



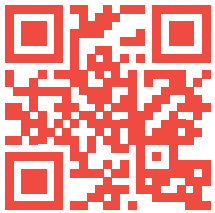
CATALOGUE 2022

SPECIAL RACING PRODUCTS

Motocross | Roadrace | Karting



VHM 2022 CATALOGUE



 www.vhm.nl

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PREFACE

INTRODUCTION

We proudly introduce our 2022 catalogue with VHM Special Racing Products. For more than 25 years, we have been developing, testing and offering Special Racing Products for motocross, roadrace and karting.

- ✔ Gold anodized cylinder heads with exchangeable combustion chamber inserts
- ✔ Crankshafts with improved inertia and better balance percentage
- ✔ Pistons for high performance and longevity
 - ✔ Modifications and crankshaft rebuilds
 - ✔ CDI units with VHM ignition maps
 - ✔ and many other Special Racing Products

DISTRIBUTOR

In addition to offering our VHM parts, we are also authorized distributor of aftermarket brands such as:

- Afam chains and sprockets
- Athena gaskets, seals and Athesil
- HGS 2- and 4 stroke exhaust systems
- Hinson clutch components
- Hotrods connecting rods
- JE-Pistons 4-stroke pistons
- NGK sparkplugs
- Prox replacement parts
- Suterclutch slipperclutches
- Twin Air powerflow kits and air filters
- Vertex 2- and 4-stroke pistons
- V-Force reedvalves

Check www.vhm.nl/otherbrandsinfo for more on this!

VHM IS YOUR #1 SUPPLIER
OF HIGH QUALITY PRODUCTS,
PROVIDING TECHNICAL SERVICE
AND FAST DELIVERY



PRODUCT AVAILABILITY

We have a large stock in our warehouse to make fast delivery possible. If you need products that we don't have in our product list, don't hesitate to contact us for a request. Our products are available through VHM dealers worldwide. Find more information on www.vhm.nl/dealerlocator

Instagram



VHM racingproducts

YouTube



VHM special racingproducts

Facebook



VHM racingproducts

Newsletter email



www.vhm.nl/newsletter

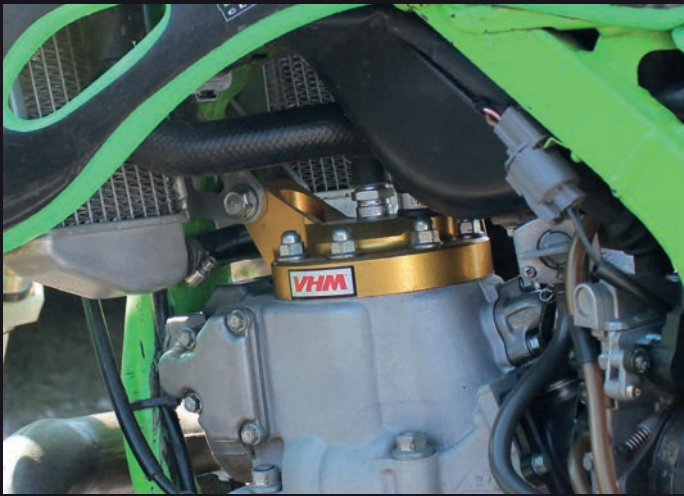
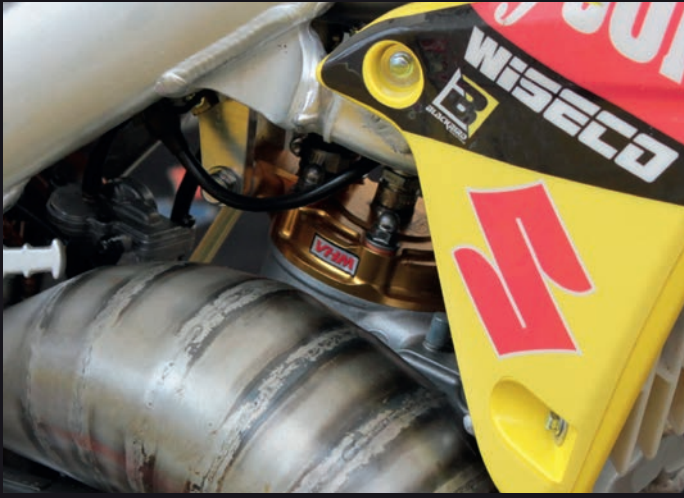




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We continuously develop new parts for better performance and faster lap times. We've been busy and during 2021 we've added many new parts to our assortment as you can see here!

CYLINDER HEAD AA33049

KTM 125SX / 125EXC 2002 - 2006

Various inserts AE32065-



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CYLINDER HEAD AA33053

KTM 250SX 2003 - 2006

Various inserts AE32068-



p. 34

CYLINDER HEAD AA33184-1

BETA RR200 2T 2018 - 2021

Various inserts AE32293-



p. 14

CYLINDER HEAD AA33187

YAMAHA YZ250 1988 - 1998

Various inserts AE32300-



p. 45

CYLINDER HEAD AA33188

SUZUKI RGV250 VJ23 1997 - 1998

Various inserts AE32302-



p. 38

CYLINDER HEAD AA33191

HONDA NSR250 MC18 1988 - 1989

Various inserts AE32308-



p. 20

CYLINDER HEAD AA33192

HONDA NSR250 MC16 1986 - 1987

Various inserts AE32308-



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CYLINDER HEAD AA33195

YAMAHA TZR250R 3XV1 1991 - 1992

Various inserts AE32313-



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CYLINDER HEAD AA33200

HONDA CR500R 1989 - 2001

Various inserts AE32319-



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CYLINDER HEAD AA33201

RIEJU MR250 / MR300 '21 & GASGAS EC250 / EC300 '18 - '19

Various inserts AE32320- / AE32321-



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OEM HEAD INSERT AE32323

IAME SCREAMER 3

Blind and custom possibilities



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AIR INTAKE AI010921

HONDA CRF450R 2021 - 2022



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AIR INTAKE AI020621

YAMAHA YZ250F 2021 - 2022

Use with powerflow kit 152222C



p. 72

TOOL AM34017

PISTON HEIGHT MEASURING TOOL 500CC



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PISTON APKT12511725

KTM 125SX '01 - '22 &
HUSQVARNA TC125 '14 - '22
Ø53.94 / Ø53.95 / Ø53.96



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PISTON APKT12511726

KTM 125SX '01 - '22 &
HUSQVARNA TC125 '14 - '22
Ø53.95 / Ø53.96



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PISTON APKR05021763

KREIDLER 50CC AIR COOLED
Ø39.95 / Ø39.96 / Ø39.97 / Ø39.98



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PISTON APTM12521762

TM KZ-R1
Ø53.93



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CDI CD020218

YAMAHA YZ65 2018 - 2022
Map 1 VHM, Map 2 standard GET



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CDI CD070520

BETA RR200 2T 2020 - 2022
Map 1 VHM high performance,
Map 2 VHM soft



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CDI CD070720

BETA RR300 2T 2020 - 2021
Map 1 VHM high performance,
Map 2 VHM soft



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CDI CD080621

RIEJU MR250 2021 &
GASGAS EC250 2018 - 2019
Map 1 VHM high, Map 2 VHM soft



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STICKER MVST-5X1.9

VHM SMALL STICKER 5 x 1.9cm
Thick, high quality



p. 80

STICKER MVST-10X3.8

VHM MEDIUM STICKER
10 x 3.8cm
Thick, high quality



p. 80

STICKER MVST-45X17

VHM LARGE STICKER
45 x 17cm
Thick, high quality



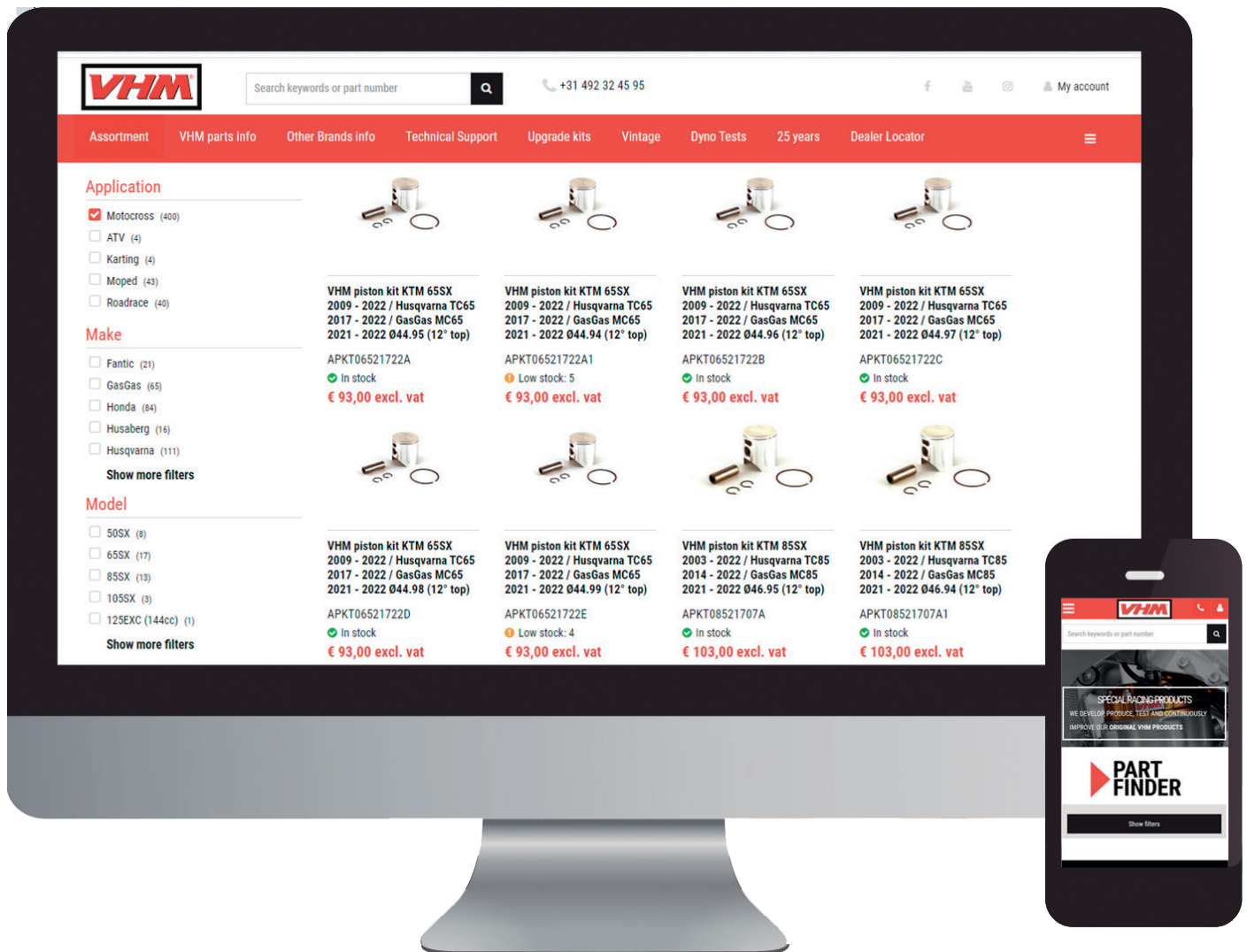
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GLOVES MCG01X-

VHM WORKING GLOVES
Available sizes 8, 9, 10 and 11



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VHM WEBSITE

- ✔ Easy access to information concerning ALL parts like price, applications and specifications
- ✔ Quickly find parts for your bike with the Part finder
- ✔ Find your nearest VHM dealer with the Dealer Locator

DEALER LOCATOR

Our website contains a Dealer Locator, which enables you to search for your nearest VHM dealer. Just fill in your zip code, country or city and the locator will show you the nearest dealer.

B2B WEBSHOP

Our website also contains a B2B webshop for our business customers.

EASILY FIND PARTS FOR YOUR BIKE

To make it easy for you to find parts for your bike / engine, we've added a Part Finder. Just fill in the application, make, model and year and the website will show you all parts we have in our assortment for it.

www.vhm.nl



Brand

- Afam (1142)
- Athena (160)

Part finder

4.038 results

VHM UPGRADE KITS

Want to improve your bike's performance? We have created several VHM upgrade kits, tested and used by many top riders!



Tune your bike with the same VHM high performance parts as used by many previous World, European and National champions!



We have VHM upgrade kits available for the following dirtbikes:

BETA

- ✔ RR125 2T '18->
- ✔ RR200 2T '18->
- ✔ RR250 2T '18->
- ✔ RR300 2T '20->

FANTIC

- ✔ XX125 '21

GASGAS

- ✔ MC65 '21->
- ✔ MC85 '21->
- ✔ MC125 '21->
- ✔ MC250 '22

HUSQVARNA

- ✔ TC65 '17->
- ✔ TC85 '14->
- ✔ TC125 '16->
- ✔ TC250 '17->

KAWASAKI

- ✔ KX85 '00->

KTM

- ✔ 65SX '09->
- ✔ 85SX '13->
- ✔ 125SX '16->
- ✔ 250SX '17->

RIEJU

- ✔ MR250 '21->

TM

- ✔ MX85 '13->

YAMAHA

- ✔ YZ65 '18->
- ✔ YZ85 '19->
- ✔ YZ125 '05-'21

VINTAGE ROADRACE

We loved the 2-stroke era of roadrace and still develop and produce parts like piston kits, cylinder heads, inserts, crankshafts and connecting rods for various vintage racebikes:

- ✔ **APRILIA** RSW125 | RS125 '95 - '10 | RSW250 | RS250 '95 - '02
- ✔ **HONDA** RS125 ND4 '84 - '86 | NF4 '87 - '94 | NX4 '95 - '10 | RS250 ND5 '85 - '86 | NF5 '87 - '92 | NX5 '93 - '00 | NXA '01 - '10 | NSR50 | NSR80 | NSR125 | NSR150 | NSR250 MC16 '86 - '87 | MC18 '88 - '89 | MC21 / MC28 '90 - '99 | NSR300
- ✔ **KAWASAKI** KR150
- ✔ **SUZUKI** RGV250 VJ21 '88 - '91 | VJ22 '91 - '96 | VJ23 '97 - '98
- ✔ **YAMAHA** TZ125 '95 - '99 | '00 - '10 | TZ250 '88 - '90 | '95 - '99 | '00 - '10 | TZR250 '91 - '92

VINTAGE MOTOCROSS

Joining classic dirtbike races in the category Pre '90 or Pre '95? Then we got you covered with our VHM cylinder heads and exchangeable inserts for the following vintage dirtbikes:

- ✔ **HONDA** CR125R '87 - '99 | CR250R '92 - '01 | CR500R '89 - '01
- ✔ **KAWASAKI** KX500 '89 - '04
- ✔ **YAMAHA** YZ250 '88 - '98

www.vhm.nl/vintage



▲ CYLINDERHEADS

VHM CYLINDER HEADS

World famous VHM cylinder heads with exchangeable combustion chambers. Specially developed for optimal power output during the whole race. The head features special designed water duct for optimal water flow.

- ✔ More engine power
- ✔ Better heat transference
- ✔ Exchangeable combustion chambers

AVAILABLE FOR

The VHM cylinder headsets are available for the most common MX 2-stroke engines from 50cc - 500cc for Beta, Fantic, GasGas, Honda, Husaberg, Husqvarna, Kawasaki, KTM, Rieju, Suzuki, TM and Yamaha. The VHM cylinder heads are also available for 2 stroke roadrace engines: Aprilia, Honda, Kawasaki, Suzuki and Yamaha.

www.vhm.nl/cylinderheads

VHM HEAD INSERTS

The combustion chamber can be quickly adjusted, depending on the track and weather conditions. There are various types of inserts available for each cylinder head; VHM standard, optional, blind and custom inserts. The inserts are sold separately! These inserts do not fit the standard (OEM / stock) heads, only our VHM heads.

