



EVOLUTION®

- High Flow Valves
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- Compression Release Valves
- Valves Spring kits
- Valves Spring Shims



AV&V Black & Chrome Tulip Extreme Duty Valves (5/16 stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 5/16 stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



High Flow Valves		AVI610D			
Exhaust					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.610"	4.510"	.3106"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • Dished valve • 5/16" stem 					



High Flow Valves		AVI610S			
Exhaust					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.610"	4.565"	.3106"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • For use with S&S heads • 5/16" stem 					



High Flow Valves		AVI650			
Exhaust					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.650"	4.515"	.3106"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • Oversize valve for Jims 120" and S/E 110" Heads • 5/16" stem 					



High Flow Valves		AVI700A			
Exhaust					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.700"	4.535"	.3106"	Black nitride	.235"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • .235" Tip can be grinded to shorten valve • 5/16" stem 					



High Flow Valves		AV1700C			
Exhaust					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.700"	4.445"	.3106"	Chrome	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • For Merch Heads • 5/16" stem 					



High Flow Valves		AV1700U			
Exhaust					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.700"	4.655"	.3106"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • For Ultima Heads • 5/16" stem 					



High Flow Valves		AV1900			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.900"	4.440"	.3108"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • .055" oversize valve • For use in stock heads • 5/16" stem 					



High Flow Valves		AV1900S			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.900"	4.415"	.3108"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • .025" shorter and .055" oversize valve • For use in stock heads • 5/16" stem 					

AV&V Black & Chrome Tulip Extreme Duty Valves (5/16 stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 5/16 stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



High Flow Valves		AVI940			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.940"	4.440"	.3108"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • Oversize valve larger • If used in stock heads larger seats must be installed • 5/16" stem 					



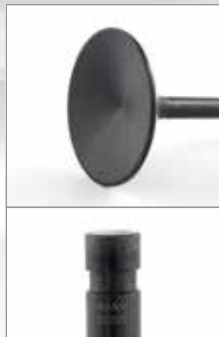
High Flow Valves		AVI990			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.990"	4.440"	.3108"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • Oversize valve • If used in stock heads larger seats must be installed • 5/16" stem 					



High Flow Valves		AV2020A			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
2.020"	4.440"	.3108"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • Also good for Merch Heads • Larger seats could be required • 5/16" stem 					



High Flow Valves		AV2020			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
2.020"	4.490"	.3108"	Chrome	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • .050" longer than AV2020A • Larger seats could be required • 5/16" stem 					



High Flow Valves		AV2020S			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
2.020"	4.510"	.3108"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • For use with S&S Heads • 5/16" stem 					



High Flow Valves		AV2060LC			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
2.060"	4.510"	.3108"	Chrome	.200"	Single
Note					
<ul style="list-style-type: none"> • 24° back angle tulip • Used with S&S Heads • Oversize valve • 5/16" stem 					



High Flow Valves		AV2100			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
2.100"	4.475"	.3108"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 24° back angle tulip • For Jims 120" and S/E 110" Heads • Oversize valve • 5/16" stem 					



High Flow Valves		AV2100BC (no tip, no groove)			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
2.100"	5.700"	.3108"	Chrome	---	---
Note					
<ul style="list-style-type: none"> • 24° back angle tulip • 5/16" stem heads • Blank valve (no tip, no groove) • Bi-metal (can be hardened) 					

AV&V Black & Chrome Tulip Extreme Duty Valves (5/16 stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 5/16 stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



High Flow Valves		AV2100S			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
2.100"	4.570"	.3108"	Chrome	.200"	Single
Note					
<ul style="list-style-type: none"> • 24° back angle tulip • S&S 124" and 131" • Oversize valve • 5/16" stem 					



High Flow Valves		AV2100U			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
2.100"	4.590"	.3108"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 23° back angle tulip • For Ultima Heads • 5/16" stem 					



High Flow Valves		AV2150			
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
2.150"	4.480"	.3108"	Chrome	.200"	Single
Note					
<ul style="list-style-type: none"> • 24° back angle tulip • Oversize valve for Jims 120" and 131" heads • 5/16" stem 					



High Flow Valves		AV1700BC (no tip, no groove)			
Exhaust					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.700"	5.700"	.3106"	Chrome	---	---
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • 5/16" stem blank valve • Bi-metal (can be hardened) 					


High Flow Valves
AV2200BC (no tip, no groove)
Intake

Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
2.200"	5.700"	.3108"	Chrome	---	---

Note

- 25° back angle tulip
- 5/16" stem blank valve
- Bi-metal (can be hardened)

AV&V Extreme Duty Replacement Valves

These superb valves are one piece forged from a racing grade stainless steel alloy.

