# serie 16

EXTRUAL sistemas

Sistema de Ventana y Balconera con y sin Rotura de Puente térmico con una gran variedad de soluciones gracias a su extensa gama de perfiles y accesorios.

Rotura de Puente Térmico: Marcos 45/55mm y Hojas 52/62mm.
Sin Rotura de Puente Térmico: Marcos 40/45mm y Hojas 47/52mm.

Canal de Herraje de 16mm (eje 13mm), desarrollado con la colaboración de WINKHAUS, compatible con herrajes SIEGENIA, G-U, Roto y Maco.

Se complementa con los sistemas de corredera E-17 y E-75 (con rotura de puente térmico) y con los sistemas E-15 y E-21 para marco 40mm y E-18 y E-24 para marco 45mm (sin rotura de puente térmico).

La estanqueidad esta garantizada por sistema de triple junta, facilmente sustituibles según norma UNE-EN 14351-1:2006, fabricadas en EPDM conforme a la norma EN 12365.

Acristalamientos de hasta 28mm en 16/40, 32mm en 16/45 y 42mm en 16/55. JUnta de acristalamiento exterior en EPDM con hilo de alta tenacidad en su interior que permite su montaje de forma perimetral sin cortes en los ángulos, e interiores tipo "cuña" en EPDM de facil montaje perimetral gracias a su parte inferior precortada que evita igualmente realizar cortes en los ángulos.

Sistema de persiana compacto totalmente integrado en la carpintería, asi como de premarco de obra para facilitar y garantizar su correcta colocación.

Perfilería extruida en aluminio de primera fusión en aleación 6063, tratamiento térmico T5, según normas EN 515, EN 573-3 y EN 755-2, bajo certificación ISO 9001. Las tolerancias dimensionales y de espesor se ajustan a la norma UNE-EN 12020-2

Rotura de puente térmico mediante perfiles de poliamida 6.6 reforzada con un 25% de fibra de vidrio. Unión garantizada entre aluminio y poliamida con una resistencia mínima a la Tracción de 80 N/mm y al Cizallamiento de 30 N/mm.

Protección superficial; Lacado con garantía QUALICOAT-SEASIDE con un espesor mínimo de 60 micras, o Anodizado con un espesor mínimo de 15 micras con garantía QUALANOD (EWAA-EURAS).

Resultado de los ensayos realizados en Laboratorio Oficial acreditado por ENAC según Norma UNE-EN 14351-1:2006 en Ventana Oscilobatiente de 2 Hojas.

| | |
|---|---|
| Permeabilidad al aire según Norma UNE-EN 1026; | CLASE 4 |
| Estanqueidad al agua según Norma UNE-EN 1027; | CLASE 9A |
| Resistencia al viento según Norma UNE-EN 12211; | CLASE C4 |
| Coeficiente de Transmisión Térmica según CTE y UNE-EN 10077-1; | $U_H$=Desde 2,5W/m²K |
| | $U_H$=Desde 1,6W/m²K 16/45 RPT |
| | $U_H$=Desde 1,0W/m²K 16/55 RPT |
| Aislamiento Acústico según UNE-EN 12354-3 e ISO 717-1; | $R_w$=Hasta 42dB |

Las dimensiones de corte indicadas en este catálogo son teóricas, y pueden verse afectadas minimamente por las tolerancias de extrusión de los perfiles o por los tratamientos de lacado y anodizado, asi mismo deben ser adaptadas a la precisión de las máquinas de corte de cada taller, por lo que es aconsejable fabricar una muestra para su control dimensional.

Es fundamental realizar las salidas de evacuación de agua en marcos y cámaras de acristalamiento, colocar vierteaguas en las hojas y sellar correctamente los cortes e ingletes de perfiles y juntas para evitar infiltraciones.

Sólo se garantiza el correcto funcionamiento del sistema si se han utilizado los perfiles y accesorios propios del mismo recogidos en este catálogo o en su caso recomendados por EXTRUAL.

Los momentos de inercia de los perfiles compuestos RPT son teóricos y orientativos y corresponden a los momentos de la sección equivalente de aluminio, estan calculados respecto a los ejes X-Y con origen en el centro de gravedad de la sección transversal del perfil.

Las dimensiones máximas de los cerramientos, su fabricación, acristalamiento y puesta en obra de los productos construidos con los sistemas EXTRUAL deben cumplir la Normativa UNE e Instrucciones Técnicas vigentes.

Todos los perfiles y accesorios que aparecen en este catálogo son propios de EXTRUAL, no pudiendo ser copiados o modificados sin autorización.

EXTRUAL se reserva el derecho a modificar, sin previo aviso, cualquiera de los productos que aparecen en este catálogo.

Queda prohibida la reproducción total o parcial de este catálogo sin la autorización expresa por parte de EXTRUAL.

# Momentos de Inercia

# E16/16RPT

| REFERENCIA | DENOMINACION | DISEÑO | Ix $cm^4$ | Iy $cm^4$ |
|---|---|---|---|---|
| R046 | Solera canal herraje 55mm | | | |
| R047 | Marco 55mm Solape 25mm | | 20.54 | 12.13 |
| R048 | Marco 45mm Solape 25mm | | 13.18 | 11.69 |
| R049 | Hoja Puerta 45mm | | 21.68 | 29.16 |
| R050 | Marco Ventana 45mm | | 10.04 | 6.69 |
| R051 | Hoja Ventana 45mm | | 16.77 | 13.86 |
| R052 | Inversor 45mm | | 10.79 | 7.91 |
| R053 | Pilastra Ventana 45mm | | 11.56 | 12.57 |
| R054 | Unión marcos 55mm clip | | 1.31 | 10.42 |
| R055 | Marco Ventana 55mm | | 16.25 | 7.17 |
| R056 | Hoja Ventana 55mm | | 25.87 | 14.59 |
| R057 | Inversor 55mm | | 17.49 | 8.51 |
| R058 | Pilastra Ventana 55mm | | 18.82 | 13.23 |
| R059 | Hoja Puerta 55mm | | 33.08 | 31.66 |
| R064 | Marco con Registro 45mm | | 10.30 | 6.74 |
| R068 | Marco Puerta 45mm | | 13.80 | 21.12 |
| R069 | Hoja Puerta Ap. Ext. 45mm | | 22.26 | 28.65 |
| R070 | Hoja Osciloparaleta 45mm | | 37.55 | 40.53 |
| R071 | Vierteaguas Hoja Puerta 45mm | | | |
| R072 | Marco Puerta 55mm | | 21.74 | 22.70 |
| R073 | Hoja Puerta Ap. Ext. 55mm | | 32.52 | 30.47 |

| REFERENCIA | DENOMINACION | DISEÑO | Ix $cm^4$ | Iy $cm^4$ |
|---|---|---|---|---|
| R074 | Hoja Osciloparaleta 55mm | | 53.52 | 42.26 |
| R075 | Vierteaguas Hoja Puerta 55mm | | | |
| R079 | Marco con Registro 55mm | | 16.52 | 7.83 |
| R098 | Pilastra Puerta 45mm | | 15.24 | 34.24 |
| R099 | Pilastra Puerta 55mm | | 24.27 | 36.63 |
| R213 | Esquinero 90° | | 47.21 | 47.21 |
| R214 | Esquinero 45° | | 11.16 | 19.76 |
| R215 | Esquinero Regulable | | | |
| R216 | Unión de Marcos | | 9.09 | 29.59 |
| R222 | Unión de Marcos | | 9.85 | 36.28 |
| R261 | Solera lisa 55mm | | | |
| R262 | Unión marcos 45mm clip | | 1.19 | 5.76 |
| R263 | Esquinero 90° 45mm clip | | 18.50 | 18.50 |
| R265 | Esquinero Regulable 45mm clip | | | |
| R309 | Guia compacto 120mm | | | |
| R310 | Guia compacto 150mm | | | |

# Momentos de Inercia E16/16RPT

| REFERENCIA | DENOMINACION | DISEÑO | Ix $cm^4$ | Iy $cm^4$ |
|---|---|---|---|---|
| 1.748 | Tubo ø40 | | | |
| 1.749 | Tubo ø50 | | 6.72 | 6.72 |
| 2.282 | Esquinero 45° 40mm | | 6.05 | |
| 2.797 | Premarco de Obra 36mm | | | |
| 2.885 | Unión Practicable 40-Corredera 60 | | | |
| 2.887 | Esquinero 90° 40mm | | 7.44 | 7.44 |
| 3.358 | Junquillo Recto 31mm | | | |
| 3.360 | Junquillo Recto 22mm | | | |
| 3.494 | Solape clipado 40mm | | | |
| 4.075 | Esquinero regulable 40mm | | | |
| 4.278 | Unión de marcos 40mm | | | |
| 4.525 | Unión de marcos 45mm | | | |
| 4.750 | Esquinero regulable 45mm | | | |
| 5.070 | Junquillo Curvo grapa 28mm | | | |
| 5.071 | Junquillo Curvo grapa 16mm | | | |
| 5.612 | Junquillo Redondo grapa 28mm | | | |
| 5.613 | Junquillo Redondo grapa 16mm | | | |
| 5.872 | ø80 | | 30.29 | 30.29 |
| 6.064 | Solape Grapa 30mm | | | |
| 6.069 | Guia Compacto 120mm | | 10.21 | 83.52 |
| 6.070 | Solape clipado 30mm | | | |

| REFERENCIA | DENOMINACION | DISEÑO | Ix $cm^4$ | Iy $cm^4$ |
|---|---|---|---|---|
| 6.179 | Junquillo Curvo clip 28mm | | | |
| 6.180 | Junquillo Curvo clip 16mm | | | |
| 6.181 | Junquillo Redondo clip 28mm | | | |
| 6.182 | Junquillo Redondo clip 16mm | | | |
| 6.470 | Solape Grapa 50mm | | | |
| 6.471 | Solape clipado 50mm | | | |
| 6.487 | Junquillo Registro | | | |
| 6.755 | Forro con Registro 40mm | | | |
| 6.756 | Forro con Registro 60mm | | | |
| 6.757 | Forro con Registro 85mm | | | |
| 7.057 | Esquinero 45° | | 3.95 | 2.29 |
| 7.058 | Esquinero 90° | | 8.99 | 9.00 |
| 7.059 | Unión de marcos reforzada | | 58.48 | 5.15 |
| 7.060 | Unión de marcos | | | |
| 7.175 | Vierteaguas marco | | | |
| 7.223 | Jamba 85mm | | | |
| 7.224 | Jamba 70mm | | | |
| 7.225 | Jamba 60mm | | | |
| 8.029 | Solape clipado 30mm RPT | | | |
| 8.425 | Tapeta refuerzo pilastra | | 0.11 | 1.74 |
| 8.426 | refuerzo pilastra | | 14.95 | 13.26 |