- ✔ Quick to adjust
- ✔ Many choices VHM standard, optional and blind
- ✔ Custom specifications possible

www.vhm.nl/inserts



VHM Cylinder head
AA33190 **Aprilia RS125** **1995 - 2010**
Rotax 122 / 123


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32008-A	1995 - 2010	Blind	Machine yourself			
AE32008-E	1995 - 2010	Optional		11.40	+2.00	0.90
AE32008-F	1995 - 2010	VHM standard		11.60	+2.00	0.90
AE32008-G	1995 - 2010	Optional		11.80	+2.00	0.90
AE32008-xxx	1995 - 2010	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33190	•	•	•	

AA33102 **Aprilia RS250** **1995 - 2002**
Suzuki RGV250 VJ21 **1988 - 1991**
Suzuki RGV250 VJ22 **1991 - 1996**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32149-A	1995 - 2002	Blind	Machine yourself			
AE32149-B	1995 - 2002	Optional		11.80	-0.35	0.90
AE32149-C	1995 - 2002	VHM standard		12.00	-0.35	0.90
AE32149-D	1995 - 2002	Optional		12.20	-0.35	0.90
AE32149-E	1995 - 2002	Optional		12.40	-0.35	0.90
AE32149-F	1995 - 2002	Optional		12.60	-0.35	0.90
AE32149-xxx	1995 - 2002	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33102	•	•	•	

AA33184 **Beta RR125 2T** **2018 - 2021**
Beta RR125 2T Racing **2019 - 2021**


Part number insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32297-A	2018 - 2021	Blind	Machine yourself			
AE32297-C	2018 - 2021	Optional		10.80	-0.10	1.10
AE32297-E	2018 - 2021	VHM standard		11.00	-0.10	1.10
AE32297-F	2018 - 2021	Optional		11.20	-0.10	1.10
AE32297-xxx		Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33184	•	•	•	

VHM Cylinder head
AA33184-1 **Beta RR200 2T** **2018 - 2021**
Beta RR200 2T Racing **2019 - 2021**


Part number insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32293-A	2018 - 2021	Blind	Machine yourself			
AE32293-C	2018 - 2021	Optional		17.20	+1.50	1.40
AE32293-E	2018 - 2021	VHM standard		17.60	+1.50	1.40
AE32293-F	2018 - 2021	Optional		18.00	+1.50	1.40
AE32293-xxx		Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33184	•	•	•	

AA33183 **Beta RR250 2T** **2018 - 2022**
Beta RR250 2T Racing **2019 - 2021**


Part number insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32296-A	2018 - 2022	Blind	Machine yourself			
AE32296-C	2018 - 2022	Optional		21.0	+3.70	1.70
AE32296-E	2018 - 2022	VHM standard		21.5	+3.70	1.70
AE32296-F	2018 - 2022	Optional		22.0	+3.70	1.70
AE32296-xxx		Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33182 **Beta RR300 2T** **2013 - 2021**
Beta RR300 2T Racing **2022**
Use short spark plug BR8ECM


Part number insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32305-A	2013 - 2017	Blind	Machine yourself			
AE32305-C	2013 - 2017	Optional	RR300 2T	27.50	0.00	1.80
AE32305-E	2013 - 2017	VHM standard	RR300 2T	28.50	0.00	1.80
AE32305-F	2013 - 2017	Optional	RR300 2T	29.50	0.00	1.80
AE32305-xxx		Custom	Special insert according to your specification			
AE32295-A	2018 - 2021	Blind	Machine yourself			
AE32295-C	2018 - 2021	Optional	RR300 2T	27.50	+3.50	1.80
AE32295-E	2018 - 2021	VHM standard	RR300 2T	28.50	+3.50	1.80
AE32295-F	2018 - 2021	Optional	RR300 2T	29.50	+3.50	1.80
AE32295-xxx		Custom	Special insert according to your specification			
AE32328-A	2022	Blind	Machine yourself			
AE32328-C	2022	Optional	RR300 2T Racing	27.00	+3.10	1.80
AE32328-E	2022	VHM standard	RR300 2T Racing	28.00	+3.10	1.80
AE32328-F	2022	Optional	RR300 2T Racing	29.00	+3.10	1.80
AE32328-G	2022	Optional	RR300 2T Racing	30.00	+3.10	1.80
AE32328-xxx	2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33182	•	•	•	

VHM Cylinder head

AA33077	Fantic XX125 Fantic XE125	2021 2021	See Yamaha YZ125 2005 - 2021
AA33080	Fantic XX250	2021 - 2022	See Yamaha YZ250 1999 - 2022
AA33112	GasGas MC65	2021 - 2022	See KTM 65SX 2009 - 2022
AA33171	GasGas MC85	2021 - 2022	See KTM 85SX 2018 - 2022
AA33177	GasGas MC105	2021 - 2022	See KTM 105SX 2018 - 2022
AA33090	GasGas EC125/MC125	2000 - 2011	



Part number insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32117-A	2000 - 2011	Blind	Machine yourself			
AE32117-C	2000 - 2011	Optional		11.40	-3.55	1.00
AE32117-E	2000 - 2011	VHM standard		11.60	-3.55	1.00
AE32117-F	2000 - 2011	Optional		11.80	-3.55	1.00
AE32117-xxx	2000 - 2011	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33156	GasGas MC125	2021 - 2022	See KTM 125SX 2016 - 2022
AA33166	GasGas MC250	2022	See KTM 250SX 2017 - 2022
AA33201	GasGas EC250	2018 - 2019	See Rieju MR250 / MR300 2021 - 2022
AA33172	GasGas EC300 GasGas EX300	2021 - 2022 2021 - 2022	See KTM 300EXC TPI 2018 - 2022
AA33057	Honda CR85R	2003 - 2007	



Part number insert	Year	Insert Types	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32071-A	2003 - 2007	Blind	Machine yourself			
AE32071-C	2003	Optional		7.80	+2.40	1.00
AE32071-E	2003	VHM standard		8.00	+2.40	1.00
AE32071-F	2003	Optional		8.20	+2.40	1.00
AE32071-K	2004	Optional		7.80	+2.40	1.20
AE32071-L	2004	VHM standard		8.00	+2.40	1.20
AE32071-M	2004	Optional		8.20	+2.40	1.20
AE32071-N	2005 - 2007	Optional		7.80	+2.20	0.80
AE32071-O	2005 - 2007	VHM standard		8.00	+2.20	0.80
AE32071-P	2005 - 2007	Optional		8.20	+2.20	0.80
AE32071-xxx	2003 - 2007	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33057	•	•	•	

VHM Cylinder head
AA33155 Honda CR125R 1987 - 1999


Part number insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32256-A	1987 - 1999	Blind	Machine yourself			
AE32256-K	1990 - 1991	Optional	Dome piston	10.60	+1.90	1.00
AE32256-L	1990 - 1991	VHM standard	Dome piston	10.80	+1.90	1.00
AE32256-M	1990 - 1991	Optional	Dome piston	11.00	+1.90	1.00
AE32256-C	1992 - 1999	Optional	Flat top piston	10.60	-0.70	1.00
AE32256-E	1992 - 1999	VHM standard	Flat top piston	10.80	-0.70	1.00
AE32256-F	1992 - 1999	Optional	Flat top piston	11.00	-0.70	1.00
AE32256-xxx	1987 - 1999	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33025	•	•	•			

AA33055 Honda CR125R 2000 - 2004


Part number insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32058-A	2000 - 2002	Blind	Machine yourself			
AE32058-C	2000 - 2002	Optional	Flat top piston	10.60	-0.55	1.00
AE32058-E	2000 - 2002	VHM standard	Flat top piston	10.80	-0.55	1.00
AE32058-F	2000 - 2002	Optional	Flat top piston	11.00	-0.55	1.00
AE32058-xxx	2000 - 2002	Custom	Special insert according to your specification			
AE32070-A	2003 - 2004	Blind	Machine yourself			
AE32070-C	2003	Optional	Flat top piston	11.20	-0.45	1.00
AE32070-D	2003	Optional	Flat top piston	11.40	-0.45	1.00
AE32070-E	2003	Optional	Flat top piston	11.60	-0.45	1.00
AE32070-F	2003	VHM standard	Flat top piston	11.80	-0.45	1.00
AE32070-H	2004	Optional	Dome piston	10.40	+2.10	1.00
AE32070-K	2004	VHM standard	Dome piston	10.60	+2.10	1.00
AE32070-L	2004	Optional	Dome piston	10.80	+2.10	1.00
AE32070-xxx	2003-2004	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33024	•	•	•			

AA33083 Honda CR125R 2005 - 2007


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32104-A	2005 - 2007	Blind	Machine yourself			
AE32104-B	2005 - 2007	Optional		11.00	+2.25	1.00
AE32104-C	2005 - 2007	VHM standard		11.20	+2.25	1.00
AE32104-E	2005 - 2007	Optional		11.40	+2.25	1.00
AE32104-F	2005 - 2007	Optional		11.60	+2.25	1.00
AE32104-xxx	2005 - 2007	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33024	•	•	•			

VHM Cylinder head
AA33155-1 Honda CR144 1987 - 1999


Part number insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32256-A	1987 - 1999	Blind	Machine yourself			
AE32256-xxx	1987 - 1999	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33000	•					

AA33083-1 Honda CR144 2005 - 2007


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32140-A	2005 - 2007	Blind	Machine yourself			
AE32140-xxx	2005 - 2007	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33000	•					

AA33003 Honda CR250R 1992 - 2001


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32020-A	1992-2001	Blind	Machine yourself			
AE32020-E	1992-1996	Optional	Dome piston	19.80	+3.00	1.60
AE32020-F	1992-1996	Optional	Dome piston	20.20	+3.00	1.60
AE32020-G	1992-1996	VHM standard	Dome piston	20.60	+3.00	1.60
AE32020-D	1997-2001	Optional	Flat top piston	19.80	-0.40	1.60
AE32020-C	1997-2001	Optional	Flat top piston	20.20	-0.40	1.60
AE32020-B	1997-2001	VHM standard	Flat top piston	20.60	-0.40	1.60
AE32020-xxx	1992-2001	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33003	•	•	•			

VHM Cylinder head
AA33042 Honda CR250R 2002 - 2004


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32060-A	2002-2004	Blind	Machine yourself			
AE32060-L	2002-2004	Optional		19.80	-0.30	1.30
AE32060-H	2002-2004	Optional		20.20	-0.30	1.30
AE32060-K	2002-2004	VHM standard		20.60	-0.30	1.30
AE32060-F	2002-2004	Optional		21.00	-0.30	1.30
AE32060-xxx	2002-2004	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33042	•	•	•	

AA33084 Honda CR250R 2005 - 2007


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32106-A	2005 -2007	Blind	Machine yourself			
AE32106-B	2005 -2007	Optional		19.80	+3.25	1.50
AE32106-C	2005 -2007	VHM standard		20.20	+3.25	1.50
AE32106-E	2005 -2007	Optional		20.60	+3.25	1.50
AE32106-xxx	2005 -2007	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33084	•	•	•	

AA33200 Honda CR500R 1989 - 2001


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32319-A	1989 - 2001	Blind	Machine yourself			
AE32319-B	1989 - 2001	Optional		45.00	+6.20	2.50
AE32319-C	1989 - 2001	VHM standard		48.00	+6.20	2.50
AE32319-E	1989 - 2001	Optional		51.00	+6.20	2.50
AE32319-F	1989 - 2001	Optional		54.00	+6.20	2.50
AE32319-xxx	1989 - 2001	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33200	•	•	•	

VHM Cylinder head
AA33168 Honda NSR50


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32276-A		Blind	Machine yourself			
AE32276-E		VHM standard				
AE32096-xxx		Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33031	•	•	•			

AA33168BB Honda NSR50 BIG BORE (70cc)


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32276-A BB		Blind	Machine yourself			
AE32096-xxx		Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33031	•	•	•			

AA33074 Honda NSR80 / MBX80


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32096-A		Blind	Machine yourself			
AE32096-E		VHM standard				
AE32096-xxx		Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33074	•	•	•			

AA33173 Honda NSR125


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32284-A		Blind	Machine yourself			
AE32284-E		VHM standard		12.00	+1.37	0.90
AE32284-xxx		Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33173	•	•	•	•		

VHM Cylinder head
AA33063 Honda NSR150


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32078-A		Blind	Machine yourself			
AE32078-E		VHM standard		14.20	+2.88	0.65
AE32078-xxx		Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33063	•	•	•			

AA33192 Honda NSR250 MC16 1986 - 1987


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32308-A	1986 - 1987	Blind	Machine yourself			
AE32308-B	1986 - 1987	Optional		12.00	+1.95	1.00
AE32308-C	1986 - 1987	Optional		12.20	+1.95	1.00
AE32308-D	1986 - 1987	VHM standard		12.40	+1.95	1.00
AE32308-E	1986 - 1987	Optional		12.60	+1.95	1.00
AE32308-F	1986 - 1987	Optional		12.80	+1.95	1.00
AE32308-xxx	1986 - 1987	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33191	•	•	•			

AA33191 Honda NSR250 MC18 1988 - 1989


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32308-A	1988 - 1989	Blind	Machine yourself			
AE32308-B	1988 - 1989	Optional		12.00	+1.95	1.00
AE32308-C	1988 - 1989	Optional		12.20	+1.95	1.00
AE32308-D	1988 - 1989	VHM standard		12.40	+1.95	1.00
AE32308-E	1988 - 1989	Optional		12.60	+1.95	1.00
AE32308-F	1988 - 1989	Optional		12.80	+1.95	1.00
AE32308-xxx	1988 - 1989	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33191	•	•	•			

AA33054 Honda NSR250 MC21/MC28 1990 - 1999


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32069-A	1990 - 1999	Blind	Machine yourself			
AE32069-E	1990 - 1999	VHM standard		12.60	+1.37	1.07
AE32069-xxx	1990 - 1999	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33054	•	•	•			

VHM Cylinder head
AA33169 Honda NSR300


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32078-A		Blind	Machine yourself			
AE32078-E		VHM standard		14.20	+2.88	0.65
AE32078-xxx		Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33169	•	•	•			

AA33035 Honda RS125 NX4 2000 - 2010


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32050-A	2000 - 2010	Blind	Machine yourself			
AE32050-D	2000 - 2010	Optional	Dome piston	11.20	+2.00	0.65
AE32050-E	2000 - 2010	VHM standard	Dome piston	11.40	+2.00	0.65
AE32050-F	2000 - 2010	Optional	Dome piston	11.60	+2.00	0.65
AE32052-G	2000 - 2010	Optional	Flat top piston	11.20	-0.45	0.65
AE32052-H	2000 - 2010	VHM standard	Flat top piston	11.40	-0.45	0.65
AE32052-K	2000 - 2010	Optional	Flat top piston	11.60	-0.45	0.65
AE32050-xxx	2000 - 2010	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33035	•	•	•			

AA33056 Honda RS125 A-kit 2001 - 2003


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32050-A	2001 - 2003	Blind	Machine yourself			
AE32050-D	2001 - 2003	Optional	Dome piston R150	11.20	+2.00	0.65
AE32050-E	2001 - 2003	VHM standard	Dome piston R150	11.40	+2.00	0.65
AE32050-F	2001 - 2003	Optional	Dome piston R150	11.60	+2.00	0.65
AE32050-xxx	2001 - 2003	Custom	Special insert according to your specification			
AE32052-D	2001	Optional	A-kit 2001 R300	11.20	+0.80	0.65
AE32052-E	2001	VHM standard	A-kit 2001 R300	11.40	+0.80	0.65
AE32052-F	2001	Optional	A-kit 2001 R300	11.60	+0.80	0.65
AE32052-G	2001 - 2003	Optional	Flat top piston	11.20	-0.45	0.65
AE32052-H	2001 - 2003	VHM standard	Flat top piston	11.40	-0.45	0.65
AE32052-K	2001 - 2003	Optional	Flat top piston	11.60	-0.45	0.65
AE32052-xxx	2001 - 2003	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33000	•					

VHM Cylinder head
AA33067 Honda RS125 JHA A-kit RS-V 2004 - 2010


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32067-A	2004 - 2010	Blind	Machine yourself			
AE32067-H	2004 - 2010	Optional	Flat top piston	11.80	-0.48	0.75
AE32067-K	2004 - 2010	VHM standard	Flat top piston	12.00	-0.48	0.75
AE32067-L	2004 - 2010	Optional	Flat top piston	12.20	-0.48	0.75
AE32067-xxx	2004 - 2010	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

**AA33036 Honda RS250 NX5 1993 - 2000
Honda RS250 NXA 2001 - 2010**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32051-A	1993 - 2010	Blind	Blind insert			
AE32051-023	1993 - 2000	Optional	Dome piston	10.20	+2.00	0.65
AE32051-021	1993 - 2000	Optional	Dome piston	10.40	+2.00	0.65
AE32051-022	1993 - 2000	Optional	Dome piston	10.60	+2.00	0.65
AE32051-118	1993 - 2000	Optional	Dome piston	10.80	+2.00	0.65
AE32051-016	1993 - 2000	Optional	Dome piston	11.40	+2.00	0.65
AE32051-017	1993 - 2000	Optional	Dome piston	11.60	+2.00	0.65
AE32051-018	1993 - 2000	VHM standard	Dome piston	11.80	+2.00	0.65
AE32051-019	1993 - 2000	Optional	Dome piston	12.00	+2.00	0.65
AE32051-068	1993 - 2000	Optional	Dome piston	12.20	+2.00	0.65
AE32051-D	2001 - 2010	Optional	Dome piston	11.80	+2.10	0.65
AE32051-E	2001 - 2010	Optional	Dome piston	12.00	+2.10	0.65
AE32051-F	2001 - 2010	VHM standard	Dome piston	12.20	+2.10	0.65
AE32051-G	2001 - 2010	Optional	Dome piston	12.40	+2.10	0.65
AE32051-H	2001 - 2010	Optional	Dome piston	12.60	+2.10	0.65
AE32051-J	2001 - 2010	Optional	Dome piston	12.80	+2.10	0.65
AE32051-101	2001 - 2010	Optional	Flat top piston: APHO12521750	10.60	-0.30	0.65
AE32051-073	2001 - 2010	Optional	Flat top piston: APHO12521750	11.20	-0.30	0.65
AE32051-072	2001 - 2010	Optional	Flat top piston: APHO12521750	11.40	-0.30	0.65
AE32051-071	2001 - 2010	Optional	Flat top piston: APHO12521750	11.60	-0.30	0.65
AE32051-070	2001 - 2010	Optional	Flat top piston: APHO12521750	11.80	-0.30	0.65
AE32051-069	2001 - 2010	Optional	Flat top piston: APHO12521750	12.00	-0.30	0.65
AE32051-061	2001 - 2010	VHM standard	Flat top piston: APHO12521750	12.20	-0.30	0.65
AE32051-xxx	2001 - 2010	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33036	•	•	•	

VHM Cylinder head
AA33052 Honda RS250 A-kit 2001 - 2005


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32067-A	2001 - 2005	Blind	Machine yourself			
AE32067-C	2001 - 2005	Optional	Flat top piston	11.80	-0.30	0.65
AE32067-E	2001 - 2005	VHM standard	Flat top piston	12.00	-0.30	0.65
AE32067-F	2001 - 2005	Optional	Flat top piston	12.20	-0.30	0.65
AE32067-xxx	2001 - 2005	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33097 Husaberg TE 125 2012 - 2014 See KTM 125SX / EXC 2007 - 2015

AA33098 Husaberg TE 250 2011 - 2014 See KTM 250SX / EXC 2007 - 2016

AA33109 Husaberg TE 300 2011 - 2014 See KTM 300SX / EXC 2008 - 2016

AA33114 Husqvarna TC50 2017 - 2022 See KTM 50SX 2017 - 2022

AA33112 Husqvarna TC65 2017 - 2022 See KTM 65SX 2009 - 2022

AA33145 Husqvarna TC85 2014 - 2017 See KTM 85SX 2013 - 2017

AA33171 Husqvarna TC85 2018 - 2022 See KTM 85SX 2018 - 2022

AA33149 Husqvarna TC105 2014 - 2017 See KTM 105SX 2013 - 2017

AA33177 Husqvarna TC105 2018 - 2022 See KTM 105SX 2018 - 2022

AA33039 Husqvarna CR125 1998 - 2013
Husqvarna WR125 2001 - 2013


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32054-A	1998 - 2013	Blind	Machine yourself			
AE32054-C	1998 - 2013	Optional		10.80	-0.50	1.00
AE32054-E	1998 - 2013	Optional		11.00	-0.50	1.00
AE32054-F	1998 - 2013	VHM standard		11.20	-0.50	1.00
AE32054-H	1998 - 2013	Optional		11.40	-0.50	1.00
AE32054-xxx	1998 - 2013	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33097 Husqvarna TC125 2014 - 2015
Husqvarna TE125 2015 - 2016 See KTM 125SX / EXC 2007 - 2015

