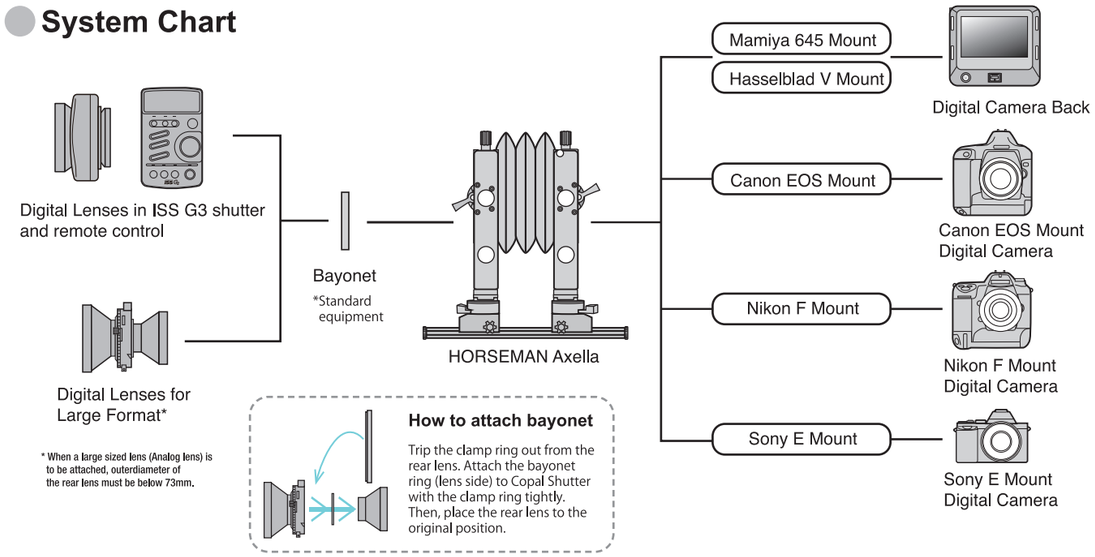
System Chart



Specification

Model		Optical Bench Module Camera
Materials		Light Alloy Aluminum
Focal Arrangement		Ruck and Pinion on a monorail
Lens Mount		Horseman Bayonet
Camera Movements	Rise / Fall	UP/DOWN 20mm Micro-Drive
	Shift	LEFT/RIGHT 20mm Micro-Drive
	Swing	±100 degrees / Center of Image Plane (Moved from Shift)
	Center Tilt	±90 degrees / Center of Image Plane
Monorail		250mm
Flange Back		30mm～175mm
Base		ARCA-SWISS Standard
External Dimensions		280mm(H)×225mm(W)×255mm(L)
Folded Dimensions		280mm(H)×450mm(W)×117mm(L)
Net Weight		Approx.3kg

Products

511757	Horseman Axella Camera Body [Mamiya 645 Mount]
511799	Horseman Axella Camera Body [Hasselblad V Mount]
511758	Horseman Axella Camera Body [Canon EOS Mount]
511759	Horseman Axella Camera Body [Nikon F Mount]
511760	Horseman Axella Camera Body [Sony E Mount]
511723	Horseman Axella [Body Only]
511761	Axella Adapter [Mamiya 645 Mount]
511798	Axella Adapter [Hasselblad V Mount]
511762	Axella Adapter [Canon EOS Mount]
511763	Axella Adapter [Nikon F Mount]
511764	Axella Adapter [Sony E Mount]
511765	Horseman Bayonet Ring [#0]
511766	Horseman Bayonet Ring [#1]
511767	Horseman Bayonet Ring [for ISS]

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HORSEMAN

Digital View Camera
Axella

- Subtle and sophisticate operation
- All four movements (Swing, Tilt, Rise/Fall and Shift) of a fully functional view camera
- Unmatched portability and usability in a compact design
- Weighs only 3kg and reduces in thickness 65mm after being completely folded
- Introducing the Horseman Axella, a new view camera with great mobility and functionality!

HORSEMAN Axella
Digital View Camera

An ideal view camera, designed for digital photography

Creative photo work pouring from stylish film

Horseman “Axella” , a digital view camera with a new take on the original Horseman view cameras design philosophy.