Our liquid nitriding process creates a valve that is smoother and stronger than traditional O.E.M. or replacement valves.

The stems are centerless grinded to a micro finish for longer life.

AV&V™ Extreme Duty valves also feature a 45° angle below the lock groove to facilitate valve seal installation.

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HDIO					
Exhaust					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.615"	4.525"	.3106"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • 5/16" stem • Stock replacement for Evo 1340 					



HDII					
Intake					
Head Dia.	Overall Length	Stem Dia.	Coating	Tip Length	Groove
1.845"	4.440"	.3108"	Black nitride	.200"	Single
Note					
<ul style="list-style-type: none"> • 25° back angle tulip • 5/16" stem • Stock replacement for Evo 1340 					

AV&V Extreme Duty Manganese Bronze Valve Guides (5/16 valves)



- AV&V's Manganese bronze valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life.
- Special Hi-temp. Viton O'rings are used to prevent oil infiltration between guide & head.
- Tapered & radiused nose for easier installation and better air flow.
- Unique Super Grip valve seal section : use either OEM style or viton seals.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see reamers section)



O.D.	I.D.	Oversize	Overall Length	Intake	Exhaust
High Lift & High Flow application					
.5625"	.308"	Std	2.100"	VG5600	VG5700
.5635"	.308"	.001"	2.100"	VG5601	VG5701
.5645"	.308"	.002"	2.100"	VG5602	VG5702
.5655"	.308"	.003"	2.100"	VG5603	VG5703
.5665"	.308"	.004"	2.100"	VG5604	VG5704
.5675"	.308"	.005"	2.100"	VG5605	VG5705
.5685"	.308"	.006"	2.100"	VG5606	VG5706
.5725"	.308"	.010"	2.100"	VG5610	VG5710
.5875"	.308"	.025"	2.100"	VG5625	VG5725

- Use with .531" Viton valve seals (V312531).
- Shorter seal area for high lift application.
- Profiled for optimum airflow.



O.D.	I.D.	Oversize	Overall Length	Intake	Exhaust
High Lift & High Flow application					
.5625"	.308"	Std	2.100"	VG5600S	VG5700S
.5630"	.308"	.0005"	2.100"	VG5600-5S	VG5700-5S
.5635"	.308"	.001"	2.100"	VG5601S	VG5701S

- Same guides as above except for seal diameter.
- Use with .421" Viton valve seals (V312421), or O.E. style valve seals (K312420)



O.D.	I.D.	Oversize	Overall Length	Intake & Exhaust
Stock replacement				
.5625"	.308"	Std	2.250"	VG5500
.5635"	.308"	.001"	2.250"	VG5501
.5645"	.308"	.002"	2.250"	VG5502
.5655"	.308"	.003"	2.250"	VG5503
.5665"	.308"	.004"	2.250"	VG5504
.5875"	.308"	.025"	2.250"	VG5525

- Use with .531" O.E. style valve seals (K312530).
- Stock length
- Stock replacement

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AV&V Universal Valve Guides (5/16 valves)

UVG308



O.D.	I.D.	Overall Length	Intake & Exhaust
Universal Repair guides			
.740"	.308"	2.700"	UVG308
<ul style="list-style-type: none"> • Manganese bronze alloy • Ready to be machined 			

AV&V Valve Seals



Viton Seals		V3I242I
Specifications		
Stem Dia.	Seal section O.D.	<ul style="list-style-type: none"> • For 5/16" valve Twin Cam® / Evo® / Sportster® • This seal offers more press fit on the guide allowing installation on both Bronze and Cast iron guides. • We strongly recommend the use of our valve seal driver #VSD312 to install this seal.
.312"	.421"	
Note		
<ul style="list-style-type: none"> • High Temperature viton seal 		