AA33156 Husqvarna TC125 2016 - 2022 See KTM 125SX 2016 - 2022

VHM Cylinder head

AA33098	Husqvarna TC/TE 250	2014 - 2016	See KTM 250SX/EXC 2007 - 2016
AA33166	Husqvarna TC250 Husqvarna TE250	2017 - 2022 2017	See KTM 250SX 2017 - 2022
AA33175	Husqvarna TE250i	2018 - 2022	See KTM 250EXC TPI 2018 - 2022
AA33109	Husqvarna TE/TC 300	2014 - 2016	See KTM 300SX/EXC 2008 - 2016
AA33167	Husqvarna TE300 Husqvarna TC300 Husqvarna TX300	2017 - 2018 2017 - 2022 2017 - 2022	See KTM 300SX 2017 - 2022
AA33172	Husqvarna TE300i	2018 - 2022	See KTM 300EXC TPI 2018 - 2022
AA33026	Kawasaki KX65 Suzuki RM65	2000 - 2022 2000 - 2005	



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32032-A	2000 - 2022	Blind	Machine yourself			
AE32032-M	2000 - 2022	Optional		6.90	+1.75	0.70
AE32032-N	2000 - 2022	VHM standard		7.20	+1.75	0.70
AE32032-xxx	2000 - 2022	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33026	•	•	•			

AA33151 Kawasaki KX85 2000 - 2022


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32240-A	2000 - 2022	Blind	Machine yourself			
AE32240-B	2000 - 2022	Optional		7.60	+1.70	0.90
AE32240-C	2000 - 2022	Optional		7.80	+1.70	0.90
AE32240-E	2000 - 2022	VHM standard		8.00	+1.70	0.90
AE32240-F	2000 - 2022	Optional		8.20	+1.70	0.90
AE32240-xxx	2000 - 2022	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33151	•	•	•			

VHM Cylinder head
AA33151-1 Kawasaki KX100 2000 - 2021


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32240B-A	2000 - 2021	Blind	Machine yourself			
AE32240B-001	2000 - 2021	Optional		9.00	+1.17	1.00
AE32240B-002	2000 - 2021	VHM standard		9.30	+1.17	1.00
AE32240B-xxx	2000 - 2021	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33151-1	•	•	•	

AA33189 Kawasaki KX125 1998 - 2002


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32306-A	1998 - 2002	Blind	Machine yourself			
AE32306-B	1998 - 2000	Optional		10.80	+0.32	1.00
AE32306-C	1998 - 2000	VHM standard '98-00		11.00	+0.32	1.00
AE32306-E	1998 - 2000	Optional		11.20	+0.32	1.00
AE32306-K	2001 - 2002	Optional		10.80	+1.80	1.00
AE32306-L	2001 - 2002	Optional		11.00	+1.80	1.00
AE32306-M	2001 - 2002	VHM standard '01-02		11.20	+1.80	1.00
AE32306-N	2001 - 2002	Optional		11.40	+1.80	1.00
AE32306-xxx	1998 - 2002	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33043 Kawasaki KX125 2003 - 2008


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32061-A	2003 - 2008	Blind	Machine yourself			
AE32061-C	2003 - 2008	Optional		11.20	+1.80	1.00
AE32061-E	2003 - 2008	Optional		11.40	+1.80	1.00
AE32061-F	2003 - 2008	VHM standard '04-08		11.60	+1.80	1.00
AE32061-G	2003 - 2008	VHM standard '03		11.80	+1.80	1.00
AE32061-xxx	2003 - 2008	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33043	•	•	•	

VHM Cylinder head
AA33189-1 Kawasaki KX144 1998 - 2002


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32306-A	1998 - 2002	Blind	Machine yourself			
AE32306-xxx	1998 - 2002	Custom	Special insert according to your specification			
Part number sealkit SK33000	O-ring small	O-ring middle	O-ring big	O-ring various		

AA33043-2 Kawasaki KX144 2003 - 2008


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32122-A	2003 - 2008	Blind	Machine yourself			
AE32122-xxx	2003 - 2008	Custom	Special insert according to your specification			
Part number sealkit SK33000	O-ring small	O-ring middle	O-ring big	O-ring various		

AA33075 Kawasaki KX250 2005 - 2008


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32098-A	2005 - 2008	Blind	Machine yourself			
AE32098-C	2005 - 2008	Optional		20.20	+3.00	1.50
AE32098-E	2005 - 2008	VHM standard		20.60	+3.00	1.50
AE32098-F	2005 - 2008	Optional		21.00	+3.00	1.50
AE32098-xxx	2005 - 2008	Custom	Special insert according to your specification			
Part number sealkit SK33075	O-ring small	O-ring middle	O-ring big	O-ring various		

VHM Cylinder head
AA33193
Kawasaki KX500
1998 - 2004


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32310-A	1998 - 2004	Blind	Machine yourself			
AE32310-B	1998 - 2004	Optional		41.00	+0.75	2.00
AE32310-C	1998 - 2004	Optional		43.00	+0.75	2.00
AE32310-E	1998 - 2004	Optional		45.00	+0.75	2.00
AE32310-F	1998 - 2004	Optional		47.00	+0.75	2.00
AE32310-G	1998 - 2004	Optional		49.00	+0.75	2.00
AE32310-xxx	1998 - 2004	Custom	Special insert according to your specification			

OEM cylinder head specifications	Cylinder head gasket [mm]	Volume [cc]
This chart shows the volume of the OEM cylinder head depending on the thickness of the cylinder head gasket.	0.20	43.50
	0.40	44.70
	1.00	48.20

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33193	•	•	•	•

AA33062
Kawasaki KR150 / KRR150 / ZX-150RR


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32077-A		Blind	Machine yourself			
AE32077-E		VHM standard		14.20	+2.93	0.70
AE32077-xxx		Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33062	•	•	•	•

AA33062
Kawasaki KR150 / KRR150 / ZX-150RR
O-RING


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32077-A		Blind	Machine yourself			
AE32077-E O-RING		VHM standard		14.20	+2.93	0.70
AE32077-xxx		Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33062	•	•	•	•

VHM Cylinder head

AA33114
KTM 50SX **2009 - 2022**
KTM 50SXS **2011 - 2016**
Husqvarna TC50 **2017 - 2022**
GasGas MC50 **2021 - 2022**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32170-A	2009 - 2022	Blind	Machine yourself			
AE32170-C	2009 - 2022	Optional		4.00	+2.45	0.60
AE32170-E	2009 - 2022	VHM standard		4.20	+2.45	0.60
AE32170-xxx	2009 - 2022	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33114	●	●	●			

AA33112
KTM 65SX **2009 - 2022**
KTM 65SXS **2012 - 2015**
KTM 65XC **2009**
Husqvarna TC65 **2017 - 2022**
GasGas MC65 **2021 - 2022**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32167-A	2009 - 2022	Blind	Machine yourself			
AE32167-B	2009 - 2012	Optional		5.00	+2.25	0.80
AE32167-C	2009 - 2012	VHM standard		5.20	+2.25	0.80
AE32167-E	2009 - 2012	Optional		5.40	+2.25	0.80
AE32167-G	2013 - 2022	Optional		5.00	+2.45	0.80
AE32167-H	2013 - 2022	VHM standard		5.20	+2.45	0.80
AE32167-K	2013 - 2022	Optional		5.40	+2.45	0.80
AE32167-101	2009 - 2022	Optional	12° piston: APKT06521722 Raise cylinder 0.10mm	5.00	+0.40	0.80
AE32167-059	2009 - 2022	VHM standard	12° piston: APKT06521722 Raise cylinder 0.10mm	5.20	+0.40	0.80
AE32167-xxx	2009 - 2022	Custom	Special insert according to your specification			
Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various		
SK33112	●			●		

VHM Cylinder head

AA33068 **KTM 85SX** **2004 - 2012**
KTM 85SXS **2012**
KTM 85XC **2009**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32087-A	2004 - 2012	Blind	Machine yourself			
AE32087-G	2004 - 2012	Optional		7.80	+2.20	0.80
AE32087-H	2004 - 2012	VHM standard		8.00	+2.20	0.80
AE32087-K	2004 - 2012	Optional		8.20	+2.20	0.80
AE32087-112	2004 - 2012	VHM standard	For 12° piston: APKT08521707	8.00	+0.60	0.80
AE32087-xxx	2004 - 2012	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33068	•	•	•	

AA33145 **KTM 85SX** **2013 - 2017**
KTM 85SXS **2013 - 2015**
Husqvarna TC85 **2014 - 2017**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32226-A	2013 - 2017	Blind	Machine yourself			
AE32226-C	2013 - 2017	Optional		7.80	+2.20	0.80
AE32226-E	2013 - 2017	VHM standard		8.00	+2.20	0.80
AE32226-F	2013 - 2017	Optional		8.20	+2.20	0.80
AE32226-079	2013 - 2017	Optional	For 12° piston: APKT08521707	7.80	+0.60	0.80
AE32226-056	2013 - 2017	VHM standard	For 12° piston: APKT08521707	8.00	+0.60	0.80
AE32226-100	2013 - 2017	Optional	For 12° piston: APKT08521707	8.20	+0.60	0.80
AE32226-xxx	2013 - 2017	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33145	•	•	•	

AA33171 **KTM 85SX** **2018 - 2022**
Husqvarna TC85 **2018 - 2022**
GasGas MC85 **2021 - 2022**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32281-A	2018 - 2022	Blind	Blind insert			
AE32281-C	2018 - 2022	Optional		7.80	+2.15	0.80
AE32281-E	2018 - 2022	VHM standard		8.00	+2.15	0.80
AE32281-F	2018 - 2022	Optional		8.20	+2.15	0.80
AE32281-012	2018 - 2022	Optional	For 12° piston: APKT08521707	7.80	+0.55	0.80
AE32281-013	2018 - 2022	VHM standard	For 12° piston: APKT08521707	8.00	+0.55	0.80
AE32281-014	2018 - 2022	Optional	For 12° piston: APKT08521707	8.20	+0.55	0.80
AE32281-xxx	2018 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33145	•	•	•	

VHM Cylinder head
AA33110 **KTM 105SX** **2003 - 2012**
 KTM 105XC **2008 - 2009**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32161-A	2003 - 2012	Blind	Machine yourself			
AE32161-C	2003 - 2012	Optional		9.20	+2.20	0.90
AE32161-E	2003 - 2012	VHM standard		9.40	+2.20	0.90
AE32161-F	2003 - 2012	Optional		9.60	+2.20	0.90
AE32161-xxx	2003 - 2012	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33149 **KTM 105SX** **2013 - 2017**
 Husqvarna TC105 **2014 - 2017**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32161-A	2013 - 2017	Blind	Machine yourself			
AE32161-C	2013 - 2017	Optional		9.20	+2.20	0.90
AE32161-E	2013 - 2017	VHM standard		9.40	+2.20	0.90
AE32161-F	2013 - 2017	Optional		9.60	+2.20	0.90
AE32161-xxx	2013 - 2017	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33177 **KTM 105SX** **2018 - 2022**
 Husqvarna TC105 **2018 - 2022**
 GasGas MC105 **2021 - 2022**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32288-A	2018 - 2022	Blind	Machine yourself			
AE32288-B	2018 - 2022	Optional		9.20	+2.20	0.90
AE32288-C	2018 - 2022	VHM standard		9.40	+2.20	0.90
AE32288-E	2018 - 2022	Optional		9.60	+2.20	0.90
AE32288-F	2018 - 2022	Optional		9.80	+2.20	0.90
AE32288-xxx	2018 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33177	•	•	•	

VHM Cylinder head

AA33049 **KTM 125SX** **2002 - 2006**
KTM 125EXC **2002 - 2006**
KTM 125SXS **2001 - 2005**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32065-A	2001 - 2006	Blind	Machine yourself			
AE32065-H	2001 - 2006	Optional		11.40	0.00	1.00
AE32065-K	2001 - 2006	Optional		11.60	0.00	1.00
AE32065-L	2001 - 2006	VHM standard		11.80	0.00	1.00
AE32065-M	2001 - 2006	Optional		12.00	0.00	1.00
AE32065-xxx	2001 - 2006	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33049	•	•	•	

AA33097 **KTM 125SX** **2007 - 2015**
KTM 125SXS **2007 - 2008**
KTM 125EXC **2007 - 2016**
Husqvarna TC125 **2014 - 2015**
Husqvarna TE125 **2015 - 2016**
Husaberg TE125 **2012 - 2014**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32128-A	2007 - 2012	Blind	Machine yourself			
AE32128-B	2007 - 2012	Optional		11.20	0.00	0.90
AE32128-C	2007 - 2012	Optional		11.40	0.00	0.90
AE32128-E	2007 - 2012	VHM standard for 125SX		11.60	0.00	0.90
AE32128-F	2007 - 2012	VHM standard for 125EXC / TE125		11.80	0.00	0.90
AE32128-H	2007 - 2012	Optional		12.00	0.00	0.90
AE32128-I	2013 - 2015	Optional		11.20	0.00	1.00
AE32128-J	2013 - 2015	Optional		11.40	0.00	1.00
AE32128-K	2013 - 2015	VHM standard for 125SX / TC125		11.60	0.00	1.00
AE32128-L	2013 - 2015	VHM standard for 125EXC / TE125		11.80	0.00	1.00
AE32128-M	2013 - 2015	Optional		12.00	0.00	1.00
AE32128-089	2007 - 2015	Optional	For 12° piston: APKT12511673	11.60	+ 0.40	0.90
AE32128-048	2007 - 2015	VHM standard	For 12° piston: APKT12511673	11.80	+ 0.40	0.90
AE32128-xxx	2007 - 2015	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33097	•	•	•	•

VHM Cylinder head

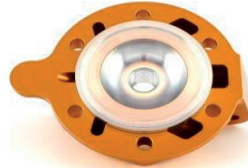
AA33156
KTM 125SX **2016 - 2022**
KTM 125 XC-W **2017 - 2019**
Husqvarna TC125 **2016 - 2022**
Husqvarna TX125 **2017 - 2019**
GasGas MC125 **2021 - 2022**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32257-A	2016 - 2022	Blind	Machine yourself			
AE32257-B	2016 - 2022	Optional		11.20	0.00	0.90
AE32257-C	2016 - 2022	Optional		11.40	0.00	0.90
AE32257-E	2016 - 2022	VHM standard		11.60	0.00	0.90
AE32257-F	2016 - 2022	Optional		11.80	0.00	0.90
AE32257-040	2016 - 2022	Optional	For 12° piston: APKT12511673	11.20	0.00	0.90
AE32257-029	2016 - 2022	Optional	For 12° piston: APKT12511673	11.40	0.00	0.90
AE32257-026	2016 - 2022	VHM standard	For 12° piston: APKT12511673	11.60	0.00	0.90
AE32257-031	2016 - 2022	Optional	For 12° piston: APKT12511673	11.80	0.00	0.90
AE32257-xxx	2016 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33156	•	•	•	

AA33103
KTM 144SX **2007 - 2008**
KTM 150SX **2009 - 2015**
KTM 150XC **2009 - 2015**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32150-A	2008 - 2015	Blind	Machine yourself			
AE32150-B	2008 - 2015	Optional		13.20	0.00	1.10
AE32150-C	2008 - 2015	Optional		13.40	0.00	1.10
AE32150-E	2008 - 2015	VHM standard		13.60	0.00	1.10
AE32150-F	2008 - 2015	Optional		13.80	0.00	1.10
AE32150-xxx	2008 - 2015	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33097	•	•	•	•

VHM Cylinder head

AA33157 **KTM 150SX** **2016 - 2022**
KTM 150XC-W **2017 - 2019**
Husqvarna TE150 **2017 - 2019**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32260-A	2016 - 2022	Blind	Machine yourself			
AE32260-B	2016 - 2022	Optional		13.20	0.00	1.10
AE32260-C	2016 - 2022	Optional		13.40	0.00	1.10
AE32260-E	2016 - 2022	VHM standard		13.60	0.00	1.10
AE32260-F	2016 - 2022	Optional		13.80	0.00	1.10
AE32260-G	2016 - 2022	Optional		14.00	0.00	1.10
AE32260-xxx	2016 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33157	●	●	●	

AA33185 **KTM 150EXC TPI** **2020 - 2022**
KTM 150XC-W TPI **2020 - 2022**
Husqvarna TE150i **2020 - 2022**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32298-A	2020 - 2022	Blind	Machine yourself			
AE32298-B	2020 - 2022	Optional		13.60	0.00	1.10
AE32298-C	2020 - 2022	Optional		13.80	0.00	1.10
AE32298-E	2020 - 2022	VHM standard		14.00	0.00	1.10
AE32298-F	2020 - 2022	Optional		14.20	0.00	1.10
AE32298-G	2020 - 2022	Optional		14.40	0.00	1.10
AE32298-xxx	2020 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33157	●	●	●	

AA33046 **KTM 200SX** **2003 - 2016**
KTM 200EXC **2003 - 2016**
KTM 200MXC **2003**
KTM 200XC **2006 - 2009**
KTM 200XC-W **2006 - 2016**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32063-A	2003 - 2016	Blind	Machine yourself			
AE32063-C	2003 - 2016	Optional		16.30	0.00	1.20
AE32063-E	2003 - 2016	VHM standard for 200SX		16.60	0.00	1.20
AE32063-F	2003 - 2016	VHM standard for 200EXC		16.90	0.00	1.20
AE32063-xxx	2003 - 2016	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	●			

VHM Cylinder head
AA33053 KTM 250SX 2003 - 2006


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32068-A	2003 - 2006	Blind	Machine yourself			
AE32068-C	2003 - 2006	Optional		20.20	+3.70	1.40
AE32068-E	2003 - 2006	Optional		20.60	+3.70	1.40
AE32068-F	2003 - 2006	VHM standard		21.00	+3.70	1.60
AE32068-G	2003 - 2006	Optional		21.40	+3.70	1.60
AE32068-xxx	2003 - 2016	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33098 KTM 250SX/EXC/XC-W 2007 - 2016
KTM 250XC 2007 - 2013
KTM 250SXS 2007
Husqvarna TC/TE250 2014 - 2016
Husaberg TE250 2011 - 2014


Part number insert	Year	Insert types	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32129-A	2007 - 2016	Blind	Machine yourself			
AE32129-C	2007 - 2016	Optional		20.60	+3.70	1.40
AE32129-E	2007 - 2016	Optional		21.00	+3.70	1.40
AE32129-F	2007 - 2016	Optional		21.45	+3.70	1.60
AE32129-H	2007 - 2016	VHM standard for 250SX / TC250		21.80	+3.70	1.60
AE32129-K	2007 - 2016	VHM standard for 250EXC / TE250		22.20	+3.70	1.60
AE32129-068	2007 - 2016	VHM standard	For 12° piston: APKT25021754	22.20	+0.50	1.60
AE32129-xxx	2007 - 2016	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33098	•	•	•	