With all four movements (Swing, Tilt, Rise/Fall and Shift) corresponding exactly to the demands from professional photographers, Horseman Axella creates excellent functionality with subtle and sophisticate operability.

The ideal camera for digital shooting that professional photographers worldwide have coveted for a long time.

“Horseman Axella” offers new creativity to the world of the digital photography.

**For the purpose of this brochure,
“Full Camera Movement” refers to the four camera movements of Swing, Tilt, Rise/Fall and Shift movements.

For Digital Camera Back users

Horseman Axella has the following features for photography:
• Wide angle photographing with the digital camera back.
• Full Camera Movement photography
• Stitching photography etc.
All of these functions are just what digital camera users demand. Now, Horseman Axella has turned the IMPOSSIBLE in to the POSSIBLE!! Moreover, this combined with the Horseman digital shutter system creates the ultimate photographic environment for professional photographers.

For DSL Camera users

Full Camera Movement photography can be also made by mounting with Canon, Nikon and Sony DSL cameras. Just mount each DSL camera body on to each corresponding adapter. (Canon EOS, Nikon F, Sony E mount) By changing adapter, you can make shooting with various cameras.

Why is Full Camera Movement needed for digital photography?

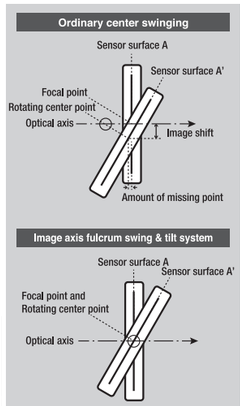
A digital camera without Full Camera Movement cannot correct convergent lines, nor control perspective distortion. While some distortion may be corrected by the image processing software, this is not a substitute for a view camera with Full Camera Movement. It takes much more time to correct distortions using computer software after shooting than the setting the correction while shooting with a view camera that has Full Camera Movement. Moreover, during computer processing for pixel correction, sharpness decreases and causes a STEP effect in a vertical direction, leading to a change of the ratio. Therefore, corrections should be done optical using movements while shooting, not with software after shooting. For ultimate image quality, any photograph should be made with a top class camera, and lens and such camera must have Full Camera Movement.

“L-type Arm” , out of a longtime searching for better manipulation

Horseman L-type Arm is a high-precision support arrangement developed from long-term research and un-surpassing technology. Despite unilateral support, it maintains high stability, robustness, and “Image axis fulcrum Full Camera Movement” implemented so that Full Camera Movement can be operated securely and simply – Ideal for user control of all of the functions.

Image axis fulcrum swing & tilt system

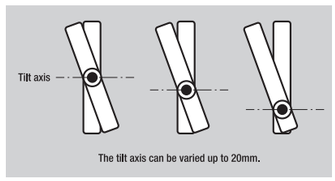
The axis of Full Camera Movement of Horseman Axella is the image axis fulcrum of Full Camera Movement designed on the image sensor in a digital camera. Even with rear Full Camera Movement, it does not cause out of focus in the center or deformation of a composition. As no image re-composition or refocusing*1) is needed, a speedy photographing can be made.



*1) When shooting A with Tilt movement and its axis is displaced from the sensor position, the image will be defocused and deformed as in the picture B. Then, readjustment is needed.

M.F.D. (Main Frame Drive)

M.F.D. function is a variable system to translate the main frame with improvement on the image axis fulcrum Full Camera Movement. When focusing on an oblique object with Tilt movement and the object is off the center of the image plane, the axis of Tilt movement can be moved up to 20mm. The focal point of the object is set accurately with the scale. Horseman employs the M.F.D. function for Rise-Fall, which is very useful for a fine-arrangement of framing after focused with Tilt movement. It moves parallel to lens surface in the front and to sensor surface in the rear. Therefore, the focus plane is set by Tilt movement and can be maintained so as to not cause defocusing.
Stitching in the longitudinal direction can be easily done as well.



The tilt axis can be varied up to 20mm.