# Momentos de Inercia

# E16/16RPT

| REFERENCIA | DENOMINACION | DISEÑO | Ix $cm^4$ | Iy $cm^4$ |
|---|---|---|---|---|
| 8.491 | Solape 25mm | | | |
| 8.525 | Solape Grapa 40mm recto | | | |
| 8.526 | Solape clipado 40mm recto RPT | | | |
| 8.660 | Guia Compacto 150mm | | 10.72 | 143.74 |
| 8.960 | Hoja Contraventana | | | |
| 9.007 | Junquillo Curvo grapa 22mm | | | |
| 9.008 | Junquillo Curvo clip 22mm | | | |
| 9.009 | Junquillo Redondo grapa 22mm | | | |
| 9.010 | Junquillo Redondo clip 22mm | | | |
| 9.025 | Junquillo Recto 28mm | | | |
| 9.026 | Junquillo Recto 16mm | | | |
| 9.027 | Junquillo Curvo grapa 10mm | | | |
| 9.028 | Junquillo Curvo clip 10mm | | | |
| 9.192 | Esq. Regulable Ext. Compacto 150mm | | | |
| 9.193 | Esq. Regulable Int. Compacto 150mm | | | |
| 9.194 | Unión Exterior Compactos | | | |
| 9.195 | Unión Interior Compactos | | | |
| 9.197 | Vierteaguas 106mm | | | |
| 9.210 | Esquinero Regulable | | | |
| 9.213 | Premarco de Obra 36mm | | | |
| 9.214 | Premarco de Obra 122mm | | | |

| REFERENCIA | DENOMINACION | DISEÑO | Ix $cm^4$ | Iy $cm^4$ |
|---|---|---|---|---|
| 9.215 | Premarco de Obra 136mm | | | |
| 9.216 | Premarco de Obra 152mm | | | |
| 9.225 | Vierteaguas 122.5mm | | | |
| 9.230 | Guia Compacto 134mm | | 10.46 | 109.22 |
| 9.256 | Esq. Regulable Ext. Compacto 120mm | | | |
| 9.257 | Esq. Regulable Int. Compacto 120mm | | | |
| 9.484 | Panelado 8.5mm | | | |
| 9.498 | Unión de marcos 40mm | | | |
| 9.619 | Vierteaguas Hoja | | | |
| 9.622 | Marco Bajo Puerta | | | |
| 9.623 | Vierteaguas Hoja Puerta | | | |
| 9.624 | Pefuerzo Pilastra 50 | | 8.07 | 11.31 |
| 9.660 | Premarco Obra 30mm | | | |
| 9.708 | Junquillo resalte chaflan 23mm | | | |
| 9.709 | Junquillo resalte chaflan 17mm | | | |
| 9.710 | Solape clipado 40mm chaflan | | | |
| 9.711 | Solape clipado 40mm chaflan RPT | | | |
| 9.712 | Solape Grapa 40mm chaflan | | | |
| 9.713 | Junquillo resalte madera 23mm | | | |
| 9.714 | Junquillo resalte madera 17mm | | | |
| 9.715 | Solape clipado 40mm madera | | | |

# Momentos de Inercia

# E16/16RPT

| REFERENCIA | DENOMINACION | DISEÑO | Ix $cm^4$ | Iy $cm^4$ |
|---|---|---|---|---|
| 9.716 | Solape clipado 40mm madera RPT | | | |
| 9.717 | Solape Grapa 40mm madera | | | |
| 9.771 | Solape clipado 40mm recto | | | |
| 10.101 | Marco Ventana 45mm | | 8.78 | 5.58 |
| 10.103 | Inversor 45mm | | 9.30 | 6.89 |
| 10.104 | Pilastra 45mm | | 10.28 | 11.19 |
| 10.115 | Juquillo Redondo grapa 12.5mm | | | |
| 10.116 | Juquillo Redondo clip 12.5mm | | | |
| 10.252 | Juquillo Recto 12.5mm | | | |
| 10.289 | Vierteaguas 89mm | | | |
| 10.290 | Vierteaguas 112mm | | | |
| 10.423 | Hoja Balconera 45mm | | 19.35 | 25.78 |
| 10.424 | Hoja Balconera Ap.Ext. 45mm | | 18.45 | 25.89 |
| 10.817 | Juquillo Curvo grapa 31mm | | | |
| 10.896 | Marco Ventana 40mm | | 5.99 | 4.71 |
| 10.897 | Hoja Ventana 40mm | | 10.70 | 11.23 |
| 10.898 | Inversor 40mm | | 6.25 | 6.09 |
| 10.899 | Pilastra 40mm | | 7.31 | 10.26 |
| 10.959 | Solape grapa 70mm | | | |
| 10.960 | Solape clipado 70mm | | | |
| 11.038 | Marco 40mm solape 25mm | | 7.59 | 9.61 |

| REFERENCIA | DENOMINACION | DISEÑO | Ix $cm^4$ | Iy $cm^4$ |
|---|---|---|---|---|
| 11.139 | Junquillo Recto 10mm | | | |
| 11.654 | Solape Grapa 40mm curvo | | | |
| 12.010 | Hoja Ventana 45mm | | 10.70 | 11.23 |
| 12.168 | Forro Registro Recto 40mm | | | |
| 12.169 | Forro Registro Recto 60mm | | | |
| 12.170 | Forro Registro Recto 85mm | | | |
| 12.207 | Junquillo Recto C-31 | | | |
| 16.563 | Forro Registro Recto 25mm | | | |
| 17.181 | Vierteaguas Hoja Puerta 55mm | | | |
| 17.182 | Parteluces 100 40mm | | 10.33 | 28.02 |

## COEFICIENTES DE TRANSMITANCIA TERMICA $U_H$ (W/m²K) Según CTE y UNE-EN 10077-1

# 16/45RPT

| $U_{H,V}$ | VENTANA 1 HOJA | | BALCONERA 1 HOJA | | VENTANA 2 HOJAS | | | | BALCONERA 2 HOJAS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1,00m² | 1,50m² | 2,00m² | 2,50m² | 1,00m² | 1,50m² | 2,00m² | 2,50m² | 3,00m² | 3,50m² | 4,00m² | 5,00m² |
| 0,5 | 2,0 | 1,7 | 1,8 | 1,6 | 2,5 | 2,1 | 2,0 | 1,8 | 1,9 | 1,8 | 1,7 | 1,6 |
| 0,6 | 2,0 | 1,8 | 1,8 | 1,7 | 2,5 | 2,2 | 2,2 | 1,9 | 2,0 | 1,9 | 1,8 | 1,7 |
| 0,7 | 2,1 | 1,9 | 1,9 | 1,7 | 2,6 | 2,2 | 2,2 | 2,0 | 2,1 | 1,9 | 1,8 | 1,7 |
| 0,9 | 2,2 | 2,0 | 2,0 | 1,9 | 2,7 | 2,3 | 2,3 | 2,1 | 2,2 | 2,1 | 2,0 | 1,9 |
| 1,0 | 2,3 | 2,1 | 2,1 | 2,0 | 2,7 | 2,4 | 2,4 | 2,2 | 2,3 | 2,1 | 2,0 | 1,9 |
| 1,1 | 2,3 | 2,2 | 2,2 | 2,0 | 2,8 | 2,5 | 2,5 | 2,2 | 2,3 | 2,2 | 2,1 | 2,0 |
| 1,2 | 2,4 | 2,2 | 2,2 | 2,1 | 2,8 | 2,5 | 2,5 | 2,3 | 2,4 | 2,3 | 2,2 | 2,1 |
| 1,3 | 2,5 | 2,3 | 2,3 | 2,2 | 2,9 | 2,6 | 2,6 | 2,4 | 2,5 | 2,3 | 2,3 | 2,2 |
| 1,4 | 2,5 | 2,4 | 2,4 | 2,2 | 2,9 | 2,6 | 2,6 | 2,4 | 2,5 | 2,4 | 2,3 | 2,2 |
| 1,5 | 2,6 | 2,4 | 2,4 | 2,3 | 3,0 | 2,7 | 2,7 | 2,5 | 2,6 | 2,5 | 2,4 | 2,3 |
| 1,6 | 2,6 | 2,5 | 2,5 | 2,4 | 3,0 | 2,8 | 2,8 | 2,6 | 2,6 | 2,5 | 2,5 | 2,4 |
| 1,7 | 2,7 | 2,6 | 2,6 | 2,5 | 3,1 | 2,8 | 2,8 | 2,6 | 2,7 | 2,6 | 2,5 | 2,5 |
| 1,8 | 2,8 | 2,6 | 2,6 | 2,5 | 3,1 | 2,9 | 2,9 | 2,7 | 2,8 | 2,7 | 2,6 | 2,5 |
| 1,9 | 2,8 | 2,7 | 2,7 | 2,6 | 3,2 | 2,9 | 2,9 | 2,8 | 2,8 | 2,7 | 2,7 | 2,6 |
| 2,0 | 2,9 | 2,8 | 2,8 | 2,7 | 3,2 | 3,0 | 3,0 | 2,8 | 2,9 | 2,8 | 2,7 | 2,7 |
| 2,1 | 3,0 | 2,8 | 2,8 | 2,7 | 3,3 | 3,1 | 3,1 | 2,9 | 3,0 | 2,9 | 2,8 | 2,7 |
| 2,2 | 3,0 | 2,9 | 2,9 | 2,8 | 3,3 | 3,1 | 3,1 | 3,0 | 3,0 | 2,9 | 2,9 | 2,8 |
| 2,3 | 3,1 | 3,0 | 3,0 | 2,9 | 3,4 | 3,2 | 3,2 | 3,0 | 3,1 | 3,0 | 2,9 | 2,9 |
| 2,4 | 3,2 | 3,1 | 3,0 | 3,0 | 3,4 | 3,2 | 3,2 | 3,1 | 3,1 | 3,1 | 3,0 | 3,0 |
| 2,5 | 3,2 | 3,1 | 3,1 | 3,0 | 3,5 | 3,3 | 3,3 | 3,2 | 3,2 | 3,1 | 3,1 | 3,0 |
| 2,6 | 3,3 | 3,2 | 3,2 | 3,1 | 3,5 | 3,4 | 3,4 | 3,2 | 3,3 | 3,2 | 3,2 | 3,1 |
| 2,7 | 3,3 | 3,2 | 3,2 | 3,1 | 3,5 | 3,4 | 3,4 | 3,2 | 3,3 | 3,2 | 3,2 | 3,1 |
| 2,8 | 3,4 | 3,2 | 3,2 | 3,1 | 3,5 | 3,4 | 3,4 | 3,3 | 3,3 | 3,3 | 3,2 | 3,2 |
| 2,9 | 3,5 | 3,3 | 3,3 | 3,2 | 3,6 | 3,4 | 3,4 | 3,4 | 3,4 | 3,3 | 3,3 | 3,3 |