VHM Cylinder head

AA33166 **KTM 250SX** **2017 - 2022**
KTM 250EXC **2017**
Husqvarna TC250 **2017 - 2022**
Husqvarna TE250 **2017**
GasGas MC250 **2022**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32272-A	2017 - 2022	Blind	Machine yourself			
AE32272-C	2017 - 2022	Optional		21.80	+3.70	1.60
AE32272-E	2017 - 2022	VHM standard	for 250SX / TC250	22.20	+3.70	1.60
AE32272-F	2017 - 2022	Optional		22.60	+3.70	1.60
AE32272-S	2017 - 2022	Optional		23.00	+3.70	1.60
AE32272-T	2017 - 2022	VHM standard	for 250EXC / TE250	24.00	+3.70	1.70
AE32272-024	2017 - 2022	VHM standard	For 12° piston: APKT25021754	22.20	+0.50	1.60
AE32272-037	2017 - 2022	Optional	For 12° piston: APKT25021754	22.60	+0.50	1.60
AE32272-xxx	2017 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33098	•	•	•	

AA33175 **KTM 250EXC TPI** **2018 - 2022**
KTM 250XC-W TPI **2019 - 2022**
KTM 250XC TPI **2020 - 2022**
Husqvarna TE250i **2018 - 2022**
GasGas EC250 **2021 - 2022**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32272-A	2018 - 2022	Blind	Machine yourself			
AE32272-S	2018 - 2022	Optional		23.00	+3.70	1.60
AE32272-T	2018 - 2022	VHM standard		24.00	+3.70	1.70
AE32272-xxx	2018 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33098	•	•	•	

AA33109 **KTM 300SX/EXC** **2008 - 2016**
KTM 300XC **2008 - 2016**
KTM 300XC-W **2008 - 2016**
Husqvarna TE/TC300 **2014 - 2016**
Husaberg TE300 **2011 - 2014**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32160-A	2008 - 2016	Blind	Machine yourself			
AE32160-H	2008 - 2016	VHM standard	for 300SX / TC300	26.25	0.00	1.90
AE32160-E	2008 - 2016	VHM standard	for 300EXC / TE300	28.50	0.00	1.70
AE32160-xxx	2008 - 2016	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33109	•	•	•	

VHM Cylinder head

AA33167
KTM 300EXC/XC/XC-W **2017 - 2018**
KTM 300SX **2017 - 2022**
Husqvarna TE300 **2017 - 2018**
Husqvarna TC300 **2017 - 2022**
Husqvarna TX300 **2017 - 2018**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32274-A	2017 - 2022	Blind	Machine yourself			
AE32274-B	2017 - 2022	VHM standard for 300SX / TC300		26.25	0.00	1.90
AE32274-E	2017 - 2022	VHM standard for 300EXC / 300XC / 300XC-W / TE300 / TX300		27.50	0.00	1.90
AE32274-xxx	2017 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33167	•	•	•	

AA33172
KTM 300EXC TPI **2018 - 2022**
KTM 300XC-W TPI **2019 - 2022**
Husqvarna TE300i **2018 - 2022**
Husqvarna TX300i **2020 - 2022**
GasGas EC300 **2021 - 2022**
GasGas EX300 **2021 - 2022**



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32274-A	2018 - 2022	Blind	Machine yourself			
AE32274-C	2018 - 2022	Optional		26.50	0.00	1.90
AE32274-E	2018 - 2022	Optional		27.50	0.00	1.90
AE32274-F	2018 - 2022	VHM standard		28.50	0.00	1.90
AE32274-xxx	2018 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33167	•	•	•	

VHM Cylinder head

AA33201	Rieju MR250	2021 - 2022
	Rieju MR300	2021 - 2022
	GasGas EC250	2018 - 2019
	GasGas EC300	2018 - 2019



Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32321-A		Blind	Machine yourself for 250cc			
AE32321-B		Optional	250cc	19.50	-1.00	1.60
AE32321-C		VHM standard	250cc	20.00	-1.00	1.60
AE32321-E		Optional	250cc	20.50	-1.00	1.60
AE32321-F		Optional	250cc	21.00	-1.00	1.60
AE32321-xxx		Custom	Special insert according to your specification			
AE32320-A		Blind	Machine yourself for 300cc			
AE32320-C		Optional	300cc	26.50	-1.25	1.90
AE32320-E		VHM standard	300cc	27.50	-1.25	1.90
AE32320-F		Optional	300cc	28.50	-1.25	1.90
AE32320-xxx		Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33202 (250cc)	•	•	•	
SK33201 (300cc)	•	•	•	

AA33026	Suzuki RM65	2000 - 2005	See Kawasaki KX65 2000 - 2022
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AA33009	Suzuki RM85	1998 - 2017
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Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32014-A	1998 - 2017	Blind	Machine yourself			
AE32014-E	1998	Optional	RM79	7.20	+1.65	1.00
AE32014-D	1998	Optional	RM79	7.40	+1.65	1.00
AE32014-C	1998	VHM standard	RM79	7.60	+1.65	1.00
AE32014-M	1999	Optional	RM82	7.40	+1.65	1.00
AE32014-L	1999	Optional	RM82	7.60	+1.65	1.00
AE32014-K	1999	VHM standard	RM82	7.80	+1.65	1.00
AE32014-N	2000 - 2017	Optional	RM85	8.00	+1.40	1.00
AE32014-O	2000 - 2017	VHM standard	RM85	8.20	+1.40	1.00
AE32014-xxx	1998 - 2017	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33009	•	•	•	

AA33126	Suzuki RM112 Supermini 2000 - 2012
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Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32195-A	2000 - 2012	Blind	Machine yourself			
AE32195-xxx	2000 - 2012	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33009	•	•	•	

VHM Cylinder head
AA33078 Suzuki RM125 1996 - 2008
Suzuki RM144 2000 - 2003
**New model, old model inserts: AE32005-F '98, AE32005-M '01-'02, AE32005-R '03*


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32088-A	1996 - 2004	Blind	Blind insert			
AE32088-016	1996-2000, 2003	Optional	RM125, Dome piston	11.00	+1.90	1.00
AE32088-003	1996-2000, 2003	VHM standard	RM125, Dome piston	11.20	+1.90	1.00
AE32088-015	1996-2000, 2003	Optional	RM125, Dome piston	11.40	+1.90	1.00
AE32088-019	2001 - 2002	VHM standard	RM125, Dome piston	11.20	+2.10	1.00
AE32088-C	2004	Optional	RM125	10.80	-0.50	1.00
AE32088-E	2004	Optional	RM125	11.00	-0.50	1.00
AE32088-F	2004	VHM standard	RM125	11.20	-0.50	1.00
AE32088-H	2004	Optional	RM125	11.40	-0.50	1.00
AE32088-xxx	1996 - 2004	Custom	Special insert according to your specification			
AE32101-A	2005 - 2008	Blind	Blind insert			
AE32101-B	2005 - 2008	Optional	RM125	10.80	-0.50	0.90
AE32101-C	2005 - 2008	Optional	RM125	11.00	-0.50	0.90
AE32101-E	2005 - 2008	VHM standard	RM125	11.20	-0.50	0.90
AE32101-F	2005 - 2008	Optional	RM125	11.40	-0.50	0.90
AE32101-xxx	2005 - 2008	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33078	•	•	•	

AA33038 Suzuki RM250 2001 - 2008


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32053-A	2001 - 2008	Blind	Machine yourself			
AE32053-C	2001 - 2002	Optional		20.20	-0.50	1.30
AE32053-E	2001 - 2002	VHM standard		20.60	-0.50	1.30
AE32053-F	2003 - 2008	Optional		20.20	+3.00	1.50
AE32053-H	2003 - 2008	VHM standard		20.60	+3.00	1.50
AE32053-xxx	2001 - 2008	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33038	•	•	•	

AA33102 Suzuki RGV 250 VJ21 1988 - 1991
Suzuki RGV 250 VJ22 1991 - 1996

See Aprilia RS250 Streetbike 1995 - 2002

AA33188 Suzuki RGV 250 VJ23 1997 - 1998


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32302-A	1997 - 1998	Blind	Machine yourself			
AE32302-xxx	1997 - 1998	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

VHM Cylinder head
AA33070 **TM MX85** **1999 - 2021**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32089-A	1999 - 2021	Blind	Machine yourself			
AE32089-C	1999 - 2012	Optional		7.40	-0.60	1.00
AE32089-E	1999 - 2012	Optional		7.60	-0.60	1.00
AE32089-F	1999 - 2012	VHM standard		7.80	-0.60	1.00
AE32089-G	2013 - 2021	Optional		7.80	-0.80	0.90
AE32089-H	2013 - 2021	VHM standard		8.00	-0.80	0.90
AE32089-K	2013 - 2021	Optional		8.20	-0.80	0.90
AE32089-xxx	1999 - 2021	Custom	Special insert according to your specification			

Part number sealkit O-ring small O-ring middle O-ring big O-ring various
SK33000 ●

AA33005 **TM MX125** **1998 - 2011**
TM EN125 **1998 - 2011**
TM MX144 **2007 - 2011**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32017-A	1998 - 2011	Blind	Machine yourself for MX125/EN125			
AE32017-A 56MM	2007 - 2011	Blind	Machine yourself for MX144			
AE32017-O	1998 - 2011	Optional	MX125 / EN125	10.80	-1.60	0.90
AE32017-N	1998 - 2011	Optional	MX125 / EN125	11.00	-1.60	0.90
AE32017-M	1998 - 2011	VHM standard	MX125 / EN125	11.20	-1.60	0.90
AE32017-L	1998 - 2011	Optional	MX125 / EN125	11.40	-1.60	0.90
AE32017-xxx	1998 - 2011	Custom	Special insert according to your specification			

Part number sealkit O-ring small O-ring middle O-ring big O-ring various
SK33000 ●

AA33142 **TM MX125** **2012 - 2021**
TM EN125 **2012 - 2021**
TM MX144 **2013 - 2021**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32223-A	2012 - 2021	Blind	Machine yourself			
AE32223-B	2012 - 2015	Optional	MX125 / EN125	10.80	-1.70	1.00
AE32223-C	2012 - 2015	Optional	MX125 / EN125	11.00	-1.70	1.00
AE32223-E	2012 - 2015	VHM standard	MX125 / EN125	11.20	-1.70	1.00
AE32223-F	2012 - 2015	Optional	MX125 / EN125	11.40	-1.70	1.00
AE32223-G	2012 - 2015	Optional	MX125 / EN125	11.60	-1.70	1.00
AE32223-K	2016 - 2021	Optional	MX125 / EN125	11.00	-1.70	1.20
AE32223-L	2016 - 2021	Optional	MX125 / EN125	11.20	-1.70	1.20
AE32223-M	2016 - 2021	Optional	MX125 / EN125	11.40	-1.70	1.20
AE32223-N	2016 - 2021	VHM standard	MX125 / EN125	11.60	-1.70	1.20
AE32223-O	2016 - 2021	Optional	MX125 / EN125	11.80	-1.70	1.20
AE32223-P	2016 - 2021	Optional	MX125 / EN125	12.00	-1.70	1.20
AE32223-068	2013 - 2021	Optional	MX144	13.20	-1.65	0.95
AE32223-069	2013 - 2021	VHM standard	MX144	13.40	-1.65	0.95
AE32223-070	2013 - 2021	Optional	MX144	13.60	-1.65	0.95
AE32223-xxx	2012 - 2021	Custom	Special insert according to your specification			

Part number sealkit O-ring small O-ring middle O-ring big O-ring various
SK33000 ●

VHM Cylinder head
AA33105 TM MX250 / MX300 1999 - 2014


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32152-A	1999 - 2014	Blind	Machine yourself for 250cc			
AE32152-C	1999 - 2014	Optional	250cc	20.20	-0.40	1.30
AE32152-E	1999 - 2014	VHM standard MX250	250cc	20.60	-0.40	1.30
AE32152-F	1999 - 2014	Optional	250cc	21.00	-0.40	1.30
AE32152-xxx	1999 - 2014	Custom	Special insert according to your specification			
AE32153-A	1999 - 2014	Blind	Machine yourself for 300cc			
AE32153-C	1999 - 2014	Optional	300cc	27.00	-0.50	1.80
AE32153-E	1999 - 2014	VHM standard MX300	300cc	28.00	-0.50	1.80
AE32153-F	1999 - 2014	Optional	300cc	29.00	-0.50	1.80
AE32153-xxx	1999 - 2014	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33154 TM MX250 / MX300 2015 - 2021


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32255-A	2015 - 2021	Blind	Machine yourself 250cc			
AE32255-C	2015 - 2021	Optional	Ø66.40 - 250cc	20.20	-0.40	1.30
AE32255-E	2015 - 2021	VHM standard MX250	Ø66.40 - 250cc	20.60	-0.40	1.30
AE32255-F	2015 - 2021	Optional	Ø66.40 - 250cc	21.00	-0.40	1.30
AE32255-xxx	2015 - 2021	Custom	Special insert according to your specification			
AE32250-A	2015 - 2021	Blind	Machine yourself for 300cc			
AE32250-C	2015 - 2021	Optional	Ø72 - 300cc	27.00	-0.60	1.60
AE32250-E	2015 - 2021	VHM standard MX300	Ø72 - 300cc	28.00	-0.60	1.60
AE32250-F	2015 - 2021	Optional	Ø72 - 300cc	29.00	-0.60	1.60
AE32250-xxx	2015 - 2021	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various	Remark
SK3154	•	•	•		Only for MX300

AA33186 TM EN300Fi 2020 - 2021


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32299-A	2020 - 2021	Blind	Machine yourself			
AE32299-C	2020 - 2021	Optional		27.00	-0.80	1.75
AE32299-E	2020 - 2021	VHM standard		28.00	-0.80	1.75
AE32299-F	2020 - 2021	Optional		29.00	-0.80	1.75
AE32299-xxx	2020 - 2021	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various	Remark
SK33000	•				

VHM Cylinder head
AA33174 Yamaha YZ65 2018 - 2022


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32285-A	2018 - 2022	Blind	Machine yourself			
AE32285-C	2018 - 2022	Optional		6.80	+1.25	0.80
AE32285-E	2018 - 2022	VHM standard		7.00	+1.25	0.80
AE3285-F	2018 - 2022	Optional		7.20	+1.25	0.80
AE32285-xxx	2018 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33174	•	•	•	

AA33041 Yamaha YZ80 1999 - 2001
Yamaha YZ85 2002 - 2018


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32059-A	2002 - 2018	Blind	Machine yourself			
AE32059-H	2002 - 2018	Optional	YZ85	8.20	+1.60	1.00
AE32059-K	2002 - 2018	VHM standard	YZ85	8.40	+1.60	1.00
AE32059-L	2002 - 2018	Optional	YZ85	8.60	+1.60	1.00
AE32059-196	2002 - 2018	VHM standard	YZ85 for 12° piston: APYA08521757	8.40	+0.00	1.30
AE32059-197	2002 - 2018	Optional	YZ85 For 12° piston: APYA08521757	8.60	+0.00	1.30
AE32059-xxx	2002 - 2018	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33041	•	•	•	

AA33176 Yamaha YZ85 2019 - 2022


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32286-A	2019 - 2022	Blind	Machine yourself			
AE32286-C	2019 - 2022	Optional		8.20	+1.60	1.30
AE32286-E	2019 - 2022	VHM standard		8.40	+1.60	1.30
AE32286-F	2019 - 2022	Optional		8.60	+1.60	1.30
AE32286-032	2019 - 2022	Optional	For 12° piston: APYZ08521757	8.20	+0.00	1.30
AE32286-029	2019 - 2022	VHM standard	For 12° piston: APYZ08521757	8.40	+0.00	1.30
AE32286-xxx	2019 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33041	•	•	•	



14 WORLD TITLES

16 EUROPEAN TITLES

AND MANY NATIONAL TITLES



2021



Lucas Leok (EST)



Jānis Mārtiņš Reišulis (LAT)



Lotte van Drunen (NED)



Kay Karssemakers (NED)



Maximilian Spies (GER)



Shana van der Vliet (NED)

2019



Lotte van Drunen (NED)



Ky Woods (AUS)



Edvards Bidzans (LAT)



Edvards Bidzans (LAT)



Tom Guyon (FRA)



Tom Guyon (FRA)



Simon Laengenfelder (GER)



Mike Kras (NED)

2018



Braden Plath (AUS)



Damien Knuiman (NED)



Kay de Wolf (NED)



Kay Karssemakers (NED)



Camden Mc Lellan (RSA)



Kay de Wolf (NED)



Bailey Malkiewicz (AUS)



Mike Kras (NED)

VHM Cylinder head
AA33032 **Yamaha YZ125** **2001 - 2004**
Yamaha YZ144 **2001 - 2004**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32046-A	2001 - 2004	Blind	Machine yourself			
AE32046-H	2001 - 2004	Optional	YZ125	10.80	+1.85	1.00
AE32046-K	2001 - 2004	Optional	YZ125	11.00	+1.85	1.00
AE32046-L	2001 - 2004	VHM standard	YZ125	11.20	+1.85	1.00
AE32046-M	2001 - 2004	Optional	YZ125	11.40	+1.85	1.00
AE32046-xxx	2001 - 2004	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33077 (YZ125)	•	•	•	

AA33077 **Yamaha YZ125** **2005 - 2021**
Fantic XX125 **2021**
Fantic XE125 **2021**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32100-A	2005 - 2021	Blind	Machine yourself			
AE32100-B	2005 - 2021	Optional		10.80	0.00	0.90
AE32100-C	2005 - 2021	Optional		11.00	0.00	0.90
AE32100-E	2005 - 2021	VHM standard for YZ125 / XX125		11.20	0.00	0.90
AE32100-F	2005 - 2021	Optional		11.40	0.00	0.90
AE32100-xxx	2005 - 2021	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33077	•	•	•	

AA33104 **Yamaha YZ144** **2005 - 2021**


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32151-A	2005 - 2021	Blind	Machine yourself			
AE32151-xxx	2005 - 2021	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33104	•	•	•	

VHM Cylinder head
AA33187 Yamaha YZ250 1988 - 1998


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32300-A	1988 - 1998	Blind	Machine yourself			
AE32300-B	1988 - 1998	Optional		19.50	+3.00	1.50
AE32300-C	1988 - 1998	Optional		20.00	+3.00	1.50
AE32300-E	1988 - 1998	VHM standard		20.50	+3.00	1.50
AE32300-F	1988 - 1998	Optional		21.00	+3.00	1.50
AE32300-xxx	1988 - 1998	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	●			

AA33080 Yamaha YZ250 1999 - 2022
Yamaha YZ250X 2016 - 2022
Fantic XX250 2021 - 2022