Viton Seals		V3I253I
Specifications		
Stem Dia.	Seal section O.D.	<ul style="list-style-type: none"> • For 5/16" valve Twin Cam® / Evo® / Sportster® • This seal offers more press fit on the guide allowing installation on both Bronze and Cast iron guides. • We strongly recommend the use of our valve seal driver #VSD312 to install this seal.
.312"	.531"	
Note		
<ul style="list-style-type: none"> • High Temperature viton seal 		



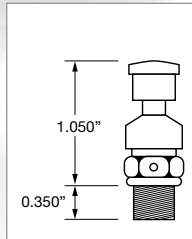
O.E. Style Seals		K3I242O
Specifications		
Stem Dia.	Seal section O.D.	<ul style="list-style-type: none"> • For 5/16" valve, TwinCam®, Evo® and Sportster®
.312"	.421"	
Note		
<ul style="list-style-type: none"> • O.E. Style metal clad seal 		



O.E. Style Seals		K3I253O
Specifications		
Stem Dia.	Seal section O.D.	<ul style="list-style-type: none"> • For 5/16" valve, TwinCam®, Evo® and Sportster®
.312"	.331"	
Note		
<ul style="list-style-type: none"> • O.E. Style metal clad seal 		

- AV&V compression release valves are easier to install due to their short thread section. (# JCR10A & JCR10B). You don't need to machine the heads as deep as if you were using O.E.M. style CR'S
- O.E.M. style also available (# JCR10D)

- Ideal for stock replacement
- Also their high-temperature resistant knobs are charcoal colored for a better match with texture black or silver heads.

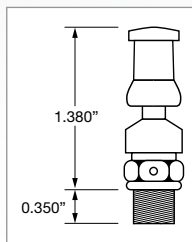


JCR 10A

Protrusion	Thread section	Thread
1.050"	.350"	M10x1

Note

- Mostly Evo's®
- Short protrusion
- Short thread section

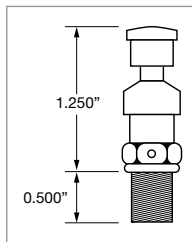


JCR 10B

Protrusion	Thread section	Thread
1.380"	.350"	M10x1

Note

- All mostly Twin Cams®
- Short protrusion
- Short thread section



JCR 10D

Protrusion	Thread section	Thread
1.250"	.500"	M10x1

Note

- O.E.M. Style
- Long protrusion
- Long thread section

AV&V High Performance Valve Spring kits (5/16 valves)

EVOLUTION



VSK600S

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Available with chromoly(S) or titanium(T) retainers.



SPRINGS - S600-4

Max. Recommended Lift	Seat Pressure		Open Pressure (lbs@mm)
.600"	155lbs @ 1.885"		405 LBS @ 1.260"
Coil Bind Height	O.D.	I.D.	Type
1.080"	1.460"	0.79"	Double springs

RETAINER - R311CS-4

Alloy	Traitement	Notes
4140 Chromoly steel	Black Oxyde	Angle 10°

LOWER COLLAR - LSC600-4

Thickness	O.D.	I.D.	Alloy
.040"	1.418"	.562"	Heat treated steel

VALVE LOCKS - VL311A-8

Tapper	Notes
Jumbo 10°	



VSK600T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Available with chromoly(S) or titanium(T) retainers.



SPRING - S600-4

Max. Recommended Lift	Seat Pressure		Open Pressure (lbs@mm)
.600"	155lbs @ 1.885"		405 LBS @ 1.260"
Coil Bind Height	O.D.	I.D.	Type
1.080"	1.460"	0.79"	Double springs

RETAINER - R311CT-4

Alloy	Traitement	Notes
Titanium		Angle 10°

LOWER COLLAR - LSC600-4

Thickness	O.D.	I.D.	Alloy
.040"	1.418"	.562"	Heat treated steel

VALVE LOCKS - VL311A-8

Tapper	Notes
Jumbo 10°	



VSK650S

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.



