

HOCOPARTS
PREMIUM MOTORCYCLE PRODUCTS

# GIUE of ARAI



MX-V Value of Arai 3 Profile-V 36 Additional sizes Glancing Off 4 SZ-R VAS 40 RX-7V EVO NEW 20 Variable Axis System 43 Car Helmets RX-7V RC 25 Freeway Classic 44 Accessories .56 RX-7V Racing 26 Urban-V 45 Arai Features .58 Quantic 28 Tour-X 4 46 Concept-X Penta-Pro

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No helmet can protect the wearer against all foreseeable impacts. Nothing is a substitute for safe riding practices.

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The importance in each Arai is not ONLY what you see, but ALSO what you don't see.

# This is the true value of ARAI.

It's no secret that for Arai, performance is the number one priority. That's why we continue to chase, year after year, the goal of creating the ultimate helmet. And this driving obsession is the **real** hidden value behind every Arai.

Ever since the first year of production, Arai has always built helmets based on the strong determination of trying to protect a rider by even the smallest amount. There is no magic wand, so the work never stops. And never will. We will continue in our consistent pursuit of gains in protection. No easy task. When it comes to the structure and construction of each of our helmets there is no machine that can match the skills of our craftspeople.

Because it's a helmet bearing the Arai name, each and every one of us is obsessed with making something that would first convince ourselves. By making a difference in protection through the steady accumulation of improvements instead of just a product that is mass produced by machines. Every helmet we produce wears

the Arai name proudly. With good reason. We make helmets that we would be wearing ourselves.



There is a limit to the number of helmets we can produce. But every member of Arai truly believes that with every helmet that we make, we could protect another rider.

Glancing off properties, EPS liner performance, efficient ventilation, supreme comfort and quietness: the value of Arai is found in each of these elements and the way they work together. We continue our pursuit of gains in protection for all the proud and happy Arai owners, for everybody choosing Arai. Our Arai family. We do realize that what we seek to protect is priceless.





#### GLANCING OFF

In the event of an impact, energy is created, and the role of a helmet is to 'appropriately manage the impact energy' to protect the rider's head. That energy management is generally achieved by 'absorption' of the impact energy around the head, thus protecting it. The outer shell deforms and the cells of the inner EPS liner crush, and that destruction manages impact energy by converting it into work. However, the truth is even the best helmet has limits to how much energy it can manage.

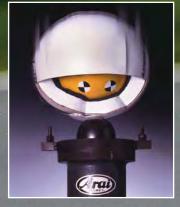
On the other hand, the helmet isn't only absorbing energy, but rather in a large crash when the rider's head is repeatedly protected by the helmet, we understand that it's working to manage impact energy in another important way.

That is 'glancing off'. Many people probably don't even realize this, but at the moment a helmet is impacted, if struck off center it can slide on the crash surface, minimizing the impact energy that might otherwise be transferred to the rider's head. Therefore, if not directed toward the center of the helmet, the head inside can be protected, even with high energy levels and the liner's limited energy absorption ability. Even in extreme crashes we've witnessed 'glancing off' and 'energy absorption' as two halves of energy management that work together to increase the chances of head protection. This holds true for any kind of helmet.

# **HOW DOES A HELMET PR**

Head protection can be called managing impact energy. Except managing that energy is not just absorbing it.







All helmets protect the rider's head through both glancing off and energy absorption.

'Energy Absorption' and 'glancing off' are two wheels that can do the job of preserving balance that can work together without bias or offset.





ENERGY ABSORPTION

GLANCING



Here is the moment of impact. The rider tenses up, and the helmet contacts the ground. You can imagine what the helmet has to do next.

## Glancing Off works together with Energy Absorption Invisible to Your Eyes

When we talk about 'Impact absorption ability' there will be a limit regardless of any manufacturing technique employed, because of the limited amount of space between the shell and rider's head necessary to manage impact energy (see below "The Limit of Absorption Ability"). And on a motorcycle, we have to prepare for impacts that far exceed our imagination. So it follows that glancing off is critical for supporting that. Arai's helmet exhibits results due to its strong shell combined with its round smooth surface and achieves important goal of not letting energy into the helmet.

However, helmet standards place their emphasis on impact absorption and do not show anything about glancing off. Glancing off is the synergy of various elements working together, and



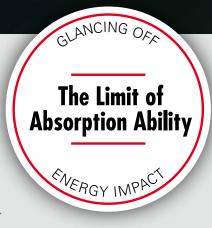
In the unlikely event of an impact, the common case is the helmet receiving an impact from an oblique angle, rather than a 90 degree angle. So the obstacle moves past the impact point with the helmet while sliding off the moment the helmet hits at an oblique angle.

there is no set way to impact a helmet to test for it.

There is a test for shell strength to resist penetration, though because it's difficult to put numbers to the shell form and such for glancing off, there remains no definition. Any helmet makes use of glancing off, but due to the difficulty in numerically capturing each helmet's difference in ability, there are many cases where safety standards simply don't define glancing off.

In addition to passing standards, Arai makes continual efforts to improve our helmets' glancing off ability and pursue gains in head protection.





The amount of energy in a crash can be expressed as distance and force, where distance is the physical space between the helmet shell surface and the rider's head, or in other words the helmet size. If you make the helmet user-friendly, there will be a limit to its size. Regardless of construction or material employed, there's still a limit to the space available in a helmet.





#### HOW DOES A HELMET PROTECT YOUR HEAD



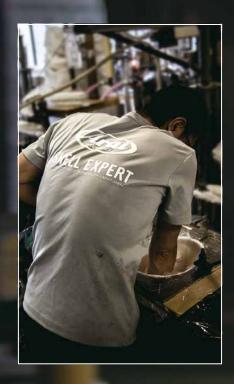
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## Aiming to be the Best in the World

When it comes to proficiency in head protection, Arai has the goal of making a helmet superior to all others and continues to make our helmets this way today. We have seen this confirmed in many of our rider crashes over several decades, and we pursue gains in protection even if just a little.