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32021-A	1999 - 2022	Blind	Machine yourself			
AE32021-D	1999 - 2022	Optional		19.80	+2.80	1.50
AE32021-C	1999 - 2022	Optional		20.20	+2.80	1.50
AE32021-B	1999 - 2022	VHM standard for YZ250 / XX250		20.60	+2.80	1.50
AE32021-009	1999 - 2022	Optional		21.00	+2.80	1.50
AE32021-092	2016 - 2022	VHM standard for YZ250X		21.80	+2.80	1.60
AE32021-xxx	1999 - 2022	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33080	●	●	●	

AA33028-1 Yamaha TZ125 1995 - 2010


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32036-A	1995 - 2010	Blind	Machine yourself			
AE32036-122	1995 - 1999	VHM standard	Ø 56 mm piston	11.80	0.00	0.80
AE32036-134	1995 - 1999	Optional	Ø 56 mm piston	12.00	0.00	0.80
AE32036-C	2000 - 2010	Optional	Ø 54 mm piston	11.40	0.00	0.80
AE32036-E	2000 - 2010	VHM standard	Ø 54 mm piston	11.60	0.00	0.80
AE32036-F	2000 - 2010	Optional	Ø 54 mm piston	11.80	0.00	0.80
AE32036-G	2000 - 2010	Optional	Ø 54 mm piston	12.00	0.00	0.80
AE32036-xxx	1995 - 2010	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	●			

VHM Cylinder head
AA33028
Yamaha TZ250
1995 - 2002


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32036-A	1995 - 2002	Blind	Machine yourself			
AE32036-122	1995 - 1999	VHM standard	Ø 56 mm piston	11.80	0.00	0.80
AE32036-134	1995 - 1999	Optional	Ø 56 mm piston	12.00	0.00	0.80
AE32036-C	2000 - 2002	Optional	Ø 54 mm piston	11.40	0.00	0.80
AE32036-E	2000 - 2002	VHM standard	Ø 54 mm piston	11.60	0.00	0.80
AE32036-F	2000 - 2002	Optional	Ø 54 mm piston	11.80	0.00	0.80
AE32036-G	2000 - 2002	Optional	Ø 54 mm piston	12.00	0.00	0.80
AE32036-xxx	1995 - 2002	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33065
Yamaha TZ250
2003 - 2010


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32080-A	2003 - 2010	Blind	Machine yourself			
AE32080-C	2003 - 2010	Optional		11.80	0.00	0.80
AE32080-E	2003 - 2010	VHM standard		12.00	0.00	0.80
AE32080-F	2003 - 2010	Optional		12.20	0.00	0.80
AE32080-xxx	2003 - 2010	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33000	•			

AA33195
Yamaha TZR250R 3XV1
1991 - 1992


Part number insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32313-A	1991 - 1992	Blind	Machine yourself			
AE32313-B	1991 - 1992	Optional		12.00	+2.10	1.00
AE32313-C	1991 - 1992	Optional		12.20	+2.10	1.00
AE32313-D	1991 - 1992	VHM standard		12.40	+2.10	1.00
AE32313-E	1991 - 1992	Optional		12.60	+2.10	1.00
AE32313-F	1991 - 1992	Optional		12.80	+2.10	1.00
AE32313-xxx	1991 - 1992	Custom	Special insert according to your specification			

Part number sealkit	O-ring small	O-ring middle	O-ring big	O-ring various
SK33195	•	•	•	•

FOR STANDARD CYLINDER HEAD COVER

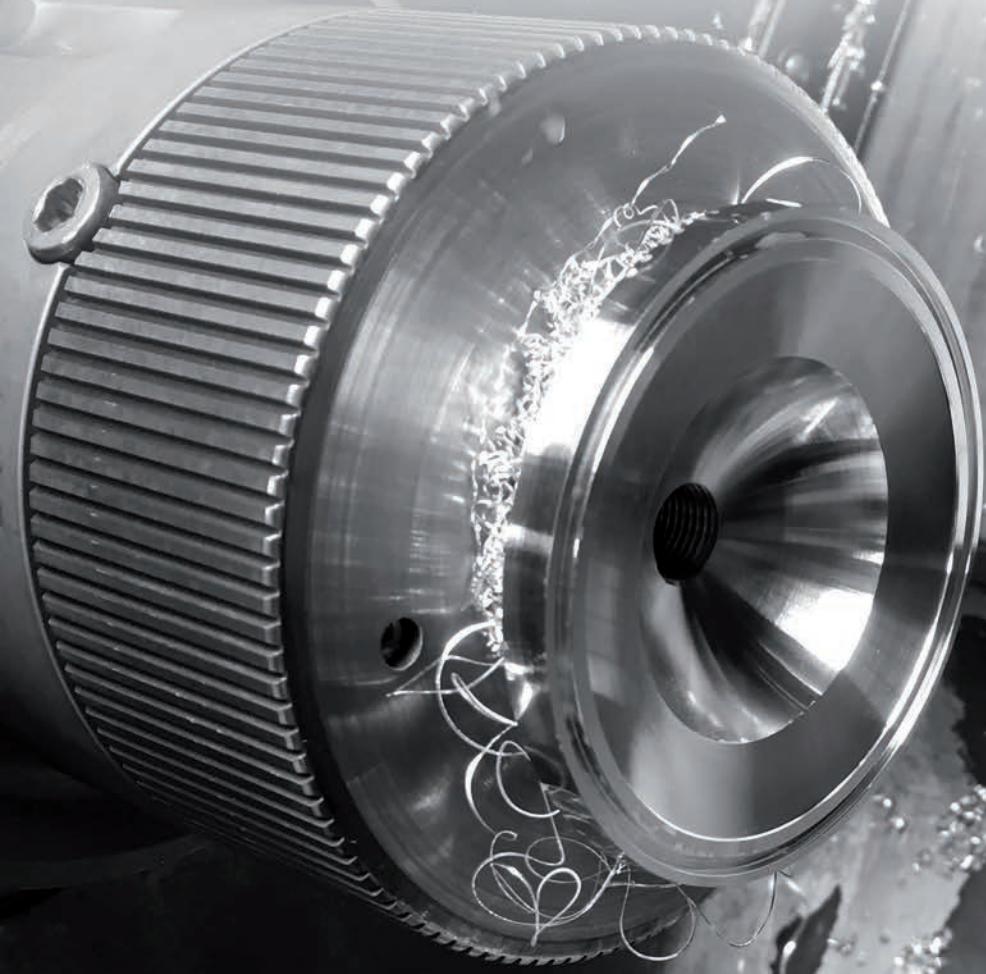
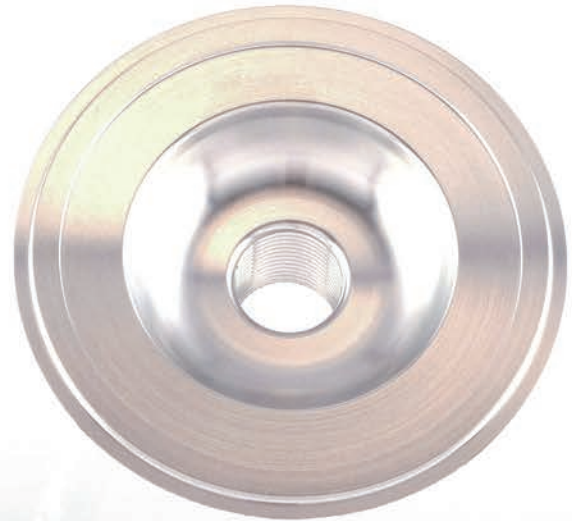
Besides the VHM cylinder headsets we also offer special inserts for certain standard (OEM) cylinder headcovers. On the following pages you can see for which engines we have these inserts available.

- ✔ Quick to adjust
- ✔ Fit standard cylinder head in some cases head mod needed
- ✔ Custom specifications possible

MACHINE YOURSELF

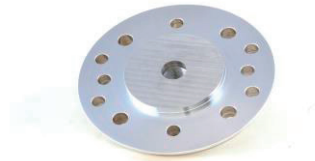
All inserts are available with a machined combustion chamber or not machined 'blind insert'. With the 'blind' insert, you are able to machine the combustion chamber by yourself.

www.vhm.nl/inserts



VHM OEM head inserts
2Fast4Race

Partnumber insert	Year	Insert type	Description
AE32231-A		Blind	
AE32231-xxx		Custom	Special insert according to your specification


Aprilia RSW125 / RSW250 racebike Type APC

Partnumber insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32076-A		Blind				
AE32076-AC39		Optional		11.37	+1.50	0.75
AE32076-AC32		Optional		11.22	+1.50	0.75
AE32076-AC37		Optional		11.10	+1.50	0.75
AE32076-AC38		Optional		10.90	+1.50	0.75
AE32076-AC56		Optional		10.77	+1.50	0.75
AE32076-AC68		Optional		10.64	+1.50	0.75
AE32076-AC69		Optional		10.50	+1.50	0.75
AE32076-xxxx		Custom	Special insert according to your specification			


Aprilia RSW125 / RSW250 racebike Type APE

Partnumber insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32085-A		Blind insert				
AE32085-004		Optional	For RSW125 APE	10.20	+1.50	0.75
AE32085-005		Optional	For RSW125 APE	10.40	+1.50	0.75
AE32085-AC69		Optional	For RSW125 APE	10.50	+1.50	0.75
AE32085-AC56		Optional	For RSW125 APE	10.77	+1.50	0.75
AE32085-AC38		Optional	For RSW125 APE	10.90	+1.50	0.75
AE32085-006		Optional	For RSW125 APE	10.60	+1.50	0.75
AE32085-AC39		Optional	For RSW125 APE	11.37	+1.50	0.75
AE32085-xxxx		Custom	Special insert according to your specification			


Derbi 50cc

Partnumber insert	Year	Insert Type	Description
AE32135-A		Blind	50cc
AE32135-xxx		Custom	50cc, Special insert according to your specification



VHM OEM head inserts
GasGas 65cc

Partnumber insert	Year	Insert type	Description
AE32118-A		Blind	
AE32118-xxx		Custom	Special insert according to your specification


lame 125 Screamer

Partnumber insert	Year	Insert type	Description
AE32246-A		Blind	
AE32246-xxx		Custom	Special insert according to your specification

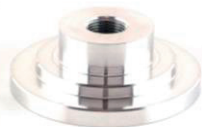

lame 125 Screamer III

Partnumber insert	Year	Insert type	Description
AE32323-A		Blind	
AE32323-xxx		Custom	Special insert according to your specification


Kreidler 50/60cc Air Cooled

Partnumber insert	Year	Insert type	Description
AE32185-A		Blind	
AE32185-xxx		Custom	Special insert according to your specification

Note: does not fit the standard cylinder headcover, VHM modification on the headcover needed: **MODCYLKOP-001**


Malossi Minarelli AM6, scooter 7T

Partnumber insert	Year	Insert Type	Description
AE32173-A		Blind	Minarelli AM6, scooter 7T, pitch 50x50 and 52x52
AE32173-xxx		Custom	Minarelli AM6, scooter 7T, pitch 50x50 and 52x52 Special insert according to your specification
AE32173B-A		Blind	Minarelli AM6, scooter 7T, pitch 54x54 and 56x56 (Derbi) Special insert according to your specification
AE32173B-xxx		Custom	Minarelli AM6, scooter 7T, pitch 54x54 and 56x56 (Derbi) Special insert according to your specification
AE32303-A		Blind	Minarelli AM6, 70cc, 2020 Special insert according to your specification
AE32303-xxx		Custom	Minarelli AM6, 70cc, 2020 Special insert according to your specification



VHM OEM head inserts
Malossi Piaggio

Partnumber insert	Year	Insert Type	Description
AE32172-A		Blind	
AE32172-xxx		Custom	Special insert according to your specification


Polini Minarelli

Partnumber insert	Year	Insert Type	Description
AE32091-A		Blind	
AE32091-xxx		Custom	Special insert according to your specification


TM K9B, K9C, KZ10, KZ10B

Partnumber insert	Year	Insert type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32203-A	2008 - 2015	Blind	K9B, K9C, KZ10, KZ10B			
AE32203-xxx	2008 - 2015	Custom	K9B, K9C, KZ10, KZ10B, Special insert according to your specification			
AE32203-277	2010 - 2011	Optional	KZ10 4° piston, APTM12521729	13.80 (13.20 CIK)	-2.20	1.05 mm 5.5°
AE32203-278	2012	Optional	KZ10 4° piston, APTM12521729	13.80 (13.20 CIK)	-2.30	1.05 mm 5.5°
AE32203-279	2013 - 2015	Optional	KZ10 4° piston, APTM12521729	13.80 (13.20 CIK)	-2.40	1.05 mm 5.5°

Note: VHM inserts does not fit the standard cylinder headcover (CYLTMKZ10), VHM modification on the headcover needed: **MODCYLKOP-001**


TM K9B, K9C, KZ10, KZ10B

Partnumber	Year	Partnumber	Modification cylinder head cover for using VHM inserts AE32203-xxx
OEM Cylinder head CYLTMKZ10	2008 - 2015	MODCYLKOP-001	



VHM OEM head inserts

TM Partnumber insert	Year	Insert Type	Description	Volume [cc]	Piston height [mm]	Squish [mm]
AE32270-A	2016 - 2018	Blind	KZ10C / KZ-R1			
AE32270-026	2016 - 2018	Optional	KZ10C	13.80 (13.10 CIK)	-2.20	0.90 mm
AE32270-027	2016 - 2018	Optional	KZ10C	13.80 (13.10 CIK)	-2.30	0.90 mm
AE32270-028	2016 - 2018	VHM standard	KZ10C	13.80 (13.10 CIK)	-2.40	0.90 mm
AE32270-029	2016 - 2018	Optional	KZ10C	13.80 (13.10 CIK)	-2.50	0.90 mm
AE32270-030	2016 - 2018	Optional	KZ10C	13.80 (13.10 CIK)	-2.60	0.90 mm
AE32270-180	2019 - 2022	VHM standard	KZ-R1 Flat top 4° piston APTM12521762	13.80 (13.10 CIK)	-3.60	0.85 mm
AE32270-xxx	2016 - 2018	Custom	Special insert according to your specification			

Note: VHM inserts fit the standard cylinder headcover CYLTMKZ10C without any modifications.


TM KZ10C

Partnumber	Year
OEM Cylinder head CYLTMKZ10C	2016 - 2018



CUSTOM INSERTS

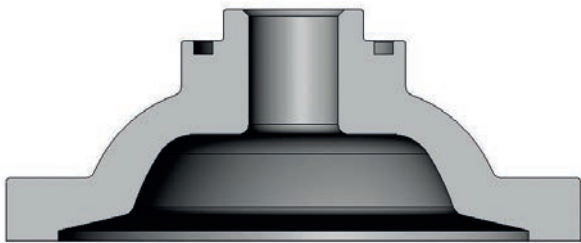
Besides our standard, optional and blind inserts, we also offer the possibility to produce a custom insert. Thereby we machine the insert according to your requested specifications.

- ✔ Your specifications
- ✔ VHM high quality
- ✔ Already possible from 1 piece

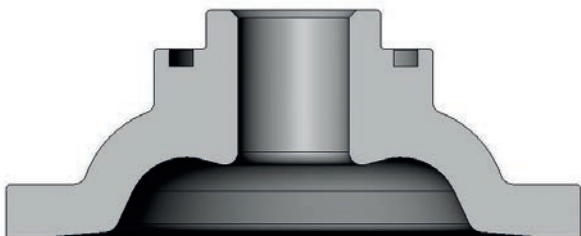
TO YOUR SPECIFICATIONS

When ordering a custom insert, we need to know the following desired values from you:

- Volume [cc]; total volume combustion chamber including spark plug hole measured on the engine
- Squish [mm]; minimum space / distance between piston and insert
- Piston height [mm]; Difference between top of cylinder and top of piston when piston at top dead center
- Piston crown radius or height [mm]; The radius on top of the piston (flat piston R=0mm)
- Amount [pieces]; Possible from 1 piece
- Shape; Shape A or B



Insert shape A



Insert shape B

COMPRESSION RATIO

The compression ratio can be adjusted, by increasing or decreasing the volume of the combustion chamber. What compression you need, depends on the track and weather conditions.

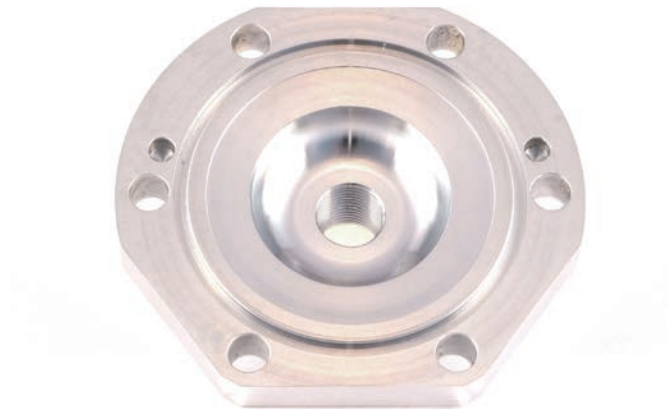
A higher compression ratio, which means less volume, will give the engine more low and middle range torque. This will improve the acceleration and increases torque feeling when accelerating out of the corner. However, this compromises top speed and the insert is more sensitive to detonation.

Lowering the compression ratio, which means more volume, will result in better overrevolution characteristics. We advise MX drivers to use inserts with a bigger volume on fast tracks to improve topspeed. However, this can compromise its bottom power.

ORDER FORM CUSTOMIZED INSERT

You can find an order form for customized inserts on our website.

www.vhm.nl/projects



▲ CRANKSHAFTS AND CONRODS

VHM CRANKSHAFTS

VHM crankshafts are designed with a different inertia and balance for a better handling and performance. These crankshafts' high performances are the result of engineering, design and many years of close collaboration with the most professional race teams. All VHM crankshafts can be overhauled many times due to the crankwebs that have been heat treated.

✔ Faster lap times

better mid and top over revolutions due to increased inertia

✔ Longevity

can be rebuild many times without losing the strength and stiffness

✔ Accuracy

runout within 0.01mm

✔ Less vibration

due to better balance factor

LINE-UP

The line-up for the VHM crankshafts for MX: Fantic XX125, GasGas MC65, MC85, MC125, KTM 65SX, 85SX, 125SX, Husqvarna TC65, TC85, TC125, Yamaha YZ85 and YZ125. For roadrace: Honda RS125.

REBUILDING

We also rebuild crankshafts. They will be disassembled and the connecting rod, big end pin, needle bearing and side washers will be replaced. Contact us for more information at info@vhm.nl.

