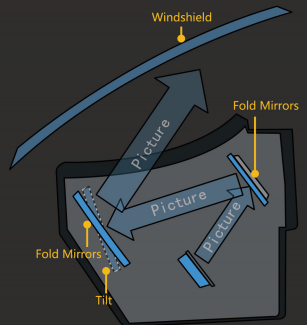




汽车HUD自由曲面镜 Freeform HUD Mirror and Combiner for Automobile

富兰光学研发的HUD自由曲面镜，利用行业领先的自由曲面微纳加工技术和先进镀膜技术，修正了挡风玻璃造成的图像畸变，从而保证成像不失真。更高精度、更大尺寸的AR-HUD自由曲面镜，不仅拥有了更大的可视角度，更实现了实景环境与虚拟信息的完美重合。

HUD free-form mirror developed by Fran Optics uses industry-leading micro-nano processing technology and advanced coating technology to correct the image distortion caused by the windshield, thereby ensuring that the image is not distorted. AR-HUD free-form mirror with higher precision and larger size not only has a larger viewing angle, but also realizes the perfect coincidence of the real environment and virtual information.



➤ 高精度手板：最大加工口径可达1000mm
High-Precision Prototype: Max. Machining Diameter is 1000mm



➤ HUD自由曲面反射镜：高反射率， $R > 90\%$
HUD Free-Form Mirror: High Reflectivity, $R > 90\%$



➤ HUD成像镜：增透面， $R < 0.5\%$ ；
反射面， $30\% < R < 60\%$
HUD Combiner: AR Coating Surface, $R < 0.5\%$
Reflective Coating Surface: $30\% < R < 60\%$



➤ 表面粗糙度 $Ra < 5nm$ ，
面型精度 $P-V < 20\mu m$
Roughness $Ra < 5nm$, Flatness $P-V < 20\mu m$

➤ 信赖性测试
Reliability Test

HUD Optical Parts

• 铅笔硬度测试
Scratch Resistance Pencil Hardness Test

• 高温存储测试
High Temp Storage Test

• 百格测试
Coating Adhesion Cross Cut Test

• 低温存储测试
Low Temp Storage Test

• 冷热冲击测试
Thermal Shock Test

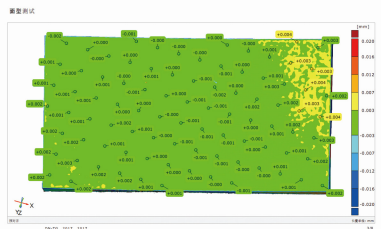
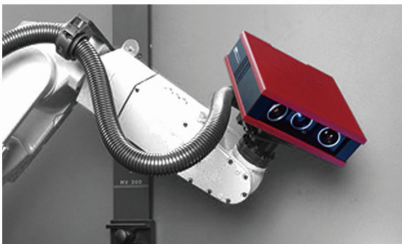
• 恒定湿热测试
Humid Constant Heat Test

• 振动测试
Vibration Test

• 氙灯老化测试
Xenon Lamp Aging Test

• 凝露测试
Condensated Water Test

• 温度变化测试
Temperature Change Examination



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