Because we come from this background, we've come to notice the importance of the smoothness of the helmet as a component above all others and continue to employ it in our approach. Head protection is the foundation of our belief in being the best in the world and we pursue the value of both 'glancing off' and 'impact absorption' equally. This is the difference of Arai.





Arai's desire is to pursue gains in protection wherever possible, and glancing off plays a major role in improving impact performance.

GLANCING OFF

Helmet Scars from Impacts

ENERGY IMPACT

Impact absorption testing is representative in helmet standards testing. It numerically measures the impact when a helmet collides with an obstacle straight on. Diagonal scars are left on the helmet where it received a perpendicular impact. On the other hand, impacts can be received from different angles and the scars flow horizontally from the impact point.

\*See riding impact case examples.

Impact scars from drop test (hemisphere anvil)



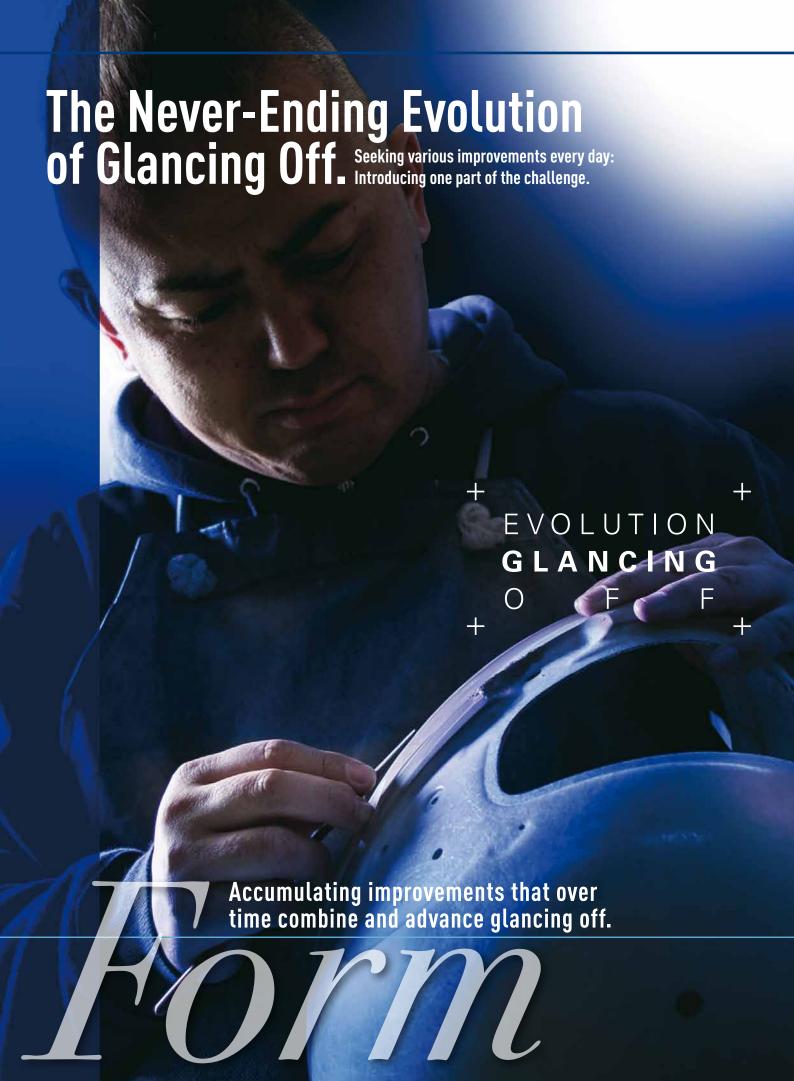
#### HOW DOES A HELMET PROTECT YOUR HEAD











Glancing off cannot be adequately quantified as a basis of head protection. In crashes, an impact can come from any angle at any speed and cannot be prepared for. Also, the exact speed and angle of an impact cannot be replicated 100%. So

as for the development of 'glancing off', there's nothing that can be done except to accumulate improvements that we think we should do through experimentation and small adjustments to combat every possibility.

# Form

#### The Evolution of Form Continues as Time Goes By

From the scars left by rider impacts, we can gather that the helmet was able to slide past obstacles and not catch or snag because of its smooth surface. In other words, we surmise they exhibited 'glancing off' properties. So, the shape of Arai helmets will be round and smooth to the very end. We have kept the same basic shape since the beginning, and think it alleviates impact energy more so than a shell with an exaggerated shape with hard edges that may catch. Our helmets evolved from a cannonball shape when first introduced, into an egg shape today, to better blend the entire outer surface more smoothly. The current shape of an egg is a simple sphere evolved in nature for survival. Arai also evolved

towards the egg shape with the notion to protect the rider's head as much as possible from impacts that might exceed expectations.



The whole helmet has evolved to receive impact energy with its round surface to address obstacles, and reduce flat facets in the shell.



#### FOR M

#### The Never-Ending Evolution of Glancing Off

#### R75

The aero parts and vents that keep the rider comfortable break off in an impact by design. Our helmets are designed to avoid protrusions in the shell. They also have a continuous round



and smooth spherical form maintaining a radius of no less than 75mm, which we call R75, in the head protection area of the helmet according to Arai's in-house criteria.

#### **VAS SHIELD**

Designed for improved function, but more importantly to increase the continuous smooth shape of the shell. VAS aims to increase the 'glancing off' ability of the helmet by maintaining the smooth shape of the helmet above all.