# 16/55RPT

| $U_{H,V}$ | VENTANA 1 HOJA | | BALCONERA 1 HOJA | | VENTANA 2 HOJAS | | | | BALCONERA 2 HOJAS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1,00m² | 1,50m² | 2,00m² | 2,50m² | 1,00m² | 1,50m² | 2,00m² | 2,50m² | 3,00m² | 3,50m² | 4,00m² | 5,00m² |
| 0,5 | 1,4 | 1,2 | 1,2 | 1,1 | 1,7 | 1,5 | 1,4 | 1,3 | 1,3 | 1,2 | 1,1 | 1,0 |
| 0,6 | 1,4 | 1,3 | 1,2 | 1,2 | 1,7 | 1,6 | 1,5 | 1,4 | 1,4 | 1,3 | 1,2 | 1,1 |
| 0,7 | 1,5 | 1,4 | 1,3 | 1,2 | 1,8 | 1,6 | 1,5 | 1,4 | 1,5 | 1,4 | 1,3 | 1,2 |
| 0,9 | 1,6 | 1,5 | 1,4 | 1,4 | 1,9 | 1,7 | 1,6 | 1,6 | 1,6 | 1,5 | 1,5 | 1,4 |
| 1,0 | 1,7 | 1,6 | 1,5 | 1,5 | 2,0 | 1,8 | 1,7 | 1,6 | 1,7 | 1,6 | 1,5 | 1,5 |
| 1,1 | 1,8 | 1,7 | 1,6 | 1,5 | 2,0 | 1,9 | 1,8 | 1,7 | 1,7 | 1,7 | 1,6 | 1,5 |
| 1,2 | 1,8 | 1,7 | 1,7 | 1,6 | 2,1 | 1,9 | 1,8 | 1,8 | 1,8 | 1,7 | 1,7 | 1,6 |
| 1,3 | 1,9 | 1,8 | 1,7 | 1,7 | 2,1 | 2,0 | 1,9 | 1,8 | 1,9 | 1,8 | 1,8 | 1,7 |
| 1,4 | 1,9 | 1,9 | 1,8 | 1,8 | 2,2 | 2,1 | 2,0 | 1,9 | 1,9 | 1,9 | 1,8 | 1,8 |
| 1,5 | 2,0 | 1,9 | 1,9 | 1,8 | 2,2 | 2,1 | 2,0 | 2,0 | 2,0 | 1,9 | 1,9 | 1,9 |
| 1,6 | 2,1 | 2,0 | 2,0 | 1,9 | 2,3 | 2,2 | 2,1 | 2,1 | 2,1 | 2,0 | 2,0 | 2,0 |
| 1,7 | 2,1 | 2,1 | 2,0 | 2,0 | 2,3 | 2,3 | 2,2 | 2,1 | 2,1 | 2,1 | 2,1 | 2,1 |
| 1,8 | 2,2 | 2,1 | 2,1 | 2,1 | 2,4 | 2,3 | 2,2 | 2,2 | 2,2 | 2,2 | 2,1 | 2,1 |
| 1,9 | 2,3 | 2,2 | 2,2 | 2,1 | 2,5 | 2,4 | 2,3 | 2,2 | 2,3 | 2,2 | 2,2 | 2,2 |
| 2,0 | 2,3 | 2,3 | 2,2 | 2,2 | 2,5 | 2,5 | 2,4 | 2,3 | 2,3 | 2,3 | 2,3 | 2,2 |
| 2,1 | 2,4 | 2,4 | 2,3 | 2,3 | 2,6 | 2,5 | 2,4 | 2,4 | 2,4 | 2,4 | 2,3 | 2,3 |
| 2,2 | 2,5 | 2,4 | 2,4 | 2,4 | 2,6 | 2,6 | 2,5 | 2,5 | 2,4 | 2,4 | 2,4 | 2,4 |
| 2,3 | 2,5 | 2,5 | 2,5 | 2,5 | 2,7 | 2,6 | 2,5 | 2,5 | 2,5 | 2,5 | 2,5 | 2,5 |
| 2,4 | 2,6 | 2,6 | 2,6 | 2,5 | 2,7 | 2,7 | 2,6 | 2,6 | 2,6 | 2,6 | 2,6 | 2,6 |
| 2,5 | 2,7 | 2,6 | 2,6 | 2,6 | 2,8 | 2,8 | 2,7 | 2,7 | 2,7 | 2,7 | 2,6 | 2,6 |
| 2,6 | 2,7 | 2,7 | 2,7 | 2,7 | 2,8 | 2,8 | 2,7 | 2,7 | 2,7 | 2,7 | 2,7 | 2,7 |
| 2,7 | 2,8 | 2,8 | 2,8 | 2,8 | 2,9 | 2,9 | 2,8 | 2,8 | 2,8 | 2,8 | 2,8 | 2,8 |
| 2,8 | 2,9 | 2,9 | 2,9 | 2,9 | 2,9 | 2,9 | 2,9 | 2,9 | 2,9 | 2,9 | 2,9 | 2,9 |
| 2,9 | 2,9 | 2,9 | 2,9 | 2,9 | 3,0 | 3,0 | 3,0 | 3,0 | 3,0 | 3,0 | 3,0 | 2,9 |

$U_H$ Coeficiente de Transmisión Térmica de la ventana completa (W/m² K)

$U_{H,V}$ Coeficiente de Transmisión Térmica del vidrio (W/m² K)

El Coeficiente de Transmisión Térmica es el flujo de calor (W) dividido por la superficie (m²) y por la diferencia de temperatura (K) a cada lado de la ventana.

## COEFICIENTES DE TRANSMITANCIA TERMICA $U_H$ (W/m²K) Según CTE y UNE–EN 10077–1

# 16/40-16/45

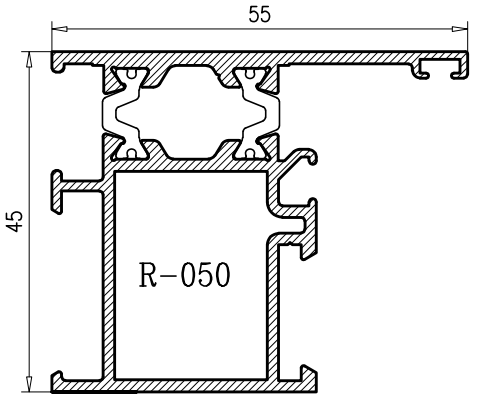
| $U_{H,V}$ | VENTANA 1 HOJA | | BALCONERA 1 HOJA | | VENTANA 2 HOJAS | | | | BALCONERA 2 HOJAS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1,00m² | 1,50m² | 2,00m² | 2,50m² | 1,00m² | 1,50m² | 2,00m² | 2,50m² | 3,00m² | 3,50m² | 4,00m² | 5,00m² |
| 1,1 | 3,0 | 2,7 | 2,8 | 2,6 | 3,7 | 3,2 | 3,0 | 2,8 | 3,0 | 2,8 | 2,7 | 2,5 |
| 1,2 | 3,1 | 2,8 | 2,9 | 2,7 | 3,7 | 3,2 | 3,1 | 2,9 | 3,1 | 2,9 | 2,8 | 2,6 |
| 1,3 | 3,2 | 2,9 | 2,9 | 2,7 | 3,8 | 3,3 | 3,1 | 3,0 | 3,2 | 3,0 | 2,8 | 2,7 |
| 1,4 | 3,2 | 3,0 | 3,0 | 2,8 | 3,8 | 3,4 | 3,2 | 3,0 | 3,2 | 3,0 | 2,9 | 2,8 |
| 1,5 | 3,3 | 3,0 | 3,1 | 2,9 | 3,9 | 3,4 | 3,3 | 3,1 | 3,3 | 3,1 | 3,0 | 2,8 |
| 1,6 | 3,3 | 3,1 | 3,1 | 2,9 | 3,9 | 3,5 | 3,3 | 3,2 | 3,3 | 3,2 | 3,0 | 2,9 |
| 1,7 | 3,4 | 3,2 | 3,2 | 3,0 | 4,0 | 3,5 | 3,4 | 3,2 | 3,4 | 3,2 | 3,1 | 3,0 |
| 1,8 | 3,5 | 3,2 | 3,3 | 3,1 | 4,0 | 3,6 | 3,5 | 3,3 | 3,5 | 3,3 | 3,2 | 3,0 |
| 1,9 | 3,5 | 3,3 | 3,3 | 3,2 | 4,1 | 3,7 | 3,5 | 3,4 | 3,5 | 3,4 | 3,2 | 3,1 |
| 2,0 | 3,6 | 3,4 | 3,4 | 3,2 | 4,1 | 3,7 | 3,6 | 3,4 | 3,6 | 3,4 | 3,3 | 3,2 |
| 2,1 | 3,7 | 3,4 | 3,5 | 3,3 | 4,2 | 3,8 | 3,7 | 3,5 | 3,7 | 3,5 | 3,4 | 3,3 |
| 2,2 | 3,7 | 3,5 | 3,5 | 3,4 | 4,2 | 3,8 | 3,7 | 3,6 | 3,7 | 3,6 | 3,5 | 3,3 |
| 2,3 | 3,8 | 3,6 | 3,6 | 3,4 | 4,3 | 3,9 | 3,8 | 3,6 | 3,8 | 3,6 | 3,5 | 3,4 |
| 2,4 | 3,8 | 3,6 | 3,7 | 3,5 | 4,3 | 4,0 | 3,8 | 3,7 | 3,8 | 3,7 | 3,6 | 3,5 |
| 2,5 | 3,9 | 3,7 | 3,7 | 3,6 | 4,4 | 4,0 | 3,9 | 3,8 | 3,9 | 3,8 | 3,7 | 3,6 |
| 2,6 | 4,0 | 3,8 | 3,8 | 3,7 | 4,4 | 4,1 | 4,0 | 3,8 | 4,0 | 3,8 | 3,7 | 3,6 |
| 2,7 | 4,0 | 3,8 | 3,8 | 3,7 | 4,4 | 4,1 | 4,0 | 3,8 | 4,0 | 3,8 | 3,7 | 3,6 |
| 2,8 | 4,0 | 3,8 | 3,9 | 3,7 | 4,4 | 4,1 | 4,0 | 3,9 | 4,0 | 3,9 | 3,8 | 3,7 |
| 2,9 | 4,1 | 3,9 | 3,9 | 3,8 | 4,5 | 4,2 | 4,1 | 3,9 | 4,1 | 4,0 | 3,9 | 3,8 |