PROJECT CRANKSHAFTS AND CONRODS

We can also produce special crankshaft or conrod batches. From design, calculations, crank web production to assembly of the complete crankshafts. Contact us for more information at info@vhm.nl.

CONNECTING RODS

Besides our VHM crankshafts, we also have VHM connecting rod kits for Aprilia RSW125 / RSW250, Honda RS125 '00-'10 and RS250 '93-'10.

www.vhm.nl/crankshafts



VHM Crankshafts & connecting rods

CRK07 **Honda RS125 NX4** **1995-2010**



Description	Content
VHM RS125 A-kit connecting rod kit Note: fits OEM crankshaft 13300-NX4-711	1x connecting rod, 1x big end pin, 1x bearing, 2x washer

CRK04 **Honda RS250 NX5, NXA** **1993-2010**



Description	Content
VHM RS250 A-kit connecting rod kit Note: fits OEM crankshaft 13000-NX5-790 and 13000-NXA-610	2x connecting rod, 2x bearing, 4x washer

CRK100 **Aprilia RSW125 / RSW250/LE**



Description	Content
VHM connecting rod kit	1x connecting rod, 1x big end pin, 1x bearing, 2x washer

AK20107A **Honda RS125 NX4** **1995 - 2010** **Middle inertia**



Spare parts	Description	Content
CRK07	VHM RS125 A-kit connecting rod kit	1x connecting rod, 1x big end pin, 1x bearing, 2x washer

AK20107B **Honda RS125 NX4** **1995 - 2010** **High inertia**



Spare parts	Description	Content
CRK07	VHM RS125 A-kit connecting rod kit	1x connecting rod, 1x big end pin, 1x bearing, 2x washer

VHM Crankshafts & connecting rods

AK20097-1	KTM 65SX	2009 - 2022	Middle inertia
	KTM 65XC	2009	
	KTM 65XS	2012 - 2015	
	Husqvarna TC65	2017 - 2022	
	GasGas MC65	2021 - 2022	



Spare parts	Description	Content
03.6029 DA28062-1	ProX connecting rod kit Synthetic plates	1x connecting rod, 1x big end pin, 1x bearing, 2x washer 2x black synthetic plates (middle inertia)

AK20225	KTM 85SX	2018 - 2022	Middle inertia
	Husqvarna TC85	2018 - 2022	
	GasGas MC85	2021 - 2022	



Spare parts	Description	Content
03.6113 DA28127	ProX connecting rod kit Synthetic plates	1x connecting rod, 1x big end pin, 1x bearing, 2x washer 2x

AK20252	KTM 125SX	2016 - 2022	Middle inertia
	KTM 125XC	2021	
	KTM 125XC-W	2016 - 2019	
	Husqvarna TC125	2016 - 2022	
	Husqvarna TX125	2017 - 2019	
	GasGas MC125	2021 - 2022	



Spare parts	Description	Content
03.6226	ProX connecting rod kit	1x connecting rod, 1x big end pin, 1x bearing, 2x washer

VHM Crankshafts & connecting rods
AK20235B Yamaha YZ85 2019 - 2022 High inertia

Spare parts
 B4B-11650-00
 03.2119

Description
 OEM connecting rod kit
 ProX connecting rod kit

Content
 1x connecting rod, 1x big end pin, 1x bearing, 2x washer
 1x connecting rod, 1x big end pin, 1x bearing, 2x washer

AK20192 Yamaha YZ125 2005 - 2021 High inertia
Fantic XX125 2021

Spare parts
 03.2225

Description
 ProX connecting rod kit, 102 mm

Content
 1x connecting rod, 1x big end pin, 1x bearing, 2x washer

AK20192-1 Yamaha YZ125 2005 - 2021 High inertia, +3 mm conrod
Fantic XX125 2021

Spare parts
 03.2221

Description
 ProX connecting rod kit, 105 mm

Content
 1x connecting rod, 1x big end pin, 1x bearing, 2x washer

MODIFICATIONS

We can perform modifications on certain OEM crankshafts for better performance. We then change the balance percentage and inertia of the crankshaft, using tungsten and / or aluminium material. This results in a better feeling and handling of the bike and leads to reduced vibrations.

- ✔ Better feeling and handling
- ✔ Reduced vibrations
- ✔ Better performance

Why modify the OEM crankshaft? Most of the tuned engines use an OEM crankshaft, which is not optimal balanced for a tuned engine. When a lighter or heavier piston and connecting rod are used, the balance is not correct anymore, which results in more vibrations.

How does it work? When we receive your OEM crankshaft, we'll first determine the total reciprocating weight. With our advanced computer simulation, we'll calculate the best balance for each application. Material like tungsten will often be used to modify the balance factor. After performing the modification, the crankshaft will be assembled and aligned with high precision. With this modified crank, you'll definitely notice the difference!

CUSTOMIZED MODIFICATIONS

We can also perform customized crankshaft modifications on your OEM crankshaft. If you have a specific idea or an OEM crankshaft which is not mentioned in this catalogue, you can always ask us for a customized modification.

In the past we've already made customized modifications on crankshafts for several engines like Honda CR125R, lame 60cc Waterswift, Kawasaki KX250F, KTM 350SX-F, Maxter MXO 125, Suzuki RM125, RM-Z250, TM MX250, MX300, OK125 S-Junior, 60cc mini, KZ10C, Vortex DDJ 125, DDS 125, Yamaha YZ250 and Yamaha YZ450F.

www.vhm.nl/crankmods



VHM Crankshaft modification

Brand & type	Year	Part number	Description
GasGas			
MC50	2021 - 2022	AK20123-002	High inertia
MC65	2021 - 2022	AK20136-002	Middle inertia, modified balance
MC85	2021 - 2022	AK20224-001	Middle inertia
MC125	2021 - 2022	AK20202-001	High inertia
	2021 - 2022	AK20202-002	Middle inertia
MC250F	2021 - 2022	AK20203-002	High inertia, modified balance
	2021 - 2022	AK20203-006	Low inertia, modified balance
MC450F	2021 - 2022	AK20211-003	Middle inertia, modified balance
Honda			
CR250R	2005 - 2007	AK20038-001	Middle inertia, modified balance
CRF450R	2017 - 2022	AK20221-001	High inertia, modified balance
Husqvarna			
TC50	2017 - 2022	AK20123-002	High inertia
TC65	2017 - 2022	AK20136-002	Middle inertia, modified balance
TC85	2014 - 2017	AK20161-002	High inertia, modified balance
	2018 - 2022	AK20224-001	Middle inertia
TC125	2014 - 2015	AK20137-001	High inertia, modified balance
	2016 - 2022	AK20202-001	High inertia
	2016 - 2022	AK20202-002	Middle inertia
TC250	2014 - 2016	AK20133-005	High inertia, std conrod and piston
TC250 Big bore	2008 - 2016	AK20133-004	Using Husqvarna 300 piston, high inertia, modified balance
FC250	2014 - 2015	AK20169-001	Low inertia
FC250	2016 - 2022	AK20203-002	High inertia, modified balance
	2016 - 2022	AK20203-006	Low inertia, modified balance
TE300	2014 - 2016	AK20143-002	Hotrods crankshaft with silver conrod, using OEM 300 piston, high inertia, modified balance
	2014 - 2016	AK20143-003	Hotrods crankshaft with brown conrod (stronger), using OEM 300 piston, high inertia, modified balance
FC450	2019 - 2022	AK20211-003	Middle inertia, modified balance
Kawasaki			
KX65	2000 - 2022	AK2066-004	Middle inertia and modified balance
KX85	2006 - 2013	AK20041-007	High inertia, modified balance
	2014 - 2022	AK20178-001	High inertia, modified balance
	2014 - 2022	AK20178-002	Middle inertia, modified balance
KX125	2003 - 2010	AK20033-001	High inertia, modified balance
KTM			
50SX	2009 - 2022	AK20123-002	High inertia
65SX	2009 - 2022	AK20136-002	Middle inertia, modified balance
85SX	2009 - 2012	AK20086-002	High inertia, modified balance
	2013 - 2017	AK20161-002	High inertia, modified balance
	2018 - 2022	AK20224-001	Middle inertia
125SX	2007 - 2015	AK20137-001	High inertia, modified balance
	2016 - 2022	AK20202-001	High inertia
	2016 - 2022	AK20202-002	Middle inertia
150SX	2016 - 2022	AK20210-001	High inertia, modified balance
	2016 - 2022	AK20210-002	Middle inertia, modified balance
250SX	2008 - 2016	AK20133-005	High inertia, std conrod and piston
250SX Big bore	2008 - 2016	AK20133-004	Using KTM 300 piston, high inertia, modified balance
250SX-F	2013 - 2015	AK20169-001	Low inertia
	2016 - 2022	AK20203-002	High inertia, modified balance
	2016 - 2022	AK20203-006	Low inertia, modified balance
300EXC	2008 - 2016	AK20143-002	Hotrods crankshaft with silver conrod, using KTM 300 piston, high inertia, modified balance
	2008 - 2016	AK20143-003	Hotrods crankshaft with brown conrod (stronger), using KTM 300 piston, high inertia, modified balance
450SX-F	2016 - 2022	AK20211-003	Middle inertia, modified balance
Suzuki			
RM85	2003 - 2012	AK20039-001	High inertia, modified balance
Yamaha			
YZ85	2002 - 2018	AK20071-001	High inertia, modified balance
	2019 - 2022	AK20232-001	Middle inertia
YZ125	2005 - 2021	AK20063-002	High inertia, modified balance
YZ125	2005 - 2021	AK20063-006	High inertia, modified balance, using 3 mm longer conrod
YZ144	2005 - 2021	AK20063-001	High inertia, modified balance
YZ250F	2016 - 2018	AK20206-001	High inertia
	2019 - 2022	AK20233-001	Low inertia
	2019 - 2022	AK20233-002	Middle inertia

VHM BILLET PISTONS

VHM pistons are 100% CNC machined from high quality solid billet material. With our Takisawa piston lathe we are able to turn elliptical shaped pistons with very high precisions.

- ✔ High performance
- ✔ Longevity and keeps performance during lifetime
- ✔ Non-circular piston profile
- ✔ Resistance to detonation

www.vhm.nl/pistons

DIRECT REPLACEMENT / SPECIAL MODELS

We produce two piston models. One is a standard, direct replacement model, which can be placed into your engine with no other adjustments needed. The other is a special model for maximum performance gain, which can only be used in combination with a special VHM insert or longer conrod.

AVAILABLE FOR

VHM pistons are available for MX: Fantic XX125, GasGas MC65, MC85, MC125, MC250, KTM 65SX, 85SX, 125SX, 250SX, Husqvarna TC65, TC85, TC125, TC250, TM MX85, Yamaha YZ85 and YZ125. For roadrace: Aprilia RSW125, RSW250, Honda RS125, RS250 and Yamaha TZ125, TZ250. For karting: TM KZ10/B/C and KZ-R1. For moped: Kreidler 50cc Air Cooled, 60cc Air Cooled, Malossi 50cc, 50cc Derbi and Minareli AM6 50cc.



VHM Piston kits
MOTOCROSS

KTM 65SX 2009 - 2022
Husqvarna TC65 2017 - 2022
GasGas MC65 2021 - 2022


Special - 12° top

Part number	Piston diameter
APKT06521722A	Ø44.95
APKT06521722B	Ø44.96
APKT06521722C	Ø44.97
APKT06521722D	Ø44.98
APKT06521722E	Ø44.99

Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
Minimum 0.04 Maximum 0.05	0.25+0.10	APR451.0	APP1238	APC121.0

Must use special 12° insert!

Year	5.00cc	5.20cc
09-'21	AE32167-101	AE32167-059

KTM 85SX 2003 - 2022
Husqvarna TC85 2014 - 2022
GasGas MC85 2021 - 2022


Special - 12° top

Part number	Piston diameter
APKT08521707A1	Ø46.94
APKT08521707A	Ø46.95
APKT08521707B	Ø46.96
APKT08521707C	Ø46.97
APKT08521707D	Ø46.98

Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
0.05	0.30+0.10	APR471.0	APP1440	APC141.1SP

Must use special 12° insert!

Year	7.80cc	8.00cc	8.20cc
04-'12		AE32087-112	
13-'17	AE32226-056	AE32226-079	AE32226-100
18-'21	AE32281-012	AE32281-013	AE32281-014

KTM 125SX 2001 - 2022
Husqvarna TC125 2014 - 2022
GasGas MC125 2021 - 2022


Direct replacement - Flat top - 2 rings

Part number	Piston diameter
APKT12511726A	Ø53.95
APKT12511726B	Ø53.96

Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
0.05	0.35+0.10	APR541.0KEY	APP1545	APC151.1


Special - 12° top

Part number	Piston diameter
APKT12511673A1	Ø53.94
APKT12511673A	Ø53.95
APKT12511673B	Ø53.96
APKT12511673C	Ø53.97
APKT12511673D	Ø53.98

Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
0.05	0.35+0.10	APR541.0KEY	APP1545	APC151.1

Must use special 12° insert!

Year	11.20	11.40	11.60	11.80
07-'15				AE32128-048
16-'21	AE32257-040	AE32257-029	AE32257-026	AE32257-031


Special - 12° top - 2 rings

Part number	Piston diameter
APKT12511725A1	Ø53.94
APKT12511725A	Ø53.95
APKT12511725B	Ø53.96

Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
0.05	0.35+0.10	APR541.0KEY	APP1545	APC151.1

Must use special 12° insert!

Year	11.20	11.40	11.60	11.80
07-'15				AE32128-048
16-'21	AE32257-040	AE32257-029	AE32257-026	AE32257-031

VHM Piston kits
KTM 250SX
Husqvarna TC250
GasGas MC250
2006 - 2022
2014 - 2022
2022
Special - 12° top


Part number	Piston diameter
APKT25021754A1	Ø66.33
APKT25021754A	Ø66.34
APKT25021754B	Ø66.35
APKT25021754C	Ø66.36

Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
0.07	0.40+0.10	APR6641.0	APP1856	APC181.4SP

The pistons has a black coloured coating on the piston skirt to reduce friction and wear.

Must use special 12° insert!

Year	22.20cc	22.60cc
06-'16	AE32129-068	
17-'21	AE32272-024	AE32272-037

TM MX85
2013 - 2020
Direct replacement - Bore Ø47.95


Part number	Piston diameter
APTM08521702E	Ø47.89
APTM08521702F	Ø47.90

Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
0.06	0.30+0.10	APR481.0	APP1338.5	APC131.1SP

Yamaha YZ85
2019 - 2022
Special - 12° top


Part number	Piston diameter
APYZ08521757A	Ø47.45
APYZ08521757B	Ø47.46
APYZ08521757C	Ø47.47

Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
0.05	0.30+0.10	APR4751.0	APP1440	APC141.1SP

Must use special 12° insert!

Year	8.20cc	8.40cc
19-'20	AE32286-032	AE32286-029

Yamaha YZ125
Fantic XX125
2005 - 2022
2021 - 2022
Direct replacement


Part number	Piston diameter
APYZ12521705A1	Ø53.94
APYZ12521705A	Ø53.95
APYZ12521705B	Ø53.96
APYZ12521705C	Ø53.97

Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
0.05	0.30+0.10	APR541.0	APP1545	APC151.1SP

Use s/e bearing 20mm width, ProX 21.3206 or Vertex WB111

Yamaha YZ125
Fantic XX125
2005 - 2021
2021
Special + 3mm longer conrod


Part number	Piston diameter
APYZ12521714A1	Ø53.94
APYZ12521714A	Ø53.95
APYZ12521714B	Ø53.96
APYZ12521714C	Ø53.97
APYZ12521714D	Ø53.98

Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
0.05	0.30+0.10	APR541.0	APP1545	APC151.1SP

 Use +3mm longer conrod (105mm) ProX 03.2221 / VHM crankshaft AK20192-1)
 Use s/e bearing 20mm width, ProX 21.3206 or Vertex WB111

VHM Piston kits
ROADRACE
**Aprilia RSW125
Aprilia RSW250**

Direct replacement

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APAP12521745A1	Ø53.92	0.07	0.30+0.10	APR541.0	APP1545	APC151.SP
APAP12521745B	Ø53.94					

**Honda RS125 ND4
Honda RS250 ND5**
**1984 - 1986
1985 - 1986**

Direct replacement - Ø14 piston pin

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APHO12521743A	Ø55.93	0.07	0.35+0.10	APR561.0	APP1445	APC141.1SP
APHO12521743B	Ø55.94					

**Honda RS125 NF4
Honda RS250 NF5**
**1987 - 1994
1987 - 1992**

Direct replacement - Ø14 piston pin

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APHO12521717A	Ø53.93	0.07	0.30+0.10	APR540.8	APP1445	APC141.1SP
APHO12521717B	Ø53.94					
APHO12521717C	Ø53.95					

**Honda RS125 NX4
Honda RS250 NX5
Honda RS250 NXA**
**1995 - 2010
1993 - 2000
2001 - 2010**

Direct replacement - Dome - Ø15 piston pin

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APHO12521708A1	Ø53.92	0.07	0.30+0.10	APR540.8	APP1545	APC151.1SP
APHO12521708A	Ø53.93					
APHO12521708B	Ø53.94					
APHO12521708C	Ø53.95					


Special - Flat top - Ø15 piston pin

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APHO12521750A	Ø53.93	0.07	0.30+0.10	APR540.8	APP1545	APC151.1SP
APHO12521750B	Ø53.94					

Must be used in combination with a VHM flat top insert and head when not driving with an A-kit. It can be used as direct replacement for an A-kit.