SPRINGS - S650-4

Max. Recommended Lift	Seat Pressure		Open Pressure (lbs@mm)
.650"	185lbs @ 1.860"		460 LBS @ 1.160"
Coil Bind Height	O.D.	I.D.	Type
1.080"	1.460"	0.79"	Double springs

RETAINER - R311CS-4

Alloy	Traitement	Notes
4140 Chromoly steel	Black Oxyde	Angle 10°

LOWER COLLAR - LSC600-4

Thickness	O.D.	I.D.	Alloy
.040"	1.418"	.562"	Heat treated steel

VALVE LOCKS - VL311A-8

Tapper	Notes
Jumbo 10°	



VSK650T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Titanium retainers.



SPRING - S650-4

Max. Recommended Lift	Seat Pressure		Open Pressure (lbs@mm)
.650"	185lbs @ 1.860"		460 LBS @ 1.160"
Coil Bind Height	O.D.	I.D.	Type
1.080"	1.460"	0.79"	Double springs

RETAINERS- R311CT-4

Alloy	Traitement	Notes
Titanium		Angle 10°

LOWER COLLAR - LSC600-4

Thickness	O.D.	I.D.	Alloy
.040"	1.418"	.562"	Heat treated steel

VALVE LOCKS - VL311A-8

Tapper	Notes
Jumbo 10°	

AV&V High Performance Valve Spring kits (5/16 valves)

EVOLUTION



VSK675T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Titanium retainers.



SPRINGS - S675-4

Max. Recommended Lift	Seat Pressure		Open Pressure (lbs@mm)
.675"	185lbs @ 1.860"		460 LBS @ 1.160"
Coil Bind Height	O.D.	I.D.	Type
1.080"	1.460"	0.790"	Double springs

RETAINER - R311CT-4

Alloy	Traitement	Notes
Titanium		Angle 10°

LOWER COLLAR - LSC600-4

Thickness	O.D.	I.D.	Alloy
.040"	1.418"	.562"	Heat treated steel

VALVE LOCKS - VL311A-8

Tapper	Notes
Jumbo 10°	



VSK6000

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 9 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500"



SPRINGS - S6000-4

Max. Recommended Lift	Seat Pressure		Open Pressure (lbs@mm)
.600"	165lbs @ 1.860"		384 LBS @ 1.250"
Coil Bind Height	Type		
1.200"	Beehive springs		

RETAINER - R6000-4

Alloy	Traitement	Notes
4140 Chromoly steel	Black Oxyde	Angle 9°

LOWER COLLAR - LSC6000-4

Thickness	O.D.	I.D.	Alloy
.050"	1.425"	.565"	Heat treated steel

VALVE LOCKS - VL311C-8

Tapper	Notes
Angle 9°	



VSK6500

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 9 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500"



SPRINGS - S6500-4

Max. Recommended Lift	Seat Pressure	Open Pressure (lbs@mm)
.650"	178lbs @ 1.860"	385 LBS @ 1.200"
Coil Bind Height	Type	
1.150"	Beehive springs	

RETAINER - R6500-4

Alloy	Traitement	Notes
4140 Chromoly steel	Black Oxyde	Angle 9°

LOWER COLLAR - LSC6500-4

Thickness	O.D.	I.D.	Alloy
.040"	1.485"	.565"	Heat treated steel

VALVE LOCKS - VL311C-8

Tapper	Notes
9°	

AV&V Valve Spring Shims

- This Valve Spring Shim allows the engine builder to adjust spring pressure by combining various thickness shims.
- Using the different thickness is of great help when trying to obtain consistent spring pressure across all valves.



Shim	VSS5015	
Thickness	I.D.	O.D.
.015"	.600"	1.480"
Note		
<ul style="list-style-type: none"> • Perfect Evo®/Twin Cam® fit • Specily designed for Harley Davidson® heads • Heat Treated Steel 		



Shim	VSS5030	
Thickness	I.D.	O.D.
.030"	.600"	1.480"
Note		
<ul style="list-style-type: none"> • Perfect Evo®/Twin Cam® fit • Heat Treated Steel 		



Shim	VSS6022	
Thickness	I.D.	O.D.
.022"	1.010"	1.441"
Note		
<ul style="list-style-type: none"> • Use with Twin Cam® O.E. Style umbrella seals (2005 - up) • Heat Treated Steel 		