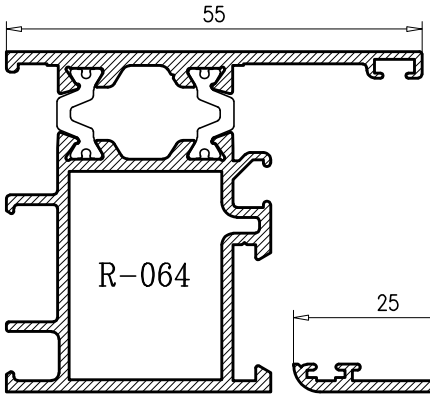
## AISLAMIENTO ACUSTICO Según UNE–EN 14351–1:2006 ANEXO B

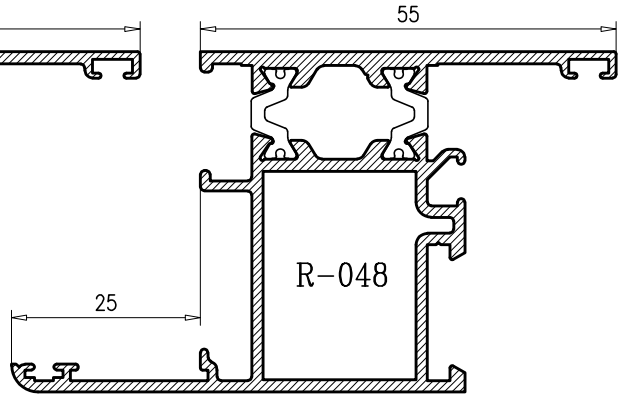
# 16/16RPT

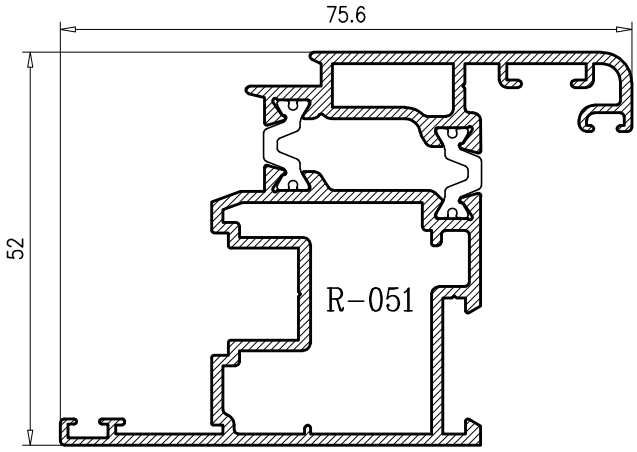
| VIDRIO | SUPERFICIE TOTAL | VENTANA | | |
|---|---|---|---|---|
| $R_W$ (C;Ctr) dB | | $R_W$ (C;Ctr) dB | $R_A$ (dBA) | $R_{Atr}$ (dBA) |
| 30(–1;–2) | ≤2.7m² | 33(–1;–3) | 32 | 30 |
| | 2.7m²/3.6m² | 32(–1;–3) | 31 | 29 |
| | 3.6m²/4.6m² | 31(–1;–3) | 30 | 28 |
| | ≥4.6m² | 30(–1;–3) | 29 | 27 |
| 32(–1;–2) | ≤2.7m² | 34(–1;–3) | 33 | 31 |
| | 2.7m²/3.6m² | 33(–1;–3) | 32 | 30 |
| | 3.6m²/4.6m² | 32(–1;–3) | 31 | 29 |
| | ≥4.6m² | 31(–1;–3) | 30 | 28 |
| 34(–1;–2) | ≤2.7m² | 35(–1;–3) | 34 | 32 |
| | 2.7m²/3.6m² | 34(–1;–3) | 33 | 31 |
| | 3.6m²/4.6m² | 33(–1;–3) | 32 | 30 |
| | ≥4.6m² | 32(–1;–3) | 31 | 29 |
| 36(–1;–2) | ≤2.7m² | 36(–1;–3) | 35 | 33 |
| | 2.7m²/3.6m² | 35(–1;–3) | 34 | 32 |
| | 3.6m²/4.6m² | 34(–1;–3) | 33 | 31 |
| | ≥4.6m² | 33(–1;–3) | 32 | 30 |
| 38(–1;–2) | ≤2.7m² | 37(–1;–3) | 36 | 34 |
| | 2.7m²/3.6m² | 36(–1;–3) | 35 | 33 |
| | 3.6m²/4.6m² | 35(–1;–3) | 34 | 32 |
| | ≥4.6m² | 34(–1;–3) | 33 | 31 |
| 40(–1;–4) | ≤2.7m² | 38(–1;–4) | 37 | 34 |
| | 2.7m²/3.6m² | 37(–1;–4) | 36 | 33 |
| | 3.6m²/4.6m² | 36(–1;–4) | 35 | 32 |
| | ≥4.6m² | 35(–1;–4) | 34 | 31 |