Light weight, compact and low-profile design

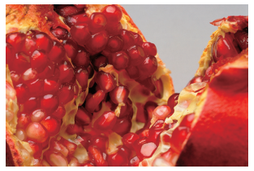
There has always been a challenge to overcome the inherent contradiction between large, heavy metal robustness and durability vs. maximizing weight savings and portability. Finally, this challenge has been conquered and both aspects are harmoniously combined in Horseman Axella digital view camera. It weighs only 3kg, and has a thickness of just 65mm after detaching the bellows and folding the L-type arms parallel swinging at 90° for compact storage together with digital camera, lens and accessories.

Shortest Flange Back 30mm

The shortest distance of the flange back of the Horseman Axella is 30mm. When used with digital camera back, such digital lenses as HR Digaron S 23mm and Apo-Sironar Digital 35mm can be attached to Horseman Axella. With the digital camera back, wide-angle photography, previously unachievable by a view camera, is now possible. Also, stretching of the bellows increases the length of the flange back up to 175mm, making it possible to use 150mm lens and also an 80mm lens for life-size shots.

Close-up photography without changing lens!

By extending the bellows and making exposure compensation without any other accessories, close-up photography is possible. The magnification of object is determined by factoring the focal length of the lens with length of the bellows.



A View Camera in the Digital Age – changing the photo work

Sufficiency of Full Camera Movement, various functions complied with demands from professional photographers and ……
Horseman has been always tackling many issues in the field of view camera photography with a positive attitude.
To materialize ideal for digital photography, Horseman brings a digital view camera into the world now.
There are various selections: Digital Camera Backs, DSL Cameras, Digital Cine Cameras and so on.

Various cameras can be used.

There is a wide selection of adapters for the Horseman Axella; Mamiya 645 mount, Hasselblad V mount, Canon EOS mount, Nikon F mount and Sony E mount. This allows you to take photo with various digital camera backs and DSLR cameras. The camera adapter is changeable so that various cameras such as digital camera back, DSLR cameras and cine cameras can be used on just one Horseman Axella.

One-touch attachment/detachment with bayonet system

With the Horseman bayonet, a lens can be attached or detached quickly and easily.
Apply Horseman bayonet to your lens, and one-touch attachment or detachment can be done.

Switchover from longitudinal to side position or vice versa at one-touch

On the “Revolving Mechanism”, switching the camera from the horizontal to the vertical position or vice versa can be done smoothly. Just rotate the digital camera back to make the switch. With the click stop at every 90 degrees, you can rotate the digital camera back in either clockwise or counter-clockwise direction. For the switching of a DSLR camera, loosen the knob on the camera mount, turn your camera to the desired orientation and then lock the knob.

Full Camera Movement in motion picture

Full Camera Movement is also functioned in moving image. With Full Camera Movement used in the motion picture on Canon EOS mount, DSL or cine camera, you can control “Bokeh” effectively and obtain a creative image.

Sufficiency of Full Camera Movement

Both front and rear Full Camera Movement have equally sufficient figures on;
- Swing 100 degrees /Center Tilt (screen center) 90 degrees
- Rise and Fall : 20mm each
- Left and Right Shift : 20mm each

Combined with a digital lens having a good image circle, more creative pictures are obtainable.

Made in Japan

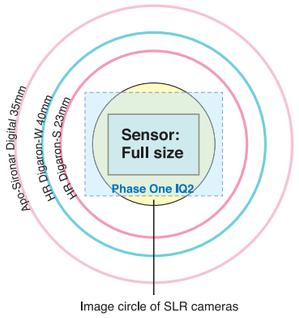
All parts of the Horseman Axella are made and processed in Japan and the quality is controlled strictly to very precise and rigid standards.

A Digital Lens System Is Indispensable to Digital Photography

To obtain the highest image quality in digital photography, both the camera and lens should be of the highest quality. The best combination of all the best quality equipment results in the best outcome.

For Full Camera Movement photography, large sized image circles are needed.

The image circle of a DSLR camera is designed to cover the camera sensor narrowly. For use of Full Camera Movement, a comparatively large sized image circle is required. With Rodenstock, or similar lenses from other manufacturers, you can make Full Camera Movement photography effectively as they have large enough image circles to accommodate the camera Full Camera Movement.