Shell strength is very important for enhancing 'glancing off'. In a crash, if the shell deforms or is completely destroyed it can no longer slide and

will stop and catch on that point. A helmet that can't slide can't maintain its 'glancing off' ability and that impact energy can reach the rider's head.

# Strength

Since we've decided on being the number one helmet in the world for protection, we've pursued shell strength as well as weight reduction by accumulating improvements that embody the lifeblood of Arai. This evolved into the development of the cLc shell process (complex laminate construction) which encompasses both strength and lightness. Although the cost of the material utilized is 6 times higher than conventional fiberglass, Arai exploits its use for a stronger and lighter helmet. To prevent cracks from spreading to the helmet's edge, the critical edges of the shell have a Super Fiber Belt which reinforces these areas like the bands of a barrel. The resin blend as well is evolved through our obsession with strength and weight reduction as we continue to accumulate various improvements.



Between the high strength fibers, special lightweight elastic fibers are sandwiched between, which is the Complex Laminate Construction (cLc). It offers a 20% weight reduction compared to making it with just all the same fiber.



The top of the eye port has a Super Fiber Belt which reinforces the helmet like the bands of a barrel for better protection. This special belt suppresses the spreading of cracks that form when the helmet receives a large impact and improves glancing off.

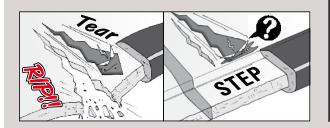


#### STRENGTH

# Continually Seeking the Strongest Materials and Best Techniques at the Forefront of Technology

#### HYPER RIDGE

At the bottom of the shell there is a three-dimensional 'Hyper-Ridge', a step in the shell designed to stop the migration of cracks that form when the helmet receives an impact.



#### SPECIALIZED GLASS FIBER

Arai's top models utilize the same material found in a bulletproof vest in the crown part of the shell, which is expensive but strongest in function to maintain strength, reduce weight, and lower the helmet's center of gravity for reduced rider fatigue.

Shell evolution involves more than improvements in construction, material, and manufacturing techniques.
Rather, we pursue strength from the shell shape. All elements of shell shape are connected to the function of the helmet.





# Absorption Liner

Even the best 'glancing off' ability alone won't protect the rider's head. 'Impact absorption ability' is necessary to pass even the strictest helmet standard in the world. In the impact absorption ability test, the shell surface deforms when it receives an impact with the helmet hitting obstacles of certain angles and shapes. If the impact surface is narrow, concentrating the impact energy, the EPS liner must naturally be thicker. However, while that makes it easier to pass helmet standards, making the EPS liner thicker only in the necessary places ends up distorting the helmet shape away from 'round and smooth'. It doesn't maintain a form ideal for making the most of 'glancing off'. Arai's proprietary 1-piece multi-density EPS liner has finely-tuned sections with various densities. It can make the most of its 'glancing off' ability because the EPS density varies according to the corresponding shell surface, allowing the shell to remain 'round and smooth'. This 1-piece multi-density liner is indispensable for improved results in Arai's strength of the shell shape pursuing 'glancing off' performance.



The head form shape used in helmet testing is somewhat square, so the 'four corners' get tight inside the helmet, and we can see a tendency to make the shell square too.



Arai's proprietary 1PMDL (one piece multi-density liner) is the only one of its kind in the world and offers incredible protection by being fine-tuned to each shell size, in each model and in each head size, with varying EPS densities.

# 3

#### ABSORPTION LINER

#### For Many Years We've seen Our Liner's Performance Tested

The liners used by some other helmet manufacturers may have multiple densities, and have separate pieces with seams where they are assembled, or use a non EPS liner type. All address impact energy in a vertical drop from a set distance in helmet standard tests, where there is no difference in



absorption ability. However, it's difficult to manage an impact you cannot foresee on the road or track which could come from any direction. On the other hand, if the liner is 1 piece multi-density, it has unbroken bonds between all densities and can stop the spread of impact energy more efficiently. In a crash we can confirm the effective combination of the liner-shell system. Furthermore it exhibits ideal absorption performance in side impacts as well because it's designed with glancing off. The 1PMD liner is the ideal ingredient in impact energy management where it can manage impact energy from any direction and address impacts unknown to the rider.

#### [SUMMARY]

Glancing Off, together with Energy Absorption, is an Important Aspect of Rider Protection.

The Duty to Protect

Without energy absorption ability a helmet can be called meaningless. Though, in a crash any helmet will protect the rider's head by two roles: 'glancing off' and 'impact absorption'. While impact absorption can be measured, the shape that bears 'glancing off' cannot, but because of its relative ease of skipping past obstacles in a crash, the truth is it plays a large role in the helmet. And as mentioned above, in many cases we're riding above the speeds in a test environment. Crashes can exceed the absorption ability of the helmet and involve immeasurable impact energy, and even the best helmet would not be able to manage it. In the event of a crash, the number one goal is preventing impact energy from reaching the head. Before absorption, most energy can be avoided. This 'glancing off' shell shape plays the important role in going beyond just 'impact energy absorption'.

Because crashes can exceed expectations.

# Please see for yourself at your local dealer

Arai continues its pursuit of 'glancing off' performance. However, 'glancing off' ability cannot be confirmed by seeing a certification label. You can probably say the 'glancing off' ability of our helmets is high when you feel the smooth shell with your own hand, improved with breakaway vent

#### **Confirm Glancing Off**

Feel the surface of our shell, and you'll understand there are no flat spots to interfere with its glancing off ability.



covers. We invite you to feel and compare with your own hands. A form with few changes in its shape, consistently round, is difficult to deform in impacts, and can be said to have high glancing off ability.

Feel for yourself the lower part of the shell as well doesn't lose the round smooth shape.