Yamaha TZ250
1986 - 1987

Direct replacement - Bore Ø56

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APYA12521764B	Ø55.94	0.07	0.35+0.10	APR561.0	APP1647	APC161.1SP

VHM Piston kits
Yamaha TZ250
1988 - 1990
Direct replacement - Bore Ø56


Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APYA12521747A	Ø55.93	0.07	0.35+0.10	APR561.0	APP1647	APC161.1SP
APYA12521747B	Ø55.94					

Yamaha TZ125
1995 - 1999
Yamaha TZ250
1995 - 1999
Direct replacement - Bore Ø56


Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APYA12521724A	Ø55.93	0.07	0.35+0.10	APR561.0	APP1647	APC161.1SP
APYA12521724B	Ø55.94					
APYA12521724C	Ø55.95					

Yamaha TZ125
2000 - 2010
Yamaha TZ250
2000 - 2010
Direct replacement - Bore Ø54


Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APYA12521716A1	Ø53.92	0.07	0.30+0.10	APR540.8	APP1545DLC	APC151.1SP
APYA12521716A	Ø53.93					
APYA12521716B	Ø53.94					
APYA12521716C	Ø53.95					

MOPED
Kreidler 50cc Air Cooled
Ø14 piston pin - 24.8mm compression height


Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APKR05011715A	Ø39.95	0.04	0.20+0.10	APR401.0	APP1433	APC141.1
APKR05011715B	Ø39.96					
APKR05011715C	Ø39.97					
APKR05011715D	Ø39.98					

Note: For use in air cooled engine only!
Ø12 piston pin - 20mm compression height


Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APKR05021763A	Ø39.95	0.04	0.20+0.10	APR401.0	APP1233DLC	APC121.0
APKR05021763B	Ø39.96					
APKR05021763C	Ø39.97					
APKR05021763D	Ø39.98					

Note: For use in air cooled engine only!
Ø12 piston pin - 24.8mm compression height


Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APKR05011676A1	Ø39.94	0.04	0.20+0.10	APR401.0	APP1233	APC121.0
APKR05011676A	Ø39.95					
APKR05011676B	Ø39.96					
APKR05011676C	Ø39.97					
APKR05011676D	Ø39.98					
APKR05011676E	Ø39.99					
APKR05011676F	Ø40.00					

Note: For use in air cooled engine only!

VHM Piston kits
Kreidler 60cc Air Cooled

Ø14 piston pin - 23.3mm compression height

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APKR06011705A	Ø43.95	0.04	0.20+0.10	APR441.0	APP1437	APC141.1
APKR06011705B	Ø43.96					
APKR06011705C	Ø43.97					
APKR06011705D	Ø43.98					

Cylinder modification and adjusted insert needed!
Note: For use in air cooled engine only!


Ø12 piston pin - 23.3mm compression height

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APKR06011683A1	Ø43.94	0.04	0.20+0.10	APR441.0	APP1237	APC121.0
APKR06011683A	Ø43.95					
APKR06011683B	Ø43.96					
APKR06011683C	Ø43.97					
APKR06011683D	Ø43.98					

Cylinder modification and adjusted insert needed!
Note: For use in air cooled engine only!

Malossi 50cc

20mm compression height, for aluminium cylinder

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APMA05011689A1	Ø39.94	0.05	0.20+0.10	APR401.0	APP1233	APC121.0
APMA05011689A	Ø39.95					
APMA05011689B	Ø39.96					
APMA05011689C	Ø39.97					
APMA05011689D	Ø39.98					
APMA05011689E	Ø39.99					

Note: For use in water cooled engine only!


25mm compression height, for aluminium cylinder

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APMA05011712A	Ø39.95	0.05	0.20+0.10	APR401.0	APP1233	APC121.0
APMA05011712B	Ø39.96					
APMA05011712C	Ø39.97					

Note: For use in water cooled engine only!

Malossi 50cc Derbi
2015 - 2019

20mm compression height, for aluminium cylinder

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APMA05011710B	Ø39.84	0.05	0.20+0.10	APR3991.0	APP1233	APC121.0
APMA05011710C	Ø39.85					

Note: For use in water cooled engine only!


25mm compression height, for aluminium cylinder

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APMA05011709B	Ø39.84	0.05	0.20+0.10	APR3991.0	APP1233	APC121.0
APMA05011709C	Ø39.85					

Note: For use in water cooled engine only!

VHM Piston kits
Minarelli AM6 50cc

For aluminium cylinder

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APMI05011694A	Ø40.25	0.04	0.20+0.10	APR4031.0	APP1233	APC121.0
APMI05011694B	Ø40.26					

Note: For use in water cooled engine only!

Sachs 50cc

For nikasil cylinder

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APSA05011701A	Ø39.96	0.04	0.20+0.10	APR401.0 ¹	APP1433	APC141.0
APSA05011703A	Ø40.56					

¹Piston ring APR401.0 for Ø39.96, APR4061.0 for Ø40.56

KARTING

TM KZ10	2010 - 2012
TM KZ10B	2013 - 2015
TM KZ10C	2016 - 2018
TM KZ-R1	2019 - 2022


4° top

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APTM12521729A1	Ø53.92	0.07	0.35+0.10	APR540.8	APP1545	APC151.1SP
APTM12521729A	Ø53.93					
APTM12521729B	Ø53.94					


Flat top 4°

Part number	Piston diameter	Piston-cylinder clearance [mm]	Piston ring end gap [mm]	Piston ring	Piston pin	Piston clip
APTM12521762A1	Ø53.93	0.07	0.35+0.10	APR540.8	APP1545	APC151.1SP

Note: must be used in combination with VHM insert AE32270-180 or a custom insert

VHM CDI UNITS

VHM CDI units for 2 stroke race engines. Map by VHM, units are made by GET. Specially developed to get the maximum performance in combination with our VHM upgrade kit parts. We've developed and improved the ignition curve.

- ✔ VHM map pre-installed
- ✔ High power output
- ✔ Plug & play
- ✔ Including map switch
- ✔ High quality by GET
- ✔ For 85SX / 125SX / 250SX Including aluminium plate

PRE-INSTALLED MAPS

VHM CDI's are plug and play and have 2 maps pre-installed. Map 1 is with a VHM ignition curve, which is developed, tested and programmed by VHM in combination with our VHM upgrade kit parts for optimal performance. Map 2 is a standard ignition curve by GET. You can switch between maps with the included switch for on the steering bar.

AVAILABLE FOR

The VHM CDI units are available for Beta RR125 2T, RR200 2T, RR250 2T, RR300 2T, GasGas MC65, MC85, MC125, MC250, Husqvarna TC65, TC85, TC125, TC250, KTM 65SX, 85SX, 125SX, 250SX, Rieju MR250, Yamaha YZ65 and YZ85.

www.vhm.nl/cdi



VHM CDI units

CD070420 **Beta RR125 2T** **2020 - 2022**
Beta RR125 2T Racing **2020 - 2021**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch
Note: Map 1: VHM, Map 2: standard GET	

CD070520 **Beta RR200 2T** **2020 - 2022**
Beta RR125 2T Racing **2020 - 2021**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch
Note: Map 1: VHM HIGH performance, Map 2: VHM SOFT	
Note: Use pre-mixed fuel, oil pump does not work!	

CD070620 **Beta RR250 2T** **2020 - 2022**
Beta RR250 2T Racing **2020 - 2021**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch
Note: Map 1: VHM, Map 2: standard GET	
Note: Use pre-mixed fuel, oil pump does not work!	

CD070720 **Beta RR300 2T** **2020 - 2021**
Beta RR300 2T Racing **2020 - 2021**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch
Note: Map 1: VHM HIGH performance, Map 2: VHM SOFT	
Note: Use pre-mixed fuel, oil pump does not work!	

CD060218 **KTM 65SX** **2018 - 2020**
Husqvarna TC65 **2018 - 2020**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch
Note: Map 1: VHM, Map 2: standard GET	

CD060221 **KTM 65SX** **2021 - 2022**
Husqvarna TC65 **2021 - 2022**
GasGas MC65 **2021 - 2022**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch
Note: Map 1: VHM, Map 2: standard GET	

VHM CDI units

CD060318 **KTM 85SX** **2018 - 2022**
Husqvarna TC85 **2018 - 2022**
GasGas MC85 **2021 - 2022**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch, 1x aluminium plate (DA31237)
Note: Map 1: VHM, Map 2: standard GET	

CD060416 **KTM 125SX** **2016 - 2022**
Husqvarna TC125 **2016 - 2022**
GasGas MC125 **2021 - 2022**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch, 1x aluminium plate (DA31237)
Note: Map 1: VHM, Map 2: standard GET	

CD060617 **KTM 250SX** **2017 - 2022**
Husqvarna TC125 **2017 - 2022**
GasGas MC250 **2022**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch, 1x aluminium plate (DA31237)
Note: Map 1: VHM, Map 2: standard GET	

CD020218 **Yamaha YZ65** **2019 - 2022**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch
Note: Map 1: VHM, Map 2: standard GET	

CD020319 **Yamaha YZ85** **2019 - 2021**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch
Note: Map 1: VHM, Map 2: standard GET	

CD080621 **Rieju MR250** **2021**
GasGas EC250 **2018 - 2019**



Description	Content
VHM CDI unit	1x CDI unit, 1x switch
Note: Map 1: VHM HIGH performance, Map 2: VHM SOFT	

▲ AIR INTAKES AND AIRBOX COVER

VHM AIR INTAKES

VHM air intakes for 2 and 4 stroke dirtbike engines. Developed for an optimum air flow and made of real carbon. When the engine is running and temperatures rise, the airbox rubber usually deforms. This is due to the high temperatures as it gets more soft, which leads to an even less optimal air flow. Our carbon intake prevents the airbox rubber from deforming and ensures an optimal airflow. There's a massive bottom power improvement for the 4-stroke models. The 2-stroke models improve the top-end.

- ✔ Made of real Carbon
- ✔ Optimum air flow
- ✔ Easy to mount
- ✔ Prevent the airbox rubber from deforming at running temperatures
- ✔ Including hole for temperature sensor for the 4-stroke models
- ✔ Ensures that mud is evenly spread over the whole airbox no worries about mud piling up during a long race

AVAILABLE FOR

The VHM air intakes are available for many 2- and 4-stroke Honda, GasGas, Husqvarna, KTM, Kawasaki and Yamaha models.

www.vhm.nl/airintakes

MOUNTING

Many of the air intake models must be used in combination with a powerflow kit from Twin Air. Furthermore, a few of the intakes need to be glued with Innotec adhesion, which is included in the box. We've created mounting video's for almost all air intake models, which you can easily watch through the url below.

www.vhm.nl/mountingairintake

VHM AIRBOX COVERS

VHM carbon airbox covers for Yamaha YZ250F and YZ450F. The airbox cover does not only look terribly good on your bike, it also greatly improves over the whole power curve, from bottom to top power!

- ✔ More power from bottom to top
- ✔ Made of real carbon
- ✔ Optimum air flow
- ✔ Awesome look
- ✔ Very easy to mount



VHM Air Intakes & cover
AI010921 Honda CRF450R 2021 - 2022


Description	Content
VHM Air Intake	1x carbon air intake, 3x screws

AI040620 Kawasaki KX250 2020


Description	Content
VHM Air Intake	1x carbon air intake

Note: Including hole for temperature sensor

AI040621 Kawasaki KX250 2021 - 2022


Description	Content
VHM Air Intake	1x carbon air intake

Note: Including hole for temperature sensor

AI040919 Kawasaki KX450 2019 - 2022


Description	Content
VHM Air Intake	1x carbon air intake

Must be used in combination with Twin Air powerflow kit 151125C.

AI060318 KTM 85SX 2018 - 2022
Husqvarna TC85 2018 - 2022
GasGas MC85 2021 - 2022


Description	Content
VHM Air Intake	1x carbon air intake

Can be used in combination with the standard filter carrier or with a Twin Air powerflow kit 154221C.

AI060416 KTM 125SX 2016 - 2022
KTM 150SX 2016 - 2022
Husqvarna TC125 2016 - 2022
GasGas MC125 2021 - 2022


Description	Content
VHM Air Intake	1x carbon air intake, 1x innotec adhesion seal

Note: Use innotec adhesion seal for mounting

Must be used in combination with Twin Air powerflow kit 154223C (for 2019 - 2021) or 154219C (for 2016 - 2018).

VHM Air Intakes & cover

AI060619 2T	KTM 250SX	2019 - 2022
	KTM 250XC / 300XC	2019
	Husqvarna TC250	2019 - 2022
	Husqvarna TX300	2019
	GasGas MC250	2022



Description	Content
VHM Air Intake	1x carbon air intake

Must be used in combination with Twin Air powerflow kit 154223C.

AI060818E	KTM 250EXC-F	2017 - 2022
	KTM 350EXC-F	2017 - 2022
	Husqvarna FE250	2017 - 2022
	Husqvarna FE350	2017 - 2022
	GasGas EC250F	2021 - 2022
	GasGas EC350F	2021 - 2022



Description	Content
VHM Air Intake	1x carbon air intake

Note: Including hole for temperature sensor

Must be used in combination with Twin Air powerflow kit 154222C.

AI060619	KTM 250SX-F / 250XC-F	2019 - 2022
	KTM 350SX-F / 350XC-F	2019 - 2022
	Husqvarna FC250	2019 - 2022
	Husqvarna FC350	2019 - 2022
	GasGas MC250F	2021 - 2022
	GasGas EX250F / EX350F	2021 - 2022



Description	Content
VHM Air Intake	1x carbon air intake

Note: Including hole for temperature sensor

Must be used in combination with Twin Air powerflow kit 154222C.

AI060919	KTM 450SX-F / 450XC-F	2019 - 2022
	Husqvarna FC450 / FX450	2019 - 2022
	GasGas MC450F / EX450F	2021 - 2022



Description	Content
VHM Air Intake	1x carbon air intake

Note: Including hole for temperature sensor

Must be used in combination with Twin Air powerflow kit 154222C.

VHM Air Intakes & cover

AI060919E **KTM 450EXC-F** **2019 - 2022**
Husqvarna FE450 **2019 - 2022**
Husqvarna FE501 **2020 - 2022**



Description	Content
VHM Air Intake	1x carbon air intake

Note: Including hole for temperature sensor

Must be used in combination with Twin Air powerflow kit 154222C.

AI020619 **Yamaha YZ250F** **2019 - 2020**



Description	Content
VHM Air Intake	1x carbon air intake

Note: Including hole for temperature sensor

Must be used in combination with Twin Air powerflow kit 152222C.

AI020621 **Yamaha YZ250F** **2021 - 2022**



Description	Content
VHM Air Intake	1x carbon air intake, 1x innotec adheseal

Works best in combination with airbox cover AB020918

Must be used in combination with Twin Air powerflow kit 152222C.

AI020919 **Yamaha YZ450F** **2019 - 2022**



Description	Content
VHM Air Intake	1x carbon air intake, 1x innotec adheseal

Note: Including hole for temperature sensor. Use innotec adheseal for mounting.

Must be used in combination with Twin Air powerflow kit 152222C.

AB020918 **Yamaha YZ250F** **2019 - 2022**
Yamaha YZ450F **2018 - 2022**



Description	Content
VHM "high volume" carbon air box cover	1x carbon cover

Note: Yamaha washer (5TJ-21757-00) is included in the box, as the one on your bike might need to be replaced when mounting the carbon airbox cover.

VHM VARIOUS PARTS

Besides our well-known cylinder heads, crankshafts and pistons, we also produce many other parts for your engine, such as power valve adjusters, clutch covers, handlebar stabilizers and exhaust flanges. See an overview of all our various products on the next pages.

www.vhm.nl/variousparts

MEASURING TOOLS

Furthermore we have some measuring tools available to measure the piston height and volume of the combustion chamber. See our manual and video of piston height measurement at www.vhm.nl/pistonheight.

www.vhm.nl/tools



VHM Various parts
Powervalue base

Partnumber	Brand	Type	Year from	Year till
DA31181	KTM	65SX	2009	2022
		65XC	2009	
		65SXS	2012	2015
	Husqvarna	TC65	2017	2022
	GasGas	MC65	2021	2022



The VHM power valve base is made from high quality aluminum machined from solid. The power valve base is designed with a stronger center base which provides a better support and guidance of the power valve. The power valve will always function during all circumstances.

The VHM power valve base fits the VHM cylinder head (part number AA33112) as well as the OEM cylinder head.

Powervalue adjuster with 2 stage spring

Partnumber	Brand	Type	Year from	Year till
DA31153	KTM	65SX	2009	2022
		65XC	2009	
		65SXS	2012	2015
	Husqvarna	TC65	2017	2022
	GasGas	MC65	2021	2022



Spare parts	Description	Content
31155KIT001	Progressive spring + holder	1x progressive spring, 1x holder

When using another exhaust pipe, it will influence the opening of the power valve. With the VHM power valve adjuster with 2 stage spring, you are able to adjust the opening timing of the power valve easily with the screw. The first stage of the spring allows the power valve to open very easily for a better and direct response. The second part of the spring keeps the power valve fully open for a maximum exhaust flow. The VHM power valve adjuster is made from high quality aluminum machined from solid.

The VHM power valve adjuster fits the VHM cylinder head (part number AA33112), VHM power valve base (part number DA31181) as well as the OEM cylinder head and power valve base.

Exhaust flange

Partnumber	Brand	Type	Year from	Year till
DA31194	KTM	65SX	2009	2022
		65XC	2009	
		65SXS	2012	2015
	Husqvarna	TC65	2017	2022
	GasGas	MC65	2021	2022



Use the VHM exhaust flange and exhaust leaking is history. The exhaust pipe with O-ring seals fits perfectly on the VHM exhaust flange.

The VHM exhaust flange is made of high grade aluminum and has a another design with springholder. The original bracket for the spring is not necessary.

Powervalue + axle

Partnumber	Brand	Type	Year from	Year till
DA31028	KTM	65SX	2009	2022
		65XC	2009	
		65SXS	2012	2015
	Husqvarna	TC65	2017	2022
	GasGas	MC65	2021	2022


Bush kickstarter gear

Partnumber	Description	Brand	Type	Year from	Year till
DA31235		KTM	85SX	2018	
		Husqvarna	TC85	2018	



The original bush of the kickstarter gear turned out to be some little trouble-maker, with the stock washer being weak and thin. As no one is waiting for a DNF, we've produced these superior bushes for the kickstarter gear. So it prevents engine failures and is a stronger lock washer for the starter intermediate gear.

VHM Various parts
Ignition covers

Partnumber	Description	Brand	Type	Year from	Year till
DA31196		KTM	85SX	2013	2017
		Husqvarna	TC85	2014	2017



VHM ignition cover made from one piece billet material, stronger than the stock ignition cover. The cover is precision machined, hard anodized for a high wear resisting surface.

Handlebar stabilizer

Partnumber	Description	Brand	Type	Year from	Year till
DA31079	Ø28	Honda	CR125R, CR250R, CRF250R, CRF450R		



The VHM handlebar stabilizer provides more stability and assures the handlebar is always fixed on the clamp.

Clutch axles

Partnumber	Description	Brand	Type	Year from	Year till
DA31171	aluminum/steel	Honda	CRF250R	2010	2013
DA31205	aluminum/steel	Honda	CRF250R	2014	2015
DA31160	aluminum/steel	Honda	CRF450R	2009	2012
DA31197	aluminum/steel	Honda	CRF450R	2013	2016
DA31229	aluminum/steel	Honda	CRF450R	2017	2020
DA31166	aluminum/steel	Suzuki	RM-Z450	2008	2018



The standard clutch axle is made from one piece of steel. With an engine running at higher operating temperatures, the standard clutch axle expands less than the rest of the engine, which gives more play on the clutch lever. This will result in a bad performing clutch. The VHM clutch axle is made from hard anodized steel and the middle of the axle is made from aluminum. The VHM clutch axle will expand and shrink exactly the same as the rest of the engine. Whether the engine is hot or cold, the clutch lever will always work perfectly.