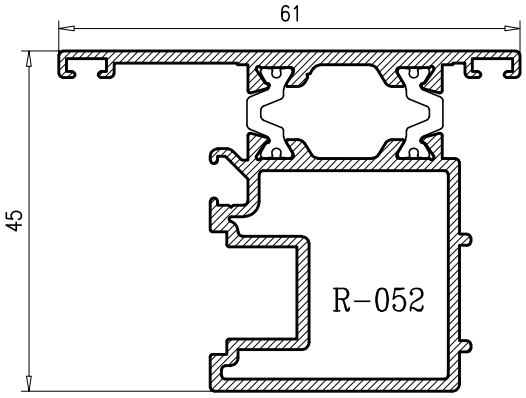
# E16RPT/45mm

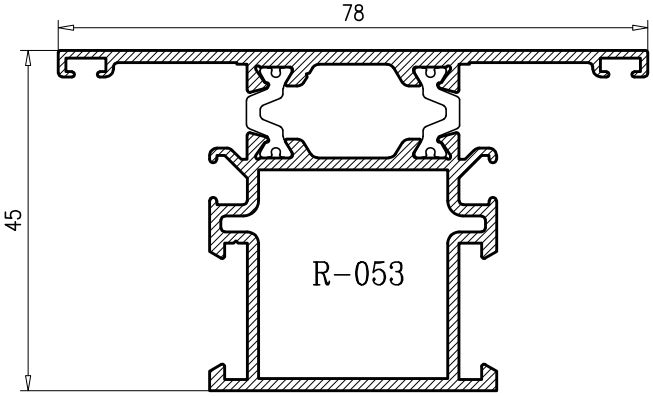


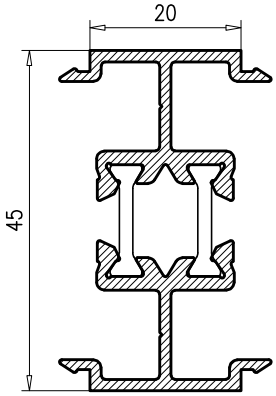



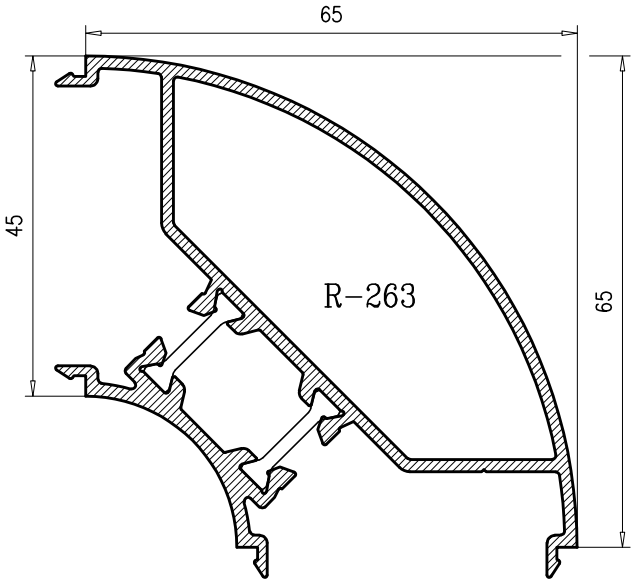



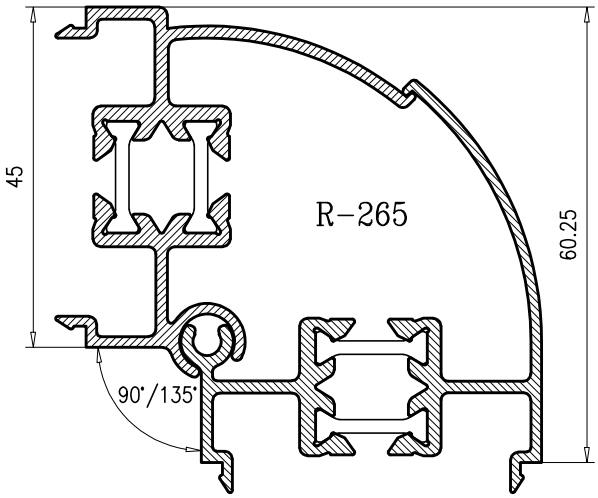



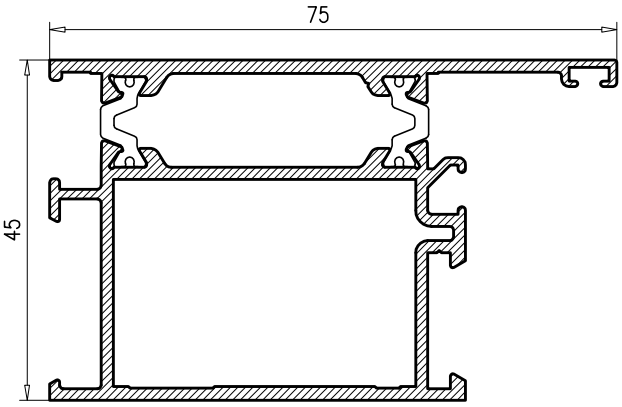



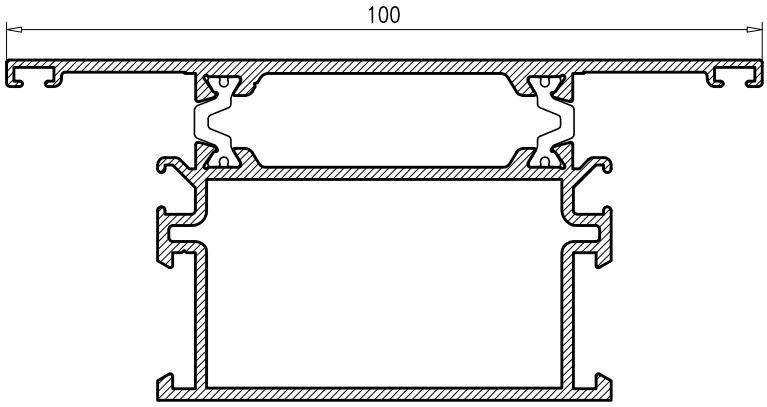

R-262



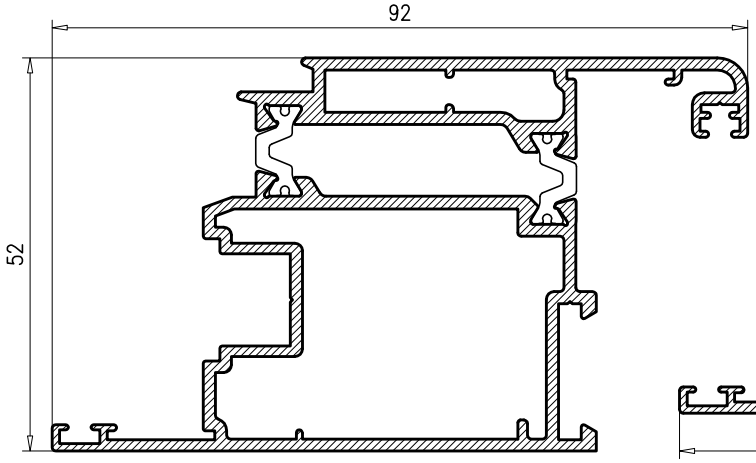





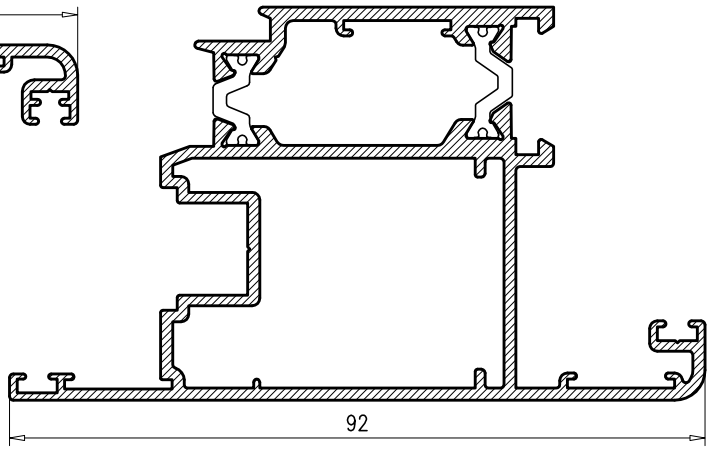

R-068



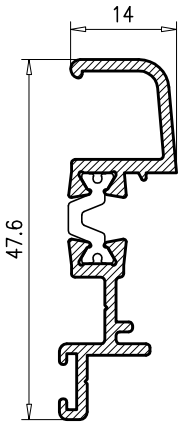

R-098



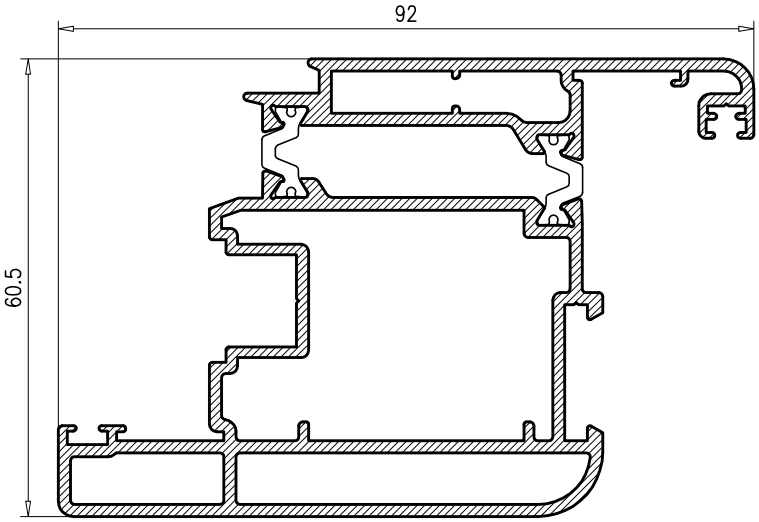

R-049




R-069

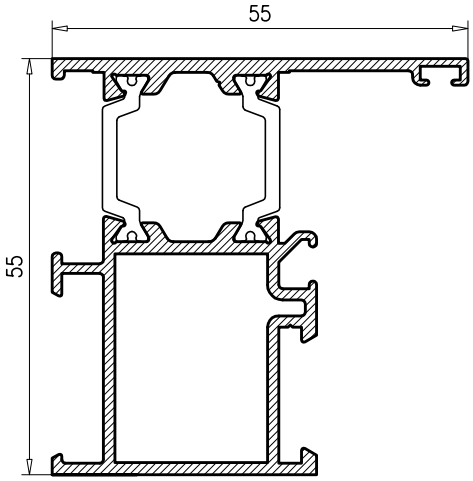



R-071

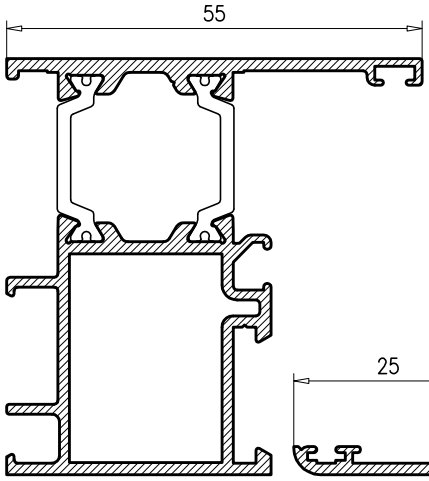



R-070
Hoja Apertura Osciloparalela

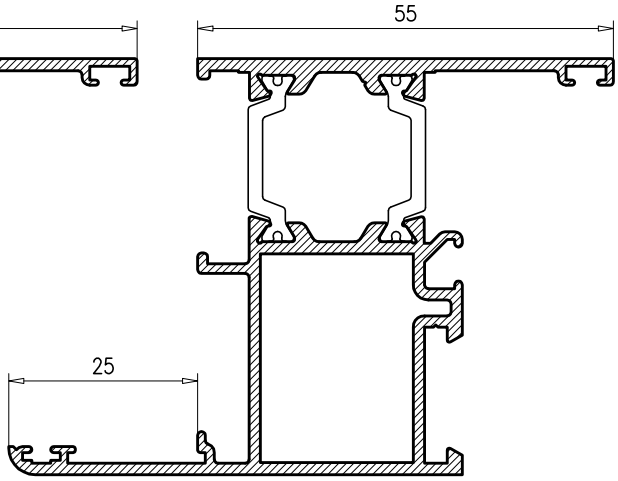
# E16RPT/55mm



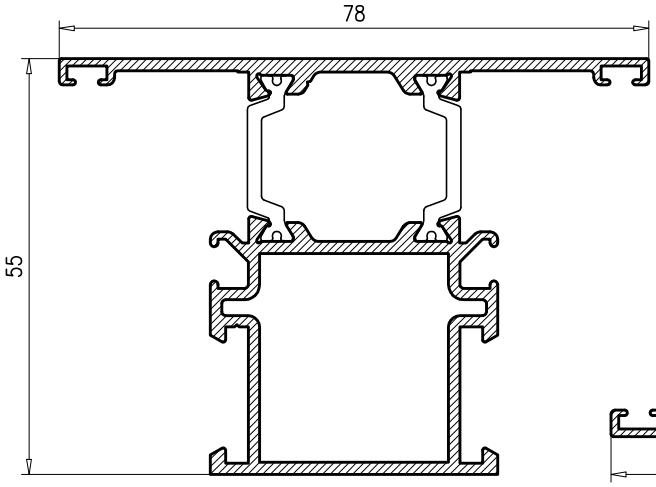

R-055