#### The Consistent Pursuit of Gains in Protection

# **Pursuing Gains in Protection**

# Emphasizing the Accumulation of Various Improvements, bearing in mind our mission to protect the Rider.

Arai is the collection of people devoting themselves to the path of protecting the rider's head and the thought that the helmet has the noble duty, with the utmost meaning of potentially saving someone's life. To pursue advancing the ability of how a helmet should protect the rider from a crash, while we enjoy motorcycles, and continue to accumulate such gains in protection is our goal.

But the severity of crashes can far exceed our expectations, so even making the helmet with our goal in mind, we bear the regrettable thought of knowing there is a limit to the helmet's protective ability.

We at Arai remain determined to pursue superior protection above all other helmets and to not lose pride in what we're doing.

What should we do to combat crash impacts?

There's no simple answer or solution to this question.

We've continued on a straightforward path of searching for every factor we can find, one-by-one, accumulating even small improvements since we made our first helmet more than 70 years ago.

So now, Arai believes we have fostered a brand that has received the recognition from many around the world that say 'Arai's protection is different'.

Since 2003, ECE R22-05 has been the mandatory motorcycle helmet homologation in Europe and countries outside Europe where it has been adopted. After 18 years it has been updated to ECE R22-06. With the introduction of ECE R22-06, the regulations have become more stringent and therefore tougher to pass than the previous ECE R22-05. These changes pose a big challenge for helmet manufacturers.

However, from the very beginning, even before the existence of official safety standards, we have always focussed on the most important feature of a motorcycle helmet: head protection. At Arai, we never stop when we reach a certain level, but continue to find ways to improve and elevate the level of protection, even when no one asks. There is no magic wand, or one solution when building helmets. The only way to improve is by steadily making small improvements, and over time all these accumulated improvements will work together, reaching a higher level of protection than before, creating a new base on which we need to improve.

The knowledge and experience we have gathered throughout the decades of building motorcycle helmets have given us the ability to adapt to changes in regulations by only

having to fine tune. We were successful in having the RX-7V EVO and Quantic homologated while maintaining the core aspect of our helmets: *Glancing Off.* 

Glancing Off is the ability of a helmet to prevent, as much as possible, impact energy going into the helmet. The



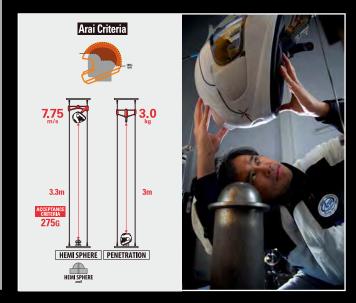
lower the impact energy, the less that needs to be absorbed. By making rounder, smoother and stronger outer shells, we try to maximize the Glancing Off capability.

Although not required, The RX-7V EVO and Quantic can be impact tested anywhere above the Snell test line, not only at specified points.





Also not required, but both helmets can be tested to the Snell penetration test, dropping a 3kg striker from 3 meters high. Incorporating such performance capacity, when not required, says something about the nature of the Arai company.



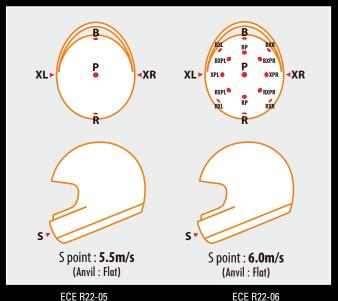
The ability to quickly adapt to changes in the regulations by only having to make small adjustments is truly something special. And it has shown us that we are on the right track with our obsession for even more protection. After all, why change a winning formula? That is the strength of Arai, and why there is a difference. Because what we protect is priceless.



#### What has changed with ECE R22-06?

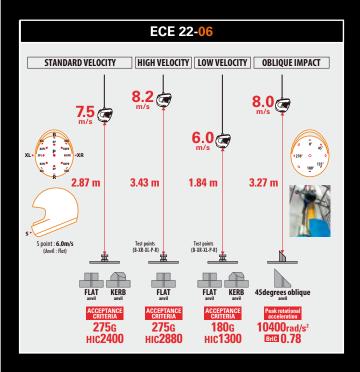
ECE R22-06 has several differences with R22-05. The biggest changes are listed below.

Additional impact points: New to R22-06 is the addition of 12 impact points. Previously there were only 5 fixed impact points (6 when including the S point) on which a helmet was tested. Now there are 12 extra impact points



from which at least 3 points are randomly selected and tested.

Additional impact tests: A high velocity and low velocity impact absorption test have been added, in addition to the standard velocity impact absorption test. The high velocity impact test is performed at an impact velocity of 8.2 m/s and the low velocity impact test is performed at 6.0 m/s. The impact speed on the S point has been increased from 5.5 m/s to 6.0 m/s.

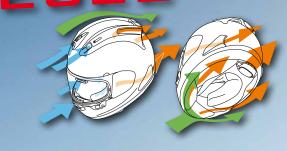


Addition of the Oblique Impact test: The Oblique impact test has been added to measure the amount of rotational acceleration during an impact. The oblique impact test is performed at an impact velocity of 8.0 m/s, where a helmet is dropped onto a 45 degrees oblique anvil.

### RX-7V EVO

#### **Ventilation**

The combined systems offer excellent and efficient ventilation. Utilizing the same proven system as the RX-7V, the centre duct provides 11% more airflow, with bigger switches for effortless operating. The lowered side-air channels guide air from the cheek pad area to the side ducts. The diffuser is 20 mm longer with improved aerodynamics, and 19% larger intake scoops, both work together with the Air Wing to improve stability. The chin cover blocks air intrusion and draws more air from the mouth area.