Powertubes

Partnumber	Description	Brand	Type	Year from	Year till
DA31173		KTM	250SX-F, 350SX-F	2011	2012
			250EXC-F, 350EXC-F	2012	
DA31168		Suzuki	RM-Z250	2010	2014
DA31172		Yamaha	YZ450F	2010	2013



After installing the power tube on the throttle body, it improves bottom power at part throttle openings, a better and smooth throttle response without re-mapping the ECU.

The power tube is manufactured from solid aluminum, it's lightweight with a high quality finish.

VHM Various parts
Reedvalve spacers

Partnumber	Description	Brand	Type	Year from	Year till	
S37002	4mm	KTM	50SX	2009	2022	
			50SXS	2011	2016	
			65SX	2009	2022	
			Husqvarna	65SXS	2012	2015
				65XC	2009	
				TC50	2017	2022
			GasGas	TC65	2017	2022
				MC50	2021	2022
				MC65	2021	2022
S37004	4mm	KTM	85SX	2004	2022	
			85SXS	2012	2015	
			85XC	2009		
			Husqvarna	TC85	2014	2022
				GasGas	MC85	2021
		S37007	4mm	KTM	125SX	2016
125XC-W	2017				2019	
250SX	2017				2022	
	Husqvarna			TC125	2016	2022
				TX125	2017	2019
	GasGas			MC125	2021	2022
				MC250	2021	2022



This 4mm thick reedvalve spacer can be used to enlarge the crankcase volume.

Intakes

Partnumber	Description	Brand	Type	Year from	Year till
DA31195	Short intake (L19) + plastic reed valve insert	TM	K9B/C - KZ10	2007	2012



Using the short intake plate and reed valve insert will improve the engine response. The intake plate is made of high grade aluminum and includes an O-ring seal. No liquid gaskets and cleaning is necessary. The plate is extra strong due to the reinforcement ribs. The reed valve insert has a better shape and another volume for better engine performance. The OEM rubber intake fits perfectly on the aluminum plate (rubber intake not included).

Excenters

Partnumber	Description	Brand	Year from	Year till
CRG001	16 position caster camber pills 2.25 mm Stainless Steel	CRG / Zanardi / Maddox / Maranello		
CRG002	16 position caster camber pills offset 2.25 mm aluminium	CRG / Zanardi / Maddox / Maranello		
CRG003	16 position caster camber pills offset 1.125 mm aluminium	CRG / Zanardi / Maddox / Maranello		



With the VHM excenters the adjustment of the camber and caster is increased by the 16 hole. On the excenter a trust edge has been introduced so that the camber and caster can be adjusted very easy by hand without any special tool.

The VHM excenters are made of aluminum or stainless steel and are suitable for the CRG, Zanardi, Maddox and Maranello karts.

Oil air-vent plugs

Partnumber	Description	Brand	Type	Year from	Year till
DA31204		TM	K9B/C - KZ10 - KZ10B - KZ10C	2007	2018



The OEM oil plug needs a hose for air breathing, but oil can flood out of the engine through the hose of the plug. With the VHM oil air-vent plug, no oil can flood out of the plug. The plug has separate chambers where air can extract, but oil remains in the engine.

VHM Measuring tools & spare parts
Piston height measuring tools

Partnumber	Description	Content
AM34012	Measuring tool 85 cc (also compatible for many 65 cc engines)	1x Measuring tool 85 cc, dial indicator not included
AM34012B	Measuring tool 105 cc	1x Measuring tool 105 cc, dial indicator not included
AM34013	Measuring tool 125 cc - 150 cc	1x Measuring tool 125 - 150 cc, dial indicator not included
AM34014	Measuring tool 250 cc	1x Measuring tool 250 cc, dial indicator not included
AM34016	Measuring tool 300 cc	1x Measuring tool 300 cc, dial indicator not included
AM34017	Measuring tool 500 cc	1x Measuring tool 500 cc, dial indicator not included



To use the VHM cylinder head correctly, the piston height is a very important value to set up. The piston height measuring tool is a very clever tool to measure the piston height. There are 5 types available depending on the capacity of the engine. The tool comes complete with the upper and lower part of the tool. The dial indicator is separate available.

Partnumber	Description	Content
AM36007	Dial indicator Holec	1x Dial indicator


Volume measuring parts

Partnumber	Description	Content
AM36018	Pipet 20 ml	1x pipet 20 ml
AM36019	Pipet 25 ml	1x pipet 25 ml



With the pipet you are able to easily measure the volume of each combustion chamber. The graduation of the pipet is very accurate with 0.10 ml.

Partnumber	Description	Content
AM36020	Tap for pipette	1x tap



The tap for the pipette is very easy to use when measuring the combustion chamber volume.

Nutcaps, rings, screws and washers

Partnumber	Description	Content
BD35030	Copper Washer 8 x 18 x 2	1x copper washer
BD35032	Copper Washer 6.5 x 14 x 1.5	1x copper washer
BD36006	Copper Washer 6 x 10 x 1	1x copper washer
BD36009	Nutcap 8 mm	1x Nutcap
BD36021	Nutcap 6 mm	1x Nutcap
DA31109 1MM	Spark plug ring 1 mm stainless steel	1x ring
DA31109 2MM	Spark plug ring 1 mm stainless steel	1x ring
DA31109 3MM	Spark plug ring 1 mm stainless steel	1x ring
DA31109 4MM	Spark plug ring 1 mm steel	1x ring
M6X6 INBUS	Galvanized low screw	1x screw
M6X8 INBUS	Galvanized low screw	1x screw
M6X10 INBUS	Galvanized low screw	1x screw



Washer



Nutcap



Spark plug ring



Galvanized low screw

VHMMERCHANDISE

CASUAL CLOTHING

Perfect for working in your garage, when walking through the paddock or standing on the podium! We have beanies, caps, gloves and shirts available.

ACCESSORIES

We've designed an awesome little piston with conrod, which can be used as a bottle opener and as a keychain! We also have VHM stickers available in 3 sizes.

www.vhm.nl/merchandise



VHM Merchandise
Beanie (knit hat)

Partnumber	Description	Size
MCBE01Z	VHM beanie (knit hat) black	One size fits all



Nice fitting and warm black-colored knitted hat with subtle VHM embroidery on the front. One size fits all! Perfect for the cold winter days during the pre-season training and early races.

Bottle opener / keychain

Partnumber	Description
MVB01G	Keychain ring included



Awesome little piston with conrod, which can be used as a bottle opener and as a keychain! A keychain ring is included, so you can easily attach it to your key(s). It's gold anodized with the VHM logo lasered on each side of the conrod. A real eyecatcher for everyone crazy about engines!

Caps

Partnumber	Description	Size
MCC02Z-58	VHM cap	58



Nice looking cap to wear at the track, in your workshop or whenever you feel like it. The cap is designed with flat embroidery of our logo on the front, as well as VHM letters flat embroidery on the front/brim and left panel. In addition, there's an engraved back metal buckle with our logo, which ensures an adjustable closure. The cap's model is 'baseball', with curved brim.

Partnumber	Description	Size
MCC01Z-58	VHM snapback cap	58



Nice looking cap to wear at the track, in your workshop or whenever you feel like it. The cap is designed with a 3D embroidery and digital background printing on the front. There's also a woven VHM label next to the plastic adjustable back strap. In addition, we've designed a sticker which is attached on top of the red brim. It demonstrates our in total 11 World championships and 9 European championship titles until 2017. One size fits most!

Shirts

Partnumber	Description	Size
MCSM01Z-S	VHM shirt black	S
MCSM01W-S	VHM shirt white	S
MCSM01W-M	VHM shirt white	M
MCSM01W-L	VHM shirt white	L



This shirts are designed with a nice front embroidery, containing our slogan 'Special Racing Products' and many other quotes like 'Born to race' and 'In it to win it'. There's also a small stitched label at the front bottom of the shirt, showing our logo and a laurel wreath surrounding it. The shirts have a nice long fit and are made of high quality cotton.

VHM Merchandise**Working gloves**

Partnumber	Description	Size
MCG01X-8	VHM working gloves	8
MCG01X-9	VHM working gloves	9
MCG01X-10	VHM working gloves	10
MCG01X-11	VHM working gloves	11



Are you the mechanic? Or the tuner? Busy with engines day and night? Then these working gloves are something for you! The gloves have a slim fit with excellent grip. These gloves are available in different sizes.

Stickers

Partnumber	Description	Size
MVST-5x1.9	VHM sticker small	5x1.9cm
MVST-10x3.8	VHM sticker medium	10x3.8cm
MVST-45x17	VHM sticker large	45x17cm



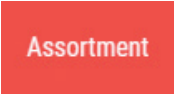
Our VHM stickers are of thick, outdoor quality. You can use them for on your bike, workshop, van or whatever place you can think of!

#1 PRICELISTS

Did you know that we (still) have an Excel file of our price list available on our website? You can find it at www.vhm.nl/downloads

#2 ASSORTMENT

How to find ALL parts on our website? Click on the menu button [Assortment] and go from there. We've categorized our parts into 5 main groups; Chassis parts, Engine parts, Merchandise, Tools & Sale.



#3 TABLE OR TILE VIEW

Scroll through our assortment with a table or tile view! The table view is a compact view and only shows the necessities. The tile view is an extended view and also shows the properties of parts. Quite handy when searching for inserts!



#4 QUICK LINKS

Want to look at an overview of our cylinder heads, inserts, pistons or crankshafts? Use the quick links on our homepage! In just one click you'll get the overview you'd like to see by clicking on the parts picture.



#5 OTHER MENU

Want to see and read more about us? Check out the 'other menu' on our homepage. It contains pages like news, VHM champions, downloads, FAQ and about us.



#6 TRANSLATION OPTION

Difficult reading English? We've built in a google translate option, so you can select your own language. You can find the button at the top right of our website. Please note that the translations might not be perfect.



#7 PARTS PER PAGE

Like to scroll through our complete assortment? You can select how many results you'd like to see at once. You can choose from 12, 24, 48 and 96 parts per page!



#8 PART FINDER SKIP FIELDS

Used our partfinder yet? Did you know you could skip fields? You do not necessarily have to start with filling the 'select application' field. You can also immediately start your search with 'select make' or even 'select model' to speed up your search.



#9 EASILY CHECK YOUR VHM INSERT SPECS

Quickly check / find your VHM insert specifications on our website: just type in the number of the insert in our search bar and click on the insert you want to know the specifications from.

#10 PARTS NOT ON OUR WEBSITE

Can't find the part you were looking for from the other brands we sell? Don't hesitate to contact us about it. We've added many parts on our website, but not all there is. Send an e-mail to info@vhm.nl and we'll do our best to help you with the parts you need.

#11 VHM CRANK MODIFICATION LIST

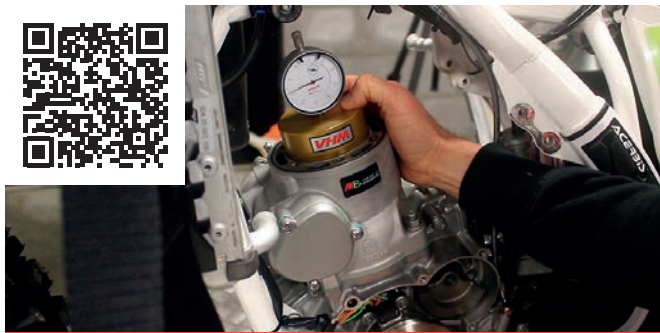
You can also check the complete VHM crankshaft modifications list on our website. The crankshaft modifications can't be found in our regular website assortment, thus can only be requested by email.

www.vhm.nl/crankmods

#12 NAVIGATION PATH

When clicking through our assortment, a navigation path under the menu bar will be shown. When you'd like to go back or see the complete category again, just click on it in the path. For example, when viewing our cylinder head AA33177, you will see the navigation path Engine parts > cylinder parts > cylinder heads > AA33177.

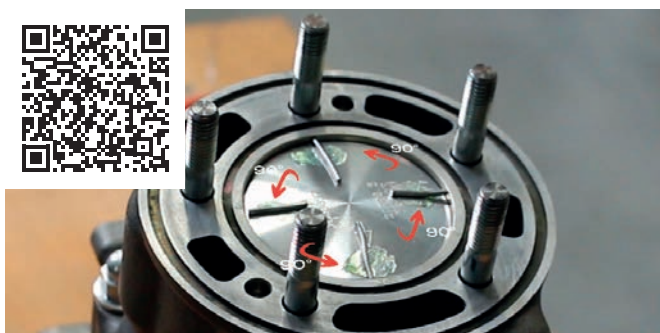
Engine parts > Cylinder parts > Cylinder heads > AA33177



www.vhm.nl/pistonheight



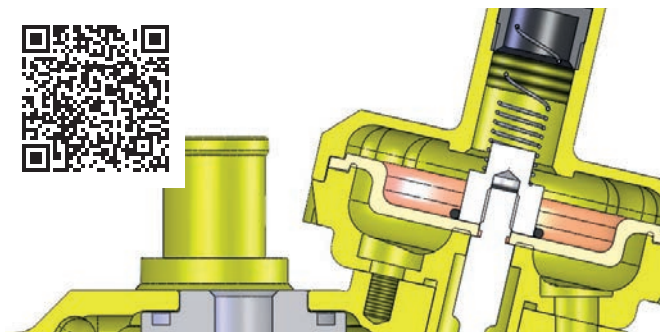
www.vhm.nl/volumemeasurement



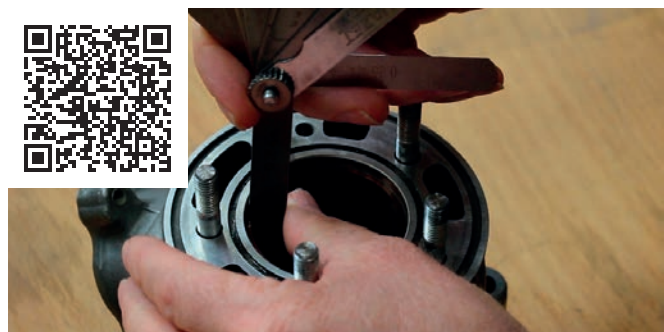
www.vhm.nl/squishmeasurement



www.vhm.nl/insertcalculator



www.vhm.nl/powervalveassembly






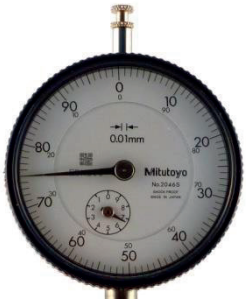


www.vhm.nl/pistonringendgap



www.vhm.nl/mountingairintake



www.vhm.nl/pistoncylinderclearance

<ol style="list-style-type: none"> Setup the dial indicator before each measurement. Put the top part of the tool on the flat bottom tool. Fit the dial indicator on the top part and adjust the zero level to 5.00 mm, by moving the dial indicator up or downwards. Then fix the dial indicator to the top part with the screw. Check if the big pointer is pointing to 0, if not, turn the outer ring of the dial indicator to 0. Make sure that the piston is at Top Dead Center (TDC) Piston height = distance between cylinder deck and top of the piston, when the piston is at Top Dead Center (TDC) 		
<ol style="list-style-type: none"> Positive piston height: <i>Top of the piston is above the cylinder deck</i> The little pointer has turned to 6.00 mm The big pointer turns counter clockwise and stops at 0.75mm. The piston has travelled $6.00 + 0,75 = 6,75$ mm Because we have adjust the zero level to 5 mm, the piston height is $6,75 - 5,00 = + 1.75$ mm 		
<ol style="list-style-type: none"> Negative piston height: <i>Top of the piston is below the cylinder deck</i> The little pointer has turned to 3.00 mm The big pointer turns clockwise and stops at 0.25 mm The piston has travelled $3.00 + 0,25 = 3,25$ mm Because we have adjust the zero level to 5.00 mm, the piston height is $3,25 - 5.00 = - 1,75$ mm 		

Now that we have measured the piston height, we can install the VHM cylinder head and insert. Adjust your measured piston height with the piston height shown on the insert box to get the correct volume and squish. The piston height can be adjusted using thicker or thinner cylinder base gaskets. The specifications of each insert is shown on the top of the insert box.

Piston height	Distance between top of the piston and cylinder deck when the piston is at Top Dead Center. (Also called; deck height) [mm]
Volume	Volume of the combustion chamber including volume spark plug hole, when the piston is at Top Dead Center. [cc]
Squish	Distance between the piston and combustion chamber in the squish band area, when the piston is at Top Dead Center. [mm]

Every VHM insert has a unique part number.

- Part numbers ending with a letter, for example AE32087-H, are standard inserts. The piston height is measured on a standard engine.
- Part numbers ending with numbers, for example AE32087-006, are special inserts. These inserts are special made and may have another piston height, volume, squish or shape of the combustion chamber.

A great advantage of our system is that the squish and volume is always known, whether by increasing or decreasing the piston height.

For example insert AE32087-H for the KTM 85cc engine has a piston height +2.20mm, squish 0.80mm and volume 8.00 cc.

If we use a 0.20 mm thicker cylinder base gasket the piston height will be $+2.20 - 0.20$ mm = +2.00 mm. The squish will be $0.80 + 0.20 = 1.00$ mm.

When we change the piston height with this insert, the volume will also change. Using a thicker cylinder base gasket will increase the volume.

The new volume can be calculated as following:

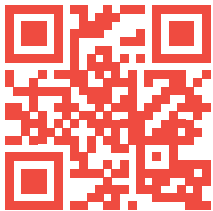
$$\text{Volume difference} = \frac{\pi}{4} \times D^2 \times h \quad D = \text{Bore cylinder} = 47 \text{ mm} \quad h = \text{difference piston height}$$

$$\text{Volume difference} = \frac{\pi}{4} \times 47^2 \times (2.20 - 2.00) = 346,989 \text{ mm}^3 = 0,346 \text{ cm}^3 = 0,346 \text{ cc} \approx 0,35 \text{ cc}$$

$$\text{New volume with piston height } +2.00 = 8.00 + 0,35 = 8,35 \text{ cc}$$

With the same calculation, the volume can also be calculated with a thinner cylinder base gasket, which means a higher piston height.

	Piston height	Volume	Squish
Thicker cylinder base gasket	↓	↑	↑
Thinner cylinder base gasket	↑	↓	↓



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