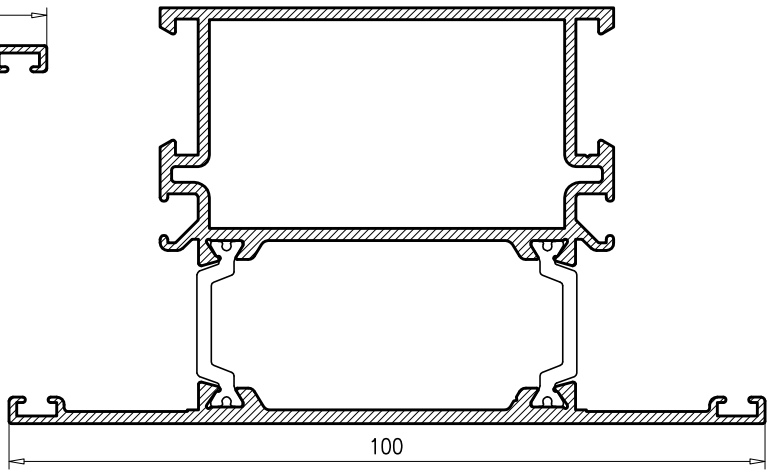

R-079



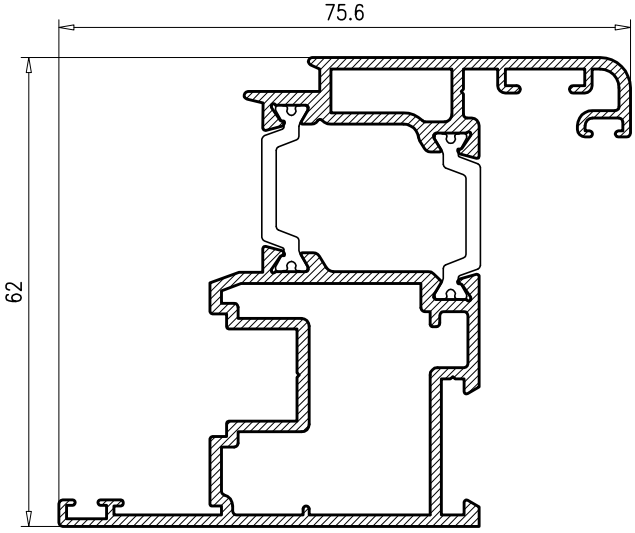

R-047



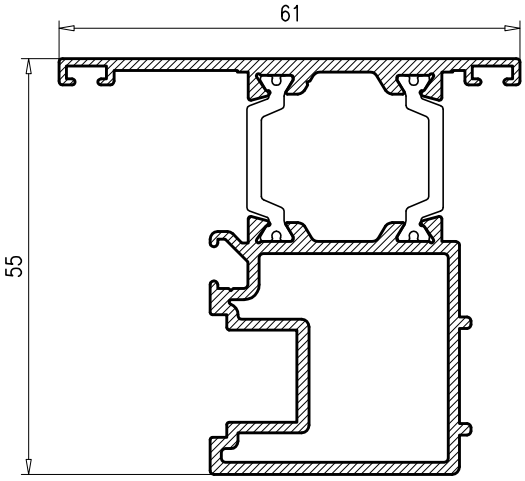

R-058



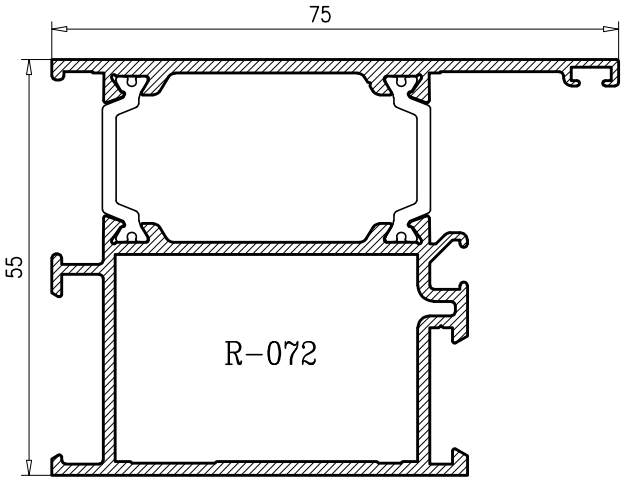

R-099

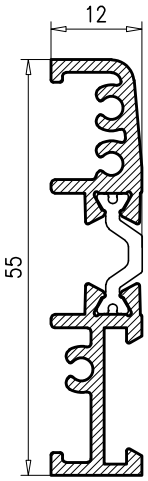



R-056

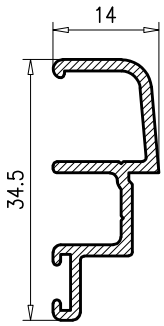



R-057

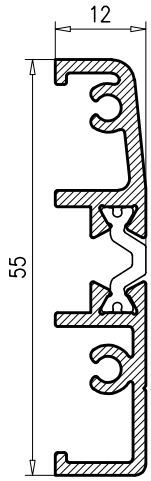


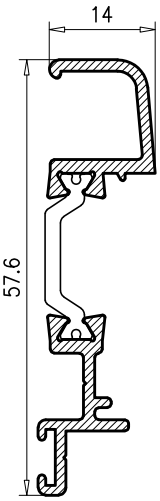

R-046



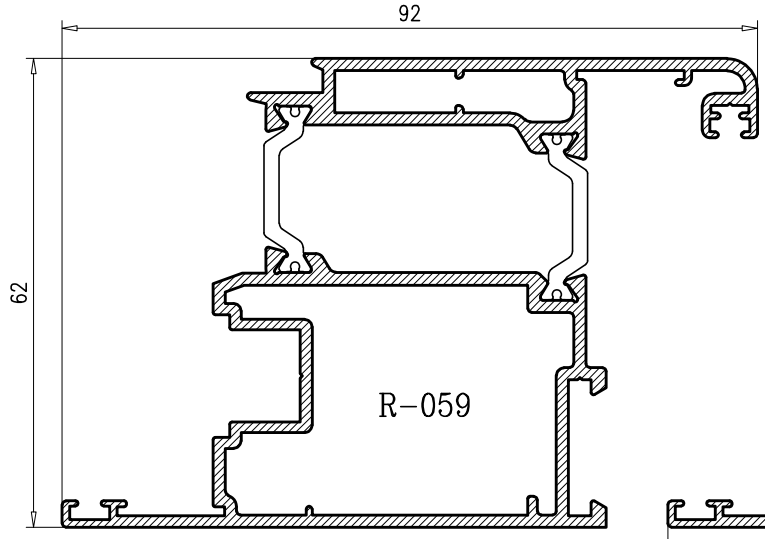

17.181

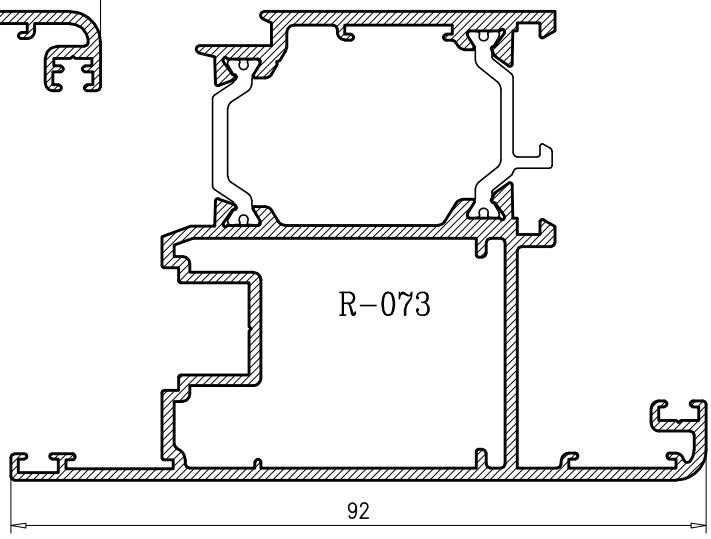


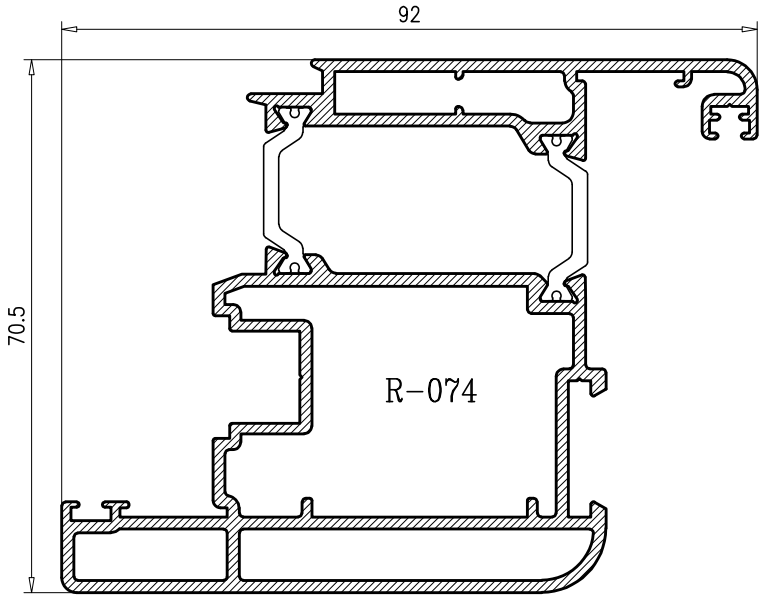

R-261



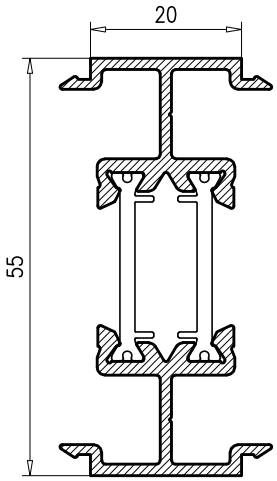

R-075



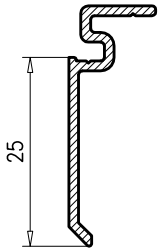



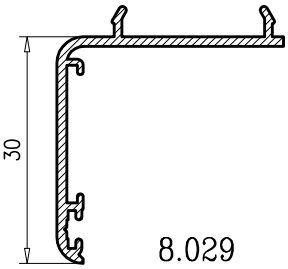

Hoja Apertura Osciloparalela



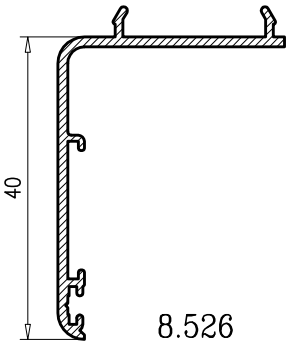

R-054



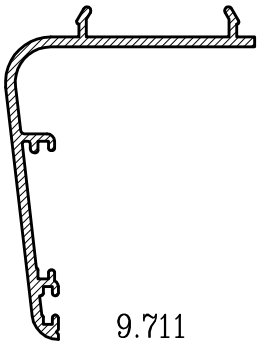