#### **SETTING THE STANDARD**

The RX-7 has always been the benchmark of Arai's motorcycle racing R&D at the very highest level. Handmade in Japan by a threegeneration family company of riders, it is Arai's state of-the-art helmet. The new RX-7V EVO, apart from accumulated improvements under the skin, looks identical. Because it is. The difference? Everything. And most recently ECE R22-06 approval. But, even after meeting the most recent standard, Arai does not rest and continues to look for new ways to improve rider protection, making us better prepared to meet the next standard when it comes. ECE R22-06 requires a much more stringent testing process than the previous ECE R22-05. Arai presented the RX-7V EVO and it gained homologation while maintaining its characteristic round, smooth and strong shell design to 'glance-off' and spread impact forces. Or simply put, by being an Arai RX-7V EVO. There is a difference with Arai. It's the combination of every single piece of design, no matter how large, small or even invisible, working on behalf of the rider. Because what we protect is priceless.



PB SNC<sup>2</sup> Outer Shell







VAS V MV Visor

Chin curtain

Antimicrobial liner material

**Facial Contour** System



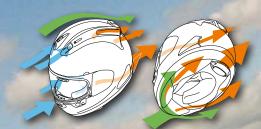






#### **Ventilation**

The combined systems offer excellent and efficient ventilation. The new top duct provides 11% more airflow, with bigger switches for effortless operating. The Air Channel guides air from the eye port area to the side ducts. The new diffuser is 20 mm longer with improved aerodynamics, and 19% larger intake scoops, both work together with the Air Wing to improve stability. The chin cover blocks air intrusion and draws more air from the mouth area.





#### RX-7V RC













Without doubt the Arai RX-7V RC is the pinnacle of helmet technology. Painstakingly hand build by master craftsman to create a superb helmet in which all the Arai know-how, experience and years of development has been brought together. From the VAS (Variable Axis System) technology that offers a significant larger and smoother shell area above the SNELL test line greatly improving the important helmet glancing off performance, to the meticulously applied layers of precious carbon fibre, it all adds up to a truly superb helmet.



RC-Shell



VAS V MV Visor



Chin curtain



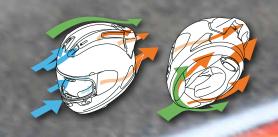
Antimicrobial liner material



Full support interior

#### Ventilation

Racers love the RX-7V's ability to keep them cool, no matter how hot the laps get. So we had to make sure that the RX-7V Racing's aero-kit had zero impact on the twin diffusers' induction efficiency. So it hasn't. Like the RX-7V the Air Channel System flows air from the eye ports to the side ducts, while the chin cover blocks air intrusion and draws from the mouth area.





#### RX-7V RACING

## FIM RACING HOMOLOGATED HELMET

#### **MAKE FASTER, EASIER.**

An RX-7V is everything Arai knows about producing the ultimate competition-ready motorcycle helmet. The strong, smooth and rounded R75 shape shell; to increase the important glancing-off performance. VAS system. Peerless fit. Ventilation that maintains a rider's cool. And the RX-7V Racing goes one step further with an extra layer of technology. Aerodynamic assist. The RX-7V Racing employs an FIM-approved aerokit to smooth the passage of air between the rear of the helmet and the aero hump on a rider's leathers, in a tucked-in racing crouch. It's a new design, with fixed airwing and more aerodynamically efficient than the prototypes developed over previous seasons by top-flight Arai's racers. The higher the speed, the more noticeable its effect. Other RX-7V Racing details are less obvious but aimed squarely at the extremes of racing; for those that measure performance at the very edge and lap times in fractions. Take the advantage.





Rear spoiler



2D visor with tear-off post



Emergency Release System (ERS)



Antimicrobial liner material



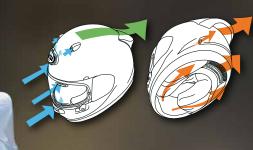
Fixed airwing



Comprehensive and controllable ventilation is based around 12 ventilation ports: 6 intake, 6 exhaust. The 3D Arai logo feeds cooling air into two central intake points and works well at low speed, alongside dual F1-derived tear duct top intakes, twin brow vents and 2-position sliding

air-scoop, filtered chin vent. Hot air is efficiently extracted via the 3-way one-piece rear exhaust/spoiler, twin flush-fit side exhausts (with foam dams to reduce noise)

and neck exhaust.











PINLOCK MAX



As with every Arai, the Quantic is formed around protection, first and foremost. Manufactured by hand, the outer shell maintains core strength but with a substantial weight reduction. The smooth, round shape is a key Arai signature and primarily designed to 'glance-off' and spread impact forces. Using the aerodynamic and protective abilities of Arai's full-race helmets and all the experience and know-how earned over millions of road kilometres, the new Quantic slips through the air neatly and efficiently, wrapping its wearer in a cocoon of luxury. It offers a fresh choice for riders that want the very best performance from a helmet – in terms of protection, comfort and ease of wear, day-in-day out - with zero compromise. For easy access on and off the Quantic features a 5mm flare around the base, while the VAS MAX vision visor comes with a Pinlock insert ready to use. The premium brushed nylon interior is removable and features Facial Contour System (FCS) and neck roll wire pocket. It also features Emergency Release System (ERS). The Quantic will be on the market with the official ECE R22-06 homologation.



PB e-cLc Outer Shell



3D Arai logo duct



Air-scoop chin vent



Replaceable interior



Rear exhaust/spoiler

#### QUANTIC









The Concept-X model will be available with VAS V MV visor and Pinlock insert.