Superiority of Rodenstock Digital Lenses

For digital photography, digital lenses are necessary. This is because the sensor surface has much better, more precise flatness than the normal film surface, only lenses with a high quality image, processed with correction of the distortion aberration, can yield the highest quality images. They also have a "edge to edge" covering power more than average and this guarantees the highest image quality from the center to the limit of the image circle. To avoid diffraction and reduce of sharpness caused by color noise, good resolution and sharp contrast should be maintained even at the aperture setting with F8 – F11, or sometimes F5.6, let alone color bleeding and distortion. Using Rodenstock lenses solve all of these problems!

RODENSTOCK

Digital Shutter System

For digital photography, the digital shutter system is indispensable. ISS-G3, handy-manipulation, has been improved for maximum weight saving, operability and portability. Open and close aperture, stop-down etc. can be made on button operation quite easily.

<Dial Control> characteristic system for professional exposure setting

Aperture setting is widely available at 1, 1/2, 1/3, 1/4, 1/6, 1/10 AV steps. Such sensitive exposure differentiation can be set by this system. The system is developed primarily for ease of operation that most professional photographers count as important.

Charging within 0.1 second

The shutter is designed to control all operations with the digital circuits with exclusion of the mechanical parts to the maximum extent. It has a built-in electronic actuator. Accuracy and speed are digitally-controlled and the charging time is within 0.1 second.

Compatible with all lenses in the marketplace

This shutter can be installed with most of the digital and large format lenses in the market. Lens code setting can be done directly from ISS-G3 controller or to the shutter.

HORSEMAN ISS G3

Technique for Swinging & Tilting

With use of the flexible bellows, you can control the focusing, perspective and framing by moving both the camera and lens separately. Various images can be created by using any or all of the Horseman Axella four movements – Tilt, Swing, Raise/Fall and Shift, also called Full Camera Movement.

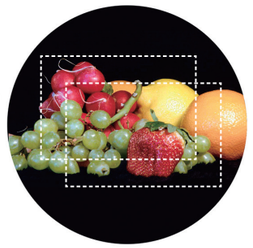
Control of focus

With Full Camera Movement, you can focus wholly even on deep subject that continues away from the camera by controlling the focal plane with adjustments of the optical axis. Intentional "Bokeh" is also created: Good for motion picture filming.

With the counter Tilt just a certain part of a subject can be focused on, very effective for product image.

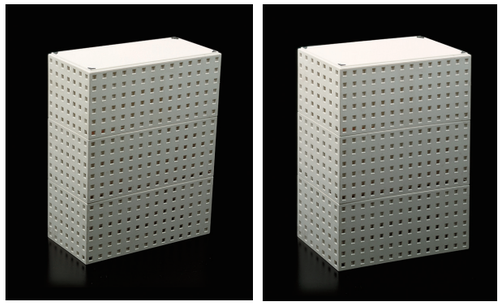
Control of framing

To adjust framing, while shifting the direction of camera or position of tripod or changing of lens should be done in an ordinal shooting, camera with Full Camera Movement can control framing at the same position only by moving lens or back around in the image circle of lens.

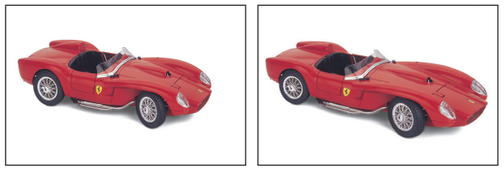


Control of perspective

When shooting with an ordinary camera, an object located at a farther distance appears smaller while the same object placed closer to the camera would appear larger. It also causes a bending of perpendicular line of buildings and box-shaped objects, leading deformation of image of the objects. This optical distortion is commonly referred to as the "Ships Prow Effect". To correct the deformation, use Full Camera Movement to control framing.



Intentional deformation can be also created in order to accentuate the shape.



Stitching photography

With rear Full Camera Movement on the camera side, stitching photography can be accomplished by displacing the picture plane. By taking 4 "stitches" with a full format sensor, the size of the picture plane becomes equivalent to that of digital camera back, obtaining wider image consequently.
A spindle gear is employed for the rear Full Camera Movement to minimize the displacement and for a smooth after-processing.