8.491



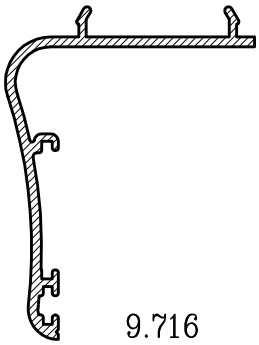

8.029



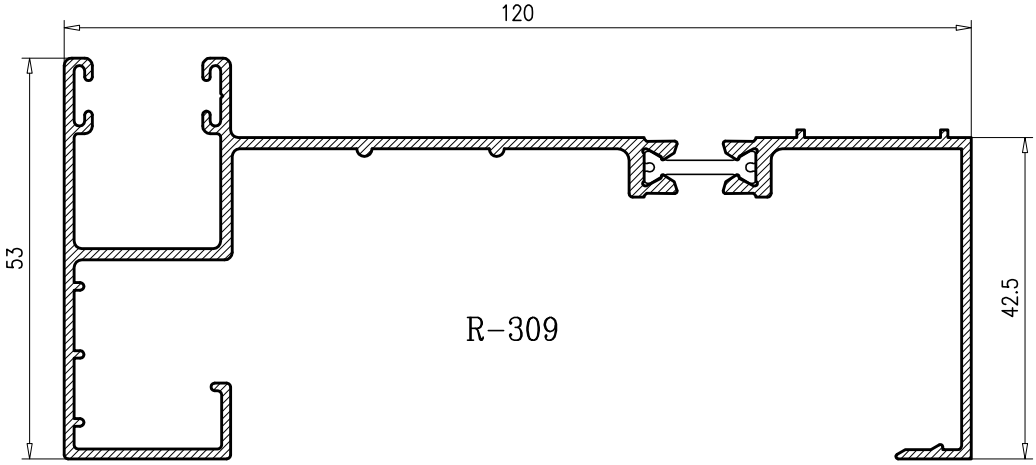

8.526

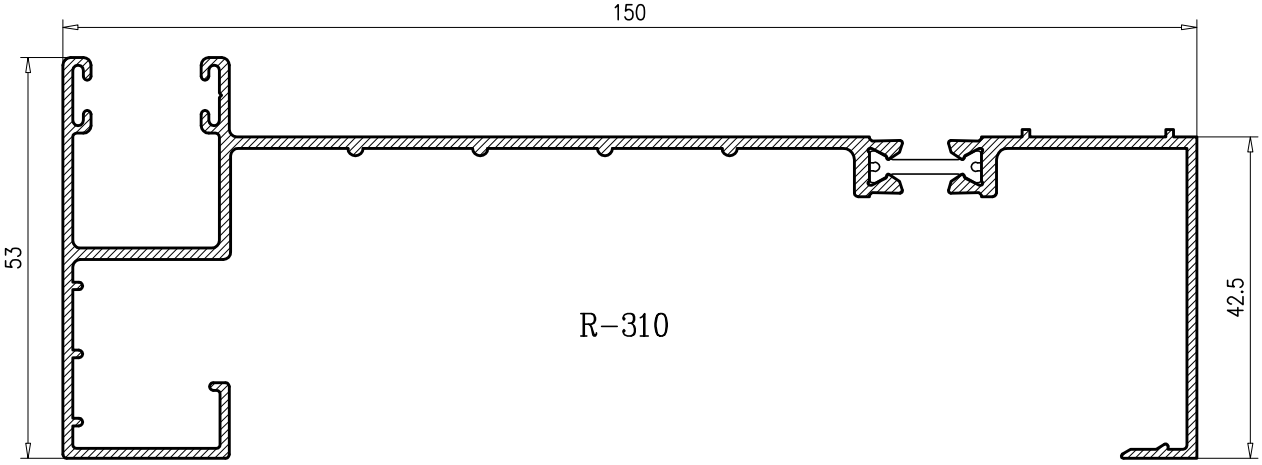


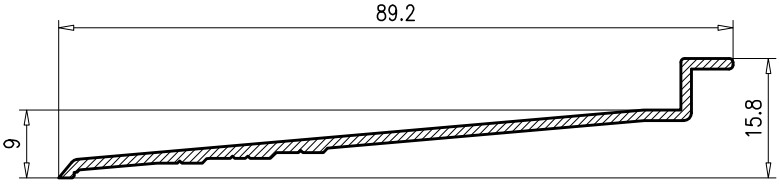
9.711



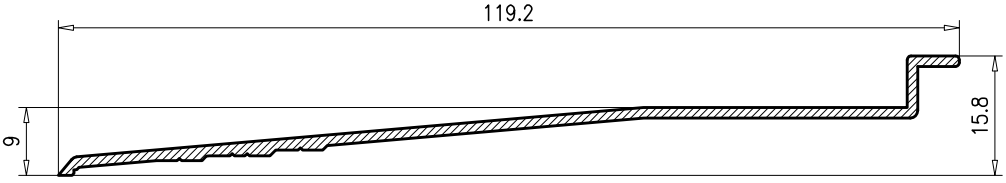
9.716



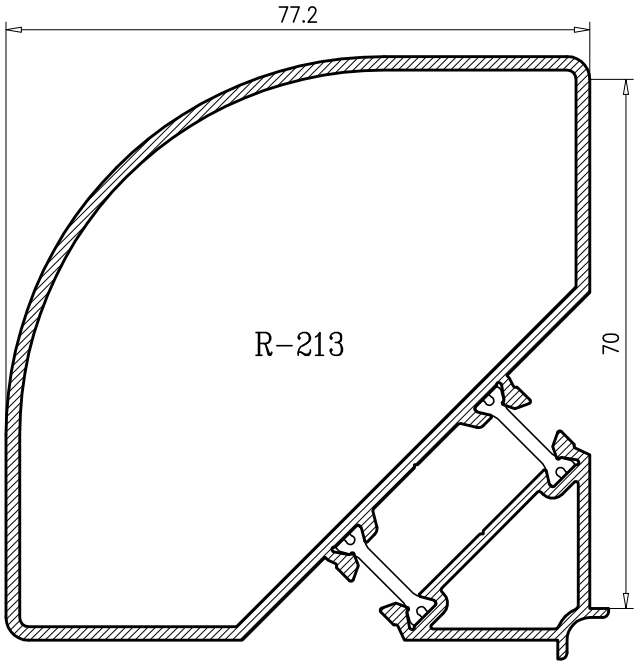



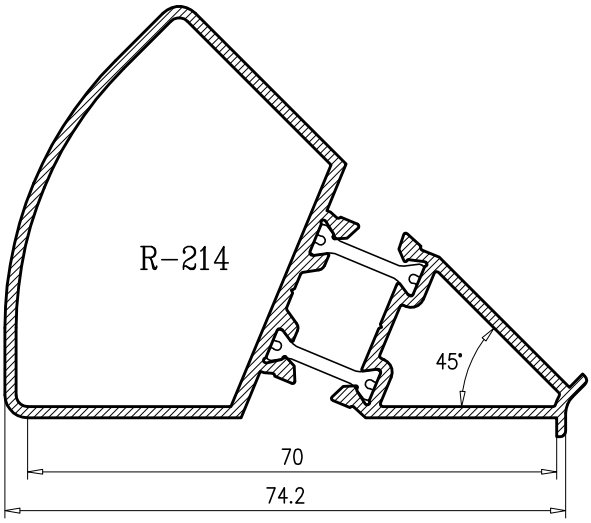



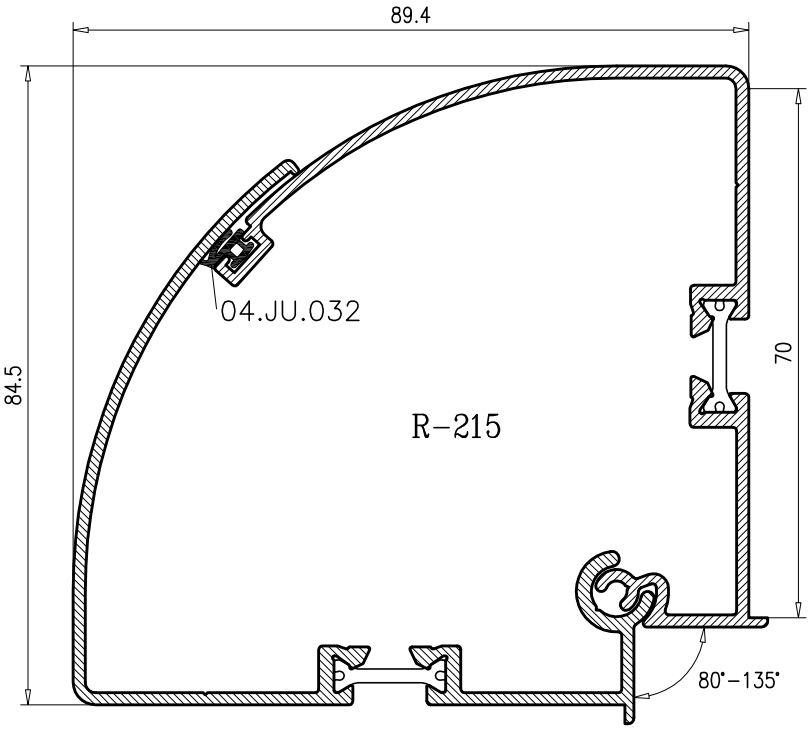

10.289

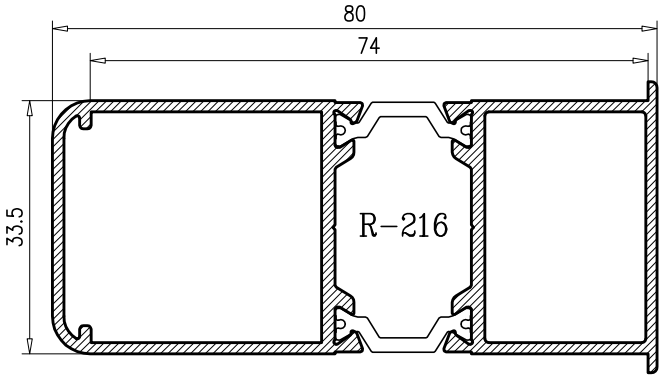


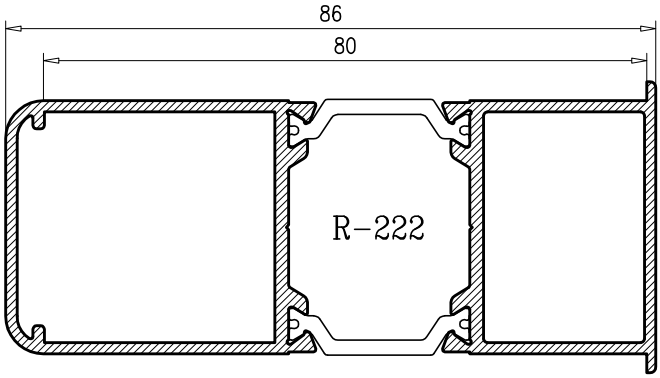

10.290

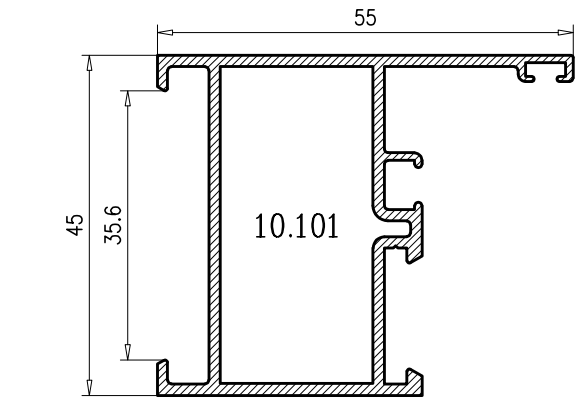

77.2
70
R-213

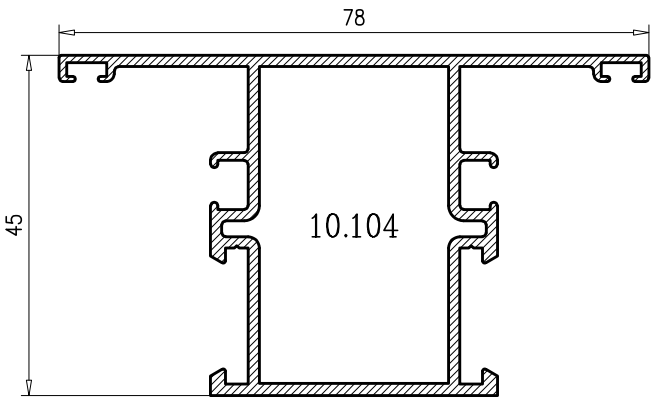

R-214
45°
70
74.2

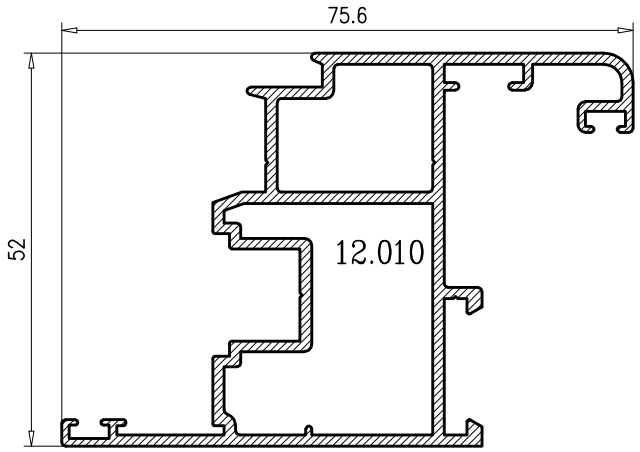

89.4
84.5
70
04.JU.032
R-215
80°-135°

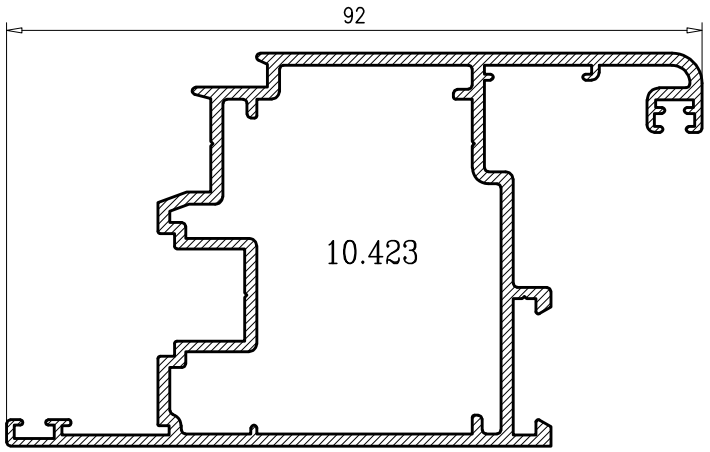

80
74
33.5
R-216

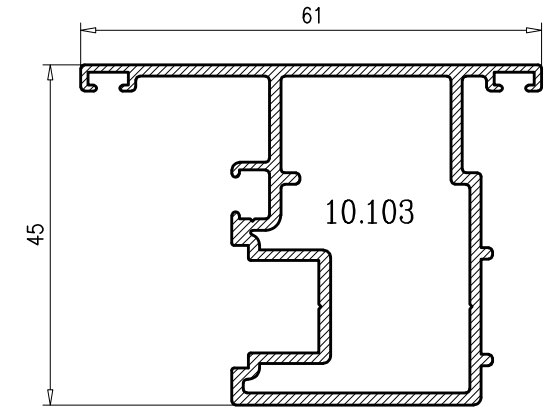