#### CONCEPT-X











The 1980s. Naked motorcycles. An attitude that made you feel different from everybody else. Introducing the Concept-X. Recalling the simple yet aggressive style of that era, this helmet came from the heart of Arai R&D. They loved the looks, but that was about it. Now, the Arai techs want old-school cool, to fit their style and motorcycle, but they want cool with modern Arai performance. Concept-X's brute simplicity is the product of imagination, but make no mistake, while the retro style may grab attention it had to pass Arai's stringent in-house testing. So underneath the aggressive look you'll find a strong, lightweight PB e-cLc shell, with a smooth and round shape, reinforced with Arai's proprietary peripheral belt, to slide across surfaces and glance-off obstacles. The VAS-VC shield system, with its retro mechanical look, further enhances glancing off performance by lowering the visor pivot point to maximize a smooth upper shell. Although a nod to the past, the Concept-X is very much a helmet of the present. Ready for a generation of modern riders that demand a new, old style - but with the performance and comfort only an Arai can provide.



PB e-cLc Outer shell



VAS V MV Visor



Replaceable interior



**Emergency Release** System (ERS)



Hidden multi-stage air channel

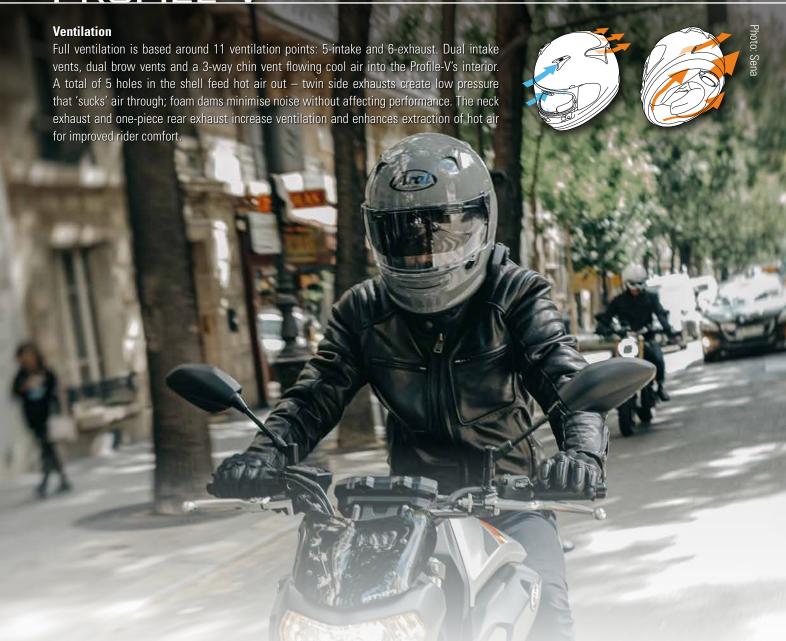
#### **CONCEPT-X**



#### **CONCEPT-X**







#### PROFILE-V





The Profile-V is a brand-new helmet from Arai. It has a fresh, aggressive style unique in the range and is designed to welcome riders to the Arai family with the plush comfort, protection and features expected of the brand but also something else — easy access on and off. Like every Arai the Profile-V uses a strong outer shell designed to glance off impact forces, while maintaining integrity, working with a softer one-piece multi-density EPS inner liner to absorb and spread impact energy. It's designed around the Variable Axis System (VAS) for a smoother shape plus reinforcing Hyper Ridge that lowers the centre of gravity and flares out 5mm to make putting it on or off easier. It's equipped with dual intake vents, brow vents and a 3-way chin vent plus five exhausts. The VAS-V MAX vision visor is Pinlock ready and uses our F1-derived latch mechanism; the semi-removable interior features Facial Contour System (FCS) and speaker pockets. The optional Pro Shade System (PSS) can be equipped. The Arai experience starts here.



PB e-cLc Outer shell



Variable Axis System (VAS)



5mm wider Base



Semi-Removable interior



Facial Contour System (FCS)

### PROFILE-V













Tube Fluor Yellow (matt)







PROFILE-V Edwards Legend Yellow







PROFILE-V Bend White



Patch White (matt)



**PROFILE-V** Patch Red (matt)



Patch Fluor Yellow (matt)







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### PROFILE-V



PROFILE-V Hayden

39

#### Ventilation

The combined systems offer excellent and efficient ventilation. The new top duct provides 11% more airflow, with bigger switches for effortless operating. The new diffuser is 20 mm longer with improved aerodynamics, and 19% larger intake scoops, both work together with the Air Wing to improve stability.







The SZ-R VAS is the new open-face helmet from Arai, with an advanced shell using our latest VAS design, improving the protection and glancing off ability in a critical area. With a revised visor, the option to fit a PRO Shade and featuring RX-7V diffuser technology and an updated interior, which improves fit and comfort. The new SZ model is also ready for the addition of speakers and/or use of glasses.



PB e-cLc Outer shell



Position of the holder



Multiple-density EPS inner shell



Antimicrobial Liner material



Pro Shade System (optional)





### (VARIABLE AXIS SYSTEM (VAS)

# Impact energy can be discharged if the head can keep moving.

The basic structure of the human head can be roughly divided into three components; scalp, skull and brain. The role of a motorcycle helmet is to minimize and manage impacts to the brain. Laboratory impact test standards vary somewhat, but generally all define shock absorption levels. Those levels are tested by dropping a helmet, with a steel head form from a predetermined height onto a steel anvil. The G meters within the head form measure the G forces sustained in these drop impacts to verify the impact absorption performance. Standards such as Snell set the test criteria quite high to obtain certification approval.



**EVOLUTION OFTHE RX-7V**: The world's first shield system to get so close to the ideal shell form.

Under impact the helmet acts as a buffer, the outer shell displaces the energy and the inner liner absorbs the energy as it crushes, slowing the impact speed. The examination of

the impact energy management performance of the standard is very different from an accident which occurs in an unpredictable and severe environment. The kinetic energy of a moving object increases in proportion to the square of the speed. Therefore, a street rider, traveling at legal limit, can carry up to more than 10 times the amount of kinetic energy. No helmet, regardless of brand or design, can be expected to manage such energies.

Keep smoother and rounder within the test area.

