exhaust valves. Standard combustion chamber volume is 115cc's on the 345 "As Cast" pieces, while our fully CNC ported 357 version comes with a 121cc chamber. Properly selecting the correct cylinder head depends on a large number of variables. Please consult with one of our sales technicians to assist you in making the best decision for your particular application.

Pairs of Cylinder Heads Complete With Parts & Ready To Install			
	Runner Volume	Combustion Chamber	Part #
<b>Competition Package (CNC Ported Heads With No Parts)</b>			
345cc	As Cast w/o Parts w/ CNC w/ CNC bowl blend	115cc	3450
345cc	As Cast w/Parts w/ CNC bowl blend	115cc	2110
345cc	As Cast w/o Parts w/ CNC Chambers & CNC bowl blend	121cc	3450-1
345cc	As Cast w/Parts CNC Chambers & CNC bowl blend	121cc	2110-1
357cc	CNC Ported w/o Parts	121cc	3570
357cc	CNC Ported w/Parts	121cc	2010

**Note:** Optional stud girdle required for 2" rolled valve angles and 1" longer head bolts needed on four bottom exhaust bolt holes. Longer push rods might also be required.

See footnotes on page 47 regarding BBC dome piston clearance.

Basic Package Components	Part #
<b>Competition 5-angle Valve Job</b>	
Intake Valve, 2.300" stainless steel	AFR #7626
Exhaust Valve, 1.880" stainless steel	AFR #7631
1.625" OD Roller Dual Valve Spring with dampener, 255 lbs. on seat, .750" maximum lift	AFR #8031
10° Chrome Moly Retainers	AFR #8511
10° Chrome Moly Valve Locks	AFR #9005
Viton Valve Seals	AFR #6611
Hardened Spring Cup	AFR #8046
Intake Valve Seats	AFR #9062
Exhaust Valve Seats	AFR #9064
Bronze Valve Guides Intake	AFR #9045
Bronze Valve Guides Exhaust	AFR #9046
AFR BB Chevy 7/16" Exhaust Stud	AFR #6406
AFR BB Chevy 7/16" Intake Stud	AFR #6407
Guide Plates	AFR #6109



# 375cc Magnum BBC

AFR's Magnum Series



## Specifications, Features, and Optional Supporting Components

Head Torque-----75 Ft. Lbs.  
 Intake Port Gasket, 1.775" x 2.500" with 1/2" radius----- AFR #6856  
 ----- Fel-Pro #1275

**Important:** Do not port match your intake manifold to Fel-Pro gasket as it does not precisely fit AFR heads.

Exhaust Port Gasket ----- AFR #6858  
 Head Gasket----- 4.540 bore, Fel Pro #1017, AFR #6850  
 ----- Mark V-VI-up to 4.500 Bore Fel-Pro #17048 or #1047  
 ----- Mark V-VI-4.500 to 4.600 Bore Fel-Pro #17049

Head Bolts & Studs ----- Standard ARP, AFR #6308, #6307 & #6306

Head Bolt Washers ----- Manley, AFR #6320

Stud Girdle----- AFR #6210

Sugg.. Manifold----- Edelbrock #2907 & #2927, AFR #5500 & #5502

----- Dart #6200, #6201, #6202 & #6203

----- Brodix HVH #2000, #2001, #2005 & #2006

Spark Plug Starting Range ----- Champion C59C Autolite 3932

Combustion Chambers ----- CNC 121cc

Spring Pocket can be cut to 1.750, no deeper.

Valve Spacing----- Standard

Rocker Arms----- Standard

Valve Angle ----- 24°/4° Intake, 15°/4° Exhaust

Angle Mill (milling options available), 104cc Maximum ----- .009" per cc

Flat Mill (milling options available), 114cc Maximum ----- .006" per cc

**Note:** Milling Head Deck Will Affect Flow Numbers. Angle mills might require a .120 thick intake gasket

As the aftermarket continues to push larger displacement combinations, even 555 CID BBC's are becoming commonplace with 600+ CID engines more plentiful than ever before. AFR is proud to announce our answer to that with our all new 375 cc Magnum... the largest and highest flowing BBC product in our line-up with flow numbers that are creeping up on many of our competitor's 18 degree Pro-stock style heads. If you've got the displacement we have the head to feed it with an intake port that flirts with 440 CFM at a usable lift-point, and enough complimenting exhaust flow to still maintain over 75% of that number @ .800 lift (335 CFM's at .800 lift!). While this huge a runner is more clearly aimed at 572 - 632 CID applications, in a light car it could still be considered in 555-565 CID aggressive builds that are built to reliably turn 7800 - 8500 RPM's (Ti valves recommended over 8000 RPM's). This head will be best utilized with camshafts in the .780 - .850 range to take full advantage of its impressive higher lift airflow, but the best thing about this head is its ability to also provide the end user with industry leading low and mid-lift flow as well (400+ CFM at .600 lift!). This head of course comes with AFR's trademark .750 thick head deck, reinforced rocker stud bosses, and is equipped with 2.350 intake / 1.880 tulip exhaust valves. Properly selecting the right cylinder head depends on a large number of variables. Please consult with one of our sales technicians to assist you in making the best choice for your particular application.

**Note:** Optional stud girdle required for 2" rolled valve angles and 1" longer head bolts needed on four bottom exhaust bolt holes. Longer push rods might also be required.

See footnotes on page 47 regarding BBC dome piston clearance.

Pairs of Cylinder Heads Complete With Parts & Ready To Install			
	Runner Volume	Combustion Chamber	Part #
375cc	CNC Ported w/o Parts	121cc	3580
375cc	CNC Ported w/Parts	121cc	2020

Basic Package Components	Part #
<b>Competition 5-angle Valve Job</b>	
Intake Valve, 2.350" stainless steel	AFR #7627
Exhaust Valve, 1.880" stainless steel	AFR #7631
1.625" OD Roller Dual Valve Spring with dampener, 255 lbs. on seat, .750" maximum lift	AFR #8031
10° Chrome Moly Retainers	AFR #8511
10° Chrome Moly Valve Locks	AFR #9005
Viton Valve Seals	AFR #6611
Hardened Spring Cup	AFR #8046
Intake Valve Seats	AFR #9062
Exhaust Valve Seats	AFR #9064
Bronze Valve Guides Intake	AFR #9045
Bronze Valve Guides Exhaust	AFR #9046
AFR BB Chevy 7/16" Exhaust Stud	AFR #6406
AFR BB Chevy 7/16" Intake Stud	AFR #6407
Guide Plates	AFR #6109

Please see web site  
for flow numbers.