Therefore, Arai believes that "Glancing off" performance would be important to divert energies by keeping the head moving. For potential impacts with energies above those of the standards, and even above what a helmet might be able to deal with directly,

Arai has always tried to make

helmets rounder, smoother and stronger throughout

its long history. However, even at Arai there are limitations to how round and smooth a helmet

can be due to the restrictions of a single pivot shield mechanism. The geometry of current shield systems require a high pivot position. This high pivot point falls within the test area of the standard, across the test boundary lines at the left and right temple area.

The shield is attached to the helmet with a mounting/pivot mechanism. To maintain a smooth/flush transition from shield to shell, the shell area where this mechanism attaches must have some depression or recess. The cur-

rent shield systems, with some portion of the mechanism within the test area, prevent the shield from maintain a smooth and contiguous curved surface.

VAS is a completely new shield system with a mechanism invented with the sole purpose of eliminating this intrusion into the test area, allowing the shell along the test

line at the temples to be made smoother.

The new smoother shape is the next generation that aims to further improve on the original mission.

Through decades of experience with real world road and track scenarios, Arai has developed a helmet compiled of detail upon detail that work together and improve the protective capacity of the helmet.



Virtual Axis Track



The Freeway Classic fulfils the fundamental functions of a motorcycle helmet for those who like to take it easy and experience the world around them to the fullest.



Leatherette interior accents



Replaceable ear cups



Goggle strap band





## **URBAN-V**



The new Arai Urban-V open-face helmet blends classic style with cutting-edge Arai protection, comfort and ventilation technology. It's a classic retro-style open-face helmet rich in period details like traditional stitched faux leather edge trim and interior accents. Though packed with modern technical features that enhance comfort and protection, like a stronger outer-shell silhouette and a (hidden) interior ventilation.



PB-cLc<sup>2</sup> Outer shell



Hidden multi-stage air channel



Split-Crown Pad



Interior integrated intake channels



Twin Venturi Exhaust Ports



TOUR-X4

3 configurations









The Tour-X4 must be one of the most versatile helmets ever: adventure, grand touring or off road, and without the peak looks pretty good on a naked bike too! No matter the riding conditions, the Tour-X4 is ready for it. Can be used without visor with goggles, without peak but with visor, any way that suits you.



Innovative peak



5mm "Peel Away"



CFL Outer shell



Replaceable interior



FCS (Facial Contour System)







Thanks to its light weight, comfortable fit and ventilation system the Penta has been a long time favorite of professional and dedicated riders. The new PRO version will add additional safety performance to this popular model. The new Penta PRO trial helmet offers a clear, lightweight rock guard for additional protection. Due to its clever design, this chin bar minimizes obstruction of the line of sight. It is made of very strong, durable polycarbonate, adding protection against impacts that may be caused for instance by the handlebars. The FIM strongly recommends additional chin protection for trial riders, and made it compulsory by 2018 for Junior riders up to 16 years. The FIM also ruled that guards from other brands or third parties like accessory brands are not allowed.



Clear, detachable rock guard



Replaceable interior



Innovative peak



Larger ducts













The MX-V evolved from the much loved VX-3 model. Years of experience can be found in this ultimate off road helmet. The perfect choice for MX, Enduro and Off-road use. Just as found in every Arai helmet, the basic and simple organic shell shape is based on the R75 Shape concept. The absence of exaggerated edges or protrusions on the shell is not a lack of creativity, but a commitment to maintaining the integrity of a rounder, stronger and smoother shell.



Innovative peak



Mouth vent







ScLc Outer shell

Dry-Cool® liner









## ADDITIONAL SIZES

Arai provides one size outer shell for each two helmet sizes for most models, adding up to five outer shell sizes within limited models, as compared to others who may struggle to reach only three shell sizes. The advantage of using many outer shell sizes is that the inner liner and exterior shell can maintain a closer proportion to the head size inside, rather than padding out an outer shell that is too large for its actual size, avoiding the need to "over-pad" a large shell for a small head or "thin-out" the inner liner of a smaller shell for a large head. In both cases the result is a helmet that is not in proportion with the rider, offering a curious sight. Arai also offers extreme sizes as small as XXXS (Astro-Light) to as large as XXXL (RX-7V) offering a perfect fitting helmet for almost any head size, in addition to the many adjustable interior parts. And when even these different sizes are not sufficient, Arai is able to have the helmet individually modified to special requests by our craftsmen for a complete custom fit. The models in our additional size range are available in plain colours.



**GP-J3**SNELL SA2015/SA2020

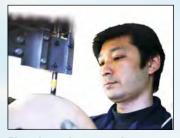


### ACCESSORIES OVERVIEW





### ARAI GENERAL FEATURES



#### **Five times inspected**

Each Arai helmet goes through five separate quality-control departments: after the shell is made, after painting and graphic completion, after assembly and two in-process inspections.



#### Washable interior

The premium quality interior of any Arai helmet can be easily cleaned, in place, with mild soap and lukewarm water.



#### Handmade

It can take up to five years for our experts to earn the right to create an Arai shell. Each shell can take up to 27 steps and to build one Arai helmet will take about 18 man-hours.



#### **All-day comfort**

All-day comfort with the Arai interior fit and shape together with the finest liner materials and the extensive ventilation system. And thanks to the perfect balance and weight distribution of the helmet, you hardly notice you are wearing an Arai.



#### **Penetration tested**

All Arai helmets are penetration tested, although not required by European helmet standards. The Arai penetration test is performed with a 3kg test cone that strikes from a height of 3m on the helmet.



#### **Double-D ring device**

The flat and D-shaped rings fit smooth against the chin. No moving parts, no corrosion problems and just pulling the tab is enough to loosen the fastener.



#### Smooth shape, better protection

The smooth outer shell of Arai helmets is designed to glide without unnecessary resistance. You don't want to decelerate your helmet more than necessary. That's why all Arai vents and ducts are designed to break off during an impact.



#### Strong outer shell, soft inner shell

Arai uses a very strong outer shell to spread impact forces and a soft inner shell to absorb remaining energy. The multipledensity EPS inner shell is made using a unique technology of combining three to five densities in various areas as a single component.



#### Organic shape

The organic shape of an Arai outer shell offers a more natural appearance, seals better and conforms more to the head's natural shape for improved comfort, fit and to help minimize wind turbulence.



#### 5-year limited warranty

All Arai helmets are warranted against defects in materials and workmanship, and are serviceable only for the properly fitted first user for 5 years from date of first use, but no more than 7 years from date of manufacture.



#### **Different outer shells**

Unlike many other manufacturers Arai provides one size outer shell for each two-helmet sizes for most models. Together with different shaped outer shells for different models it is almost impossible not to find the fit you are looking for.



#### **Arai In-house test**

Arai helmets are designed to meet the stringent Arai Inhouse criteria, in addition to the mandatory ECE standard.

### ARAI HELMET FEATURES OVERVIEW

		2													
		RX-7V EVO NEW	_					. <u>0</u>							_
			RX-7V Racing		~			Freeway-Classic					Ħ		VX-Pro Junior
	22	EV(	Rac	ပ	pt-)	>	AS	ე-/	>	PR(	4		Ulig	þţ	٦
	RX-7V RC	≥.	≥	anti	Concept-X	file	У	ewa	an	Penta PRO	Ž.	>	- -	Lig	Pro
	Ιż	ž	×	Quantic	Cor	Profile-V	SZ-R VAS	Free	Urban-V	Per	Tour-X4	MX-V	Astro-Llight	SZ-Light	×
Outer shell construction	RC	PB-SNC2	PB-SNC2	PB e-cLc	PB e-cLc	PB e-cLc	PB-cLc2	SFL	PB-cLc2	SFL	CFL	ScLc	ScLc	SFL	SFL
Variable Axis System (VAS)	•	• •	● U-01402	•	•	•	• •	OIL	T D-GLGZ	OIL	OL	OULU	OGLG	OI L	OLL
Ventilation															
Free Flow System (FFS)	•	•	•		•										
Eyeport air channel	•	•	•												
Hidden multi-stage air channel					•				•						
Front ventilation															
3D Arai logo duct				•											
Center top vent - intake	•	•	•				•					•			
Center top vent - intake and exhaust															
Dual intake				•		•					•		•	•	
Diffuser system	•	•	٠				•								
Brow vents**				•	•	•	•				•		•	•	
Brow vents extended to temple area**	•	•	•								_		_		
Three position chin vent	•	•	•	•		•					•		•		
Inner chin (bar) vent shutter					•				•		•	•			
Interior integrated intake channels  Rear ventilation									•						
Neck exhaust vent	•	•	•	•	•	•	•				•		•		
One-piece rear exhaust	+		<u> </u>	_	-	•	-				-		•		•
One-piece rear exhaust with spoiler function				•											-
Removable three-piece rear exhaust												•			
Removable diffusers											•				
Rear exhausts										•				•	
Side exhausts	•	•	•	•	•	•	•				•	•	•	•	•
Twin Venturi Exhaust Ports									•						
Aerodynamics															
Pull Down Chin Spoiler	•	•	•								•				
Fixed Chin Spoiler			•		•										
Air Wing® adjustable**	•	•													
Air Wing® non-adjustable**			•				•								
Rear spoiler			•												
Visor					_	•									
VAS Max Vision Visor with De-Mist option	•	•	•	•	•	•									
2D visor with tear-off post  New shield latch lever	•	•	•	•	•	•									
PRO Shade System**	option		option	option	option	option	option								
Pinlock insert lens	•	•	•	•	•	option					•		•		
Interior						орион	орион								
Antimicrobial Liner material	•	•	•		•		•		•						
Dry-Cool® Liner**											•	•			
Brushed nylon Liner material				•		•									
Replaceable Cheek Pads/Ear cups	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Replaceable Interior	•	•	•	•	•		•			•	•	•	•	•	•
Semi-removable Interior						•									
Replaceable Chinstrap covers	•	•	•				•				•	•			•
Replaceable Neckroll	•	•	•									•			
Speaker pockets	•	•	•	•	•	•	•		•						
Facial Contour System (FCS)	•	•	•	•	•	•	_				•	•			
5mm "Peel Away" Ear cups/Cheek pads	•	•	•	•	•		•				•	•			
5mm "Peel Away" Temple pad Thin centre pad for more room in front area	•	•	•	•	•		•								
Water resistant layered cheek pads	+		_		•		•								
Removable slit for glasses							•								
Split-Crown Pad							-		•						
Comfort															
Emergency Release System (ERS)	•	•	•	•	•						•	•			
Breath guard	•	•	option	•	•							•			
Chin Curtain (fixed)			<u> </u>	•		•									
Chin Curtain (removable)	•	•	•	option	option										
Dirt removal												•			
5mm wider Base				•		•									
Intercom accommodation				•											
Neckroll wire pocket				•											
Sizing														10.00	10/2
Size XXXS-XXS	1				l l				ı				•	XXS	XXS
Size XX-XXL	1/6 1 "	XS-XXXL	1/0 1 "	XS-XL	•	•	•	•	•	•	•	•			

<sup>\*</sup> Specifications are subject to change. \*\* Innovated and exclusively offered by Arai

## ARAI COLLECTION 2022



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No helmet can protect the wearer against all foreseeable impacts. Nothing is a substitute for safe riding practices.

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OUR UNIQUE OBSESSION WITH PROTECTION