86
80
R-222

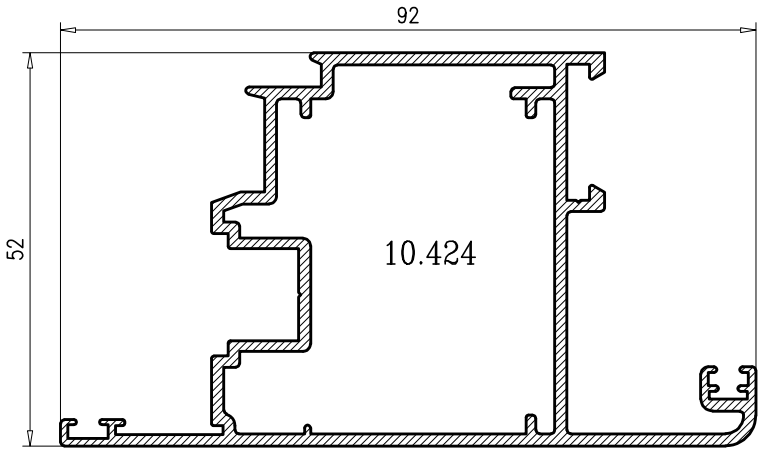

55
45
35.6
10.101

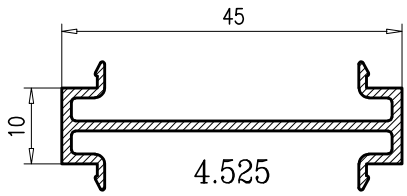

78
45
10.104

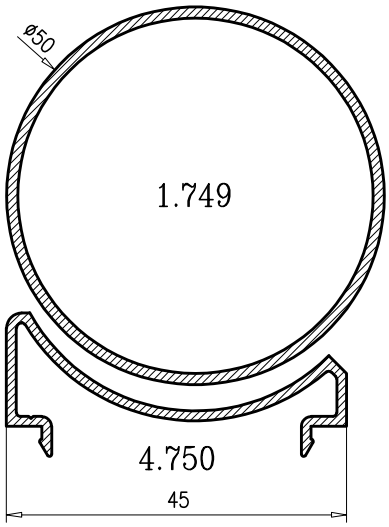

75.6
52
12.010

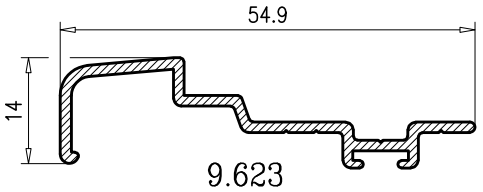

92
10.423

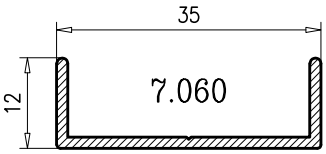

61
45
10.103


92
52
10.424

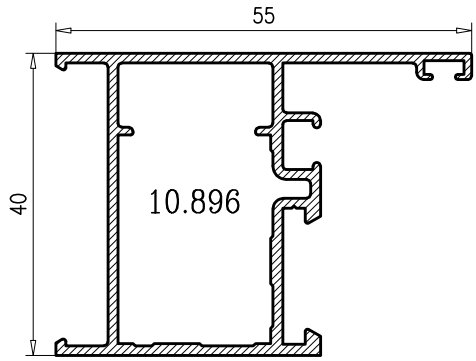

45
10
4.525

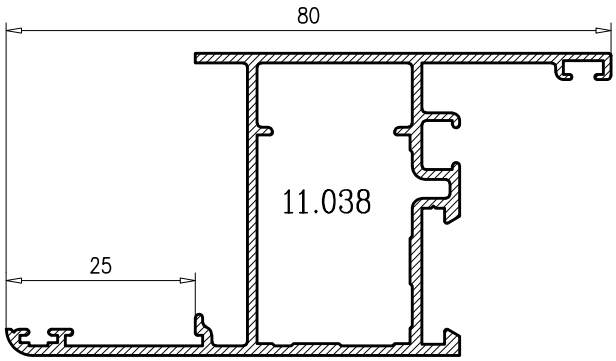

Ø50
1.749
4.750
45

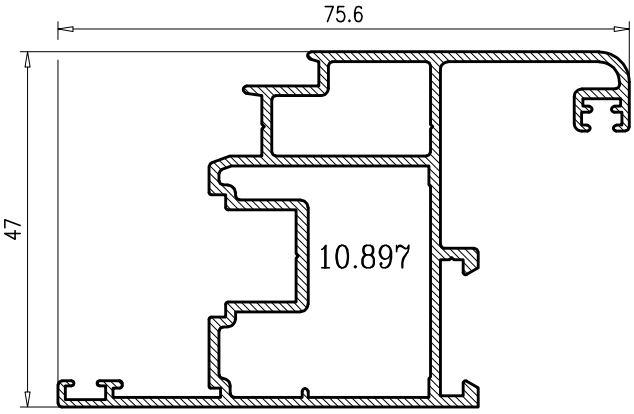

54.9
14
9.623

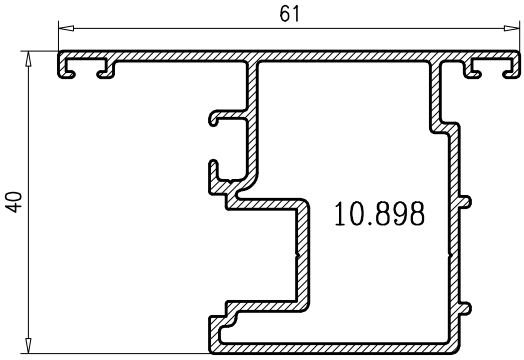

35
12
7.060

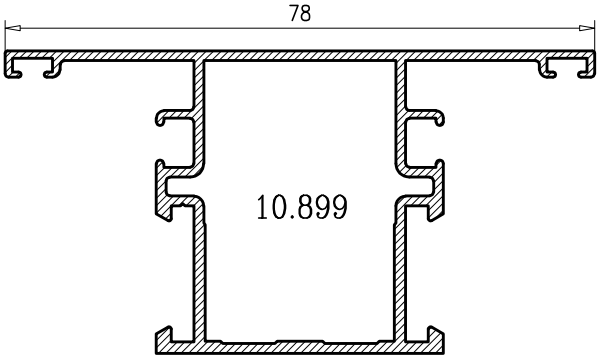
# E16/40mm

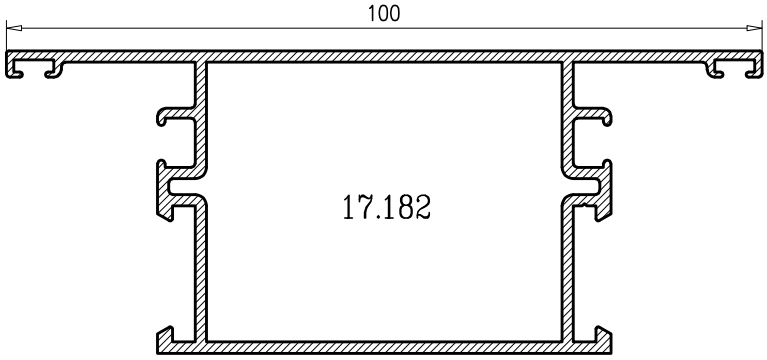

55
40
10.896

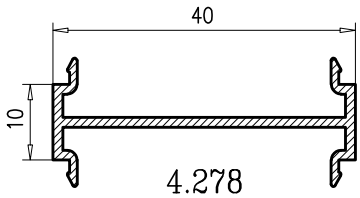

80
25
11.038

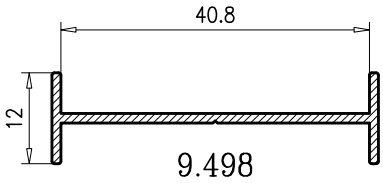

75.6
47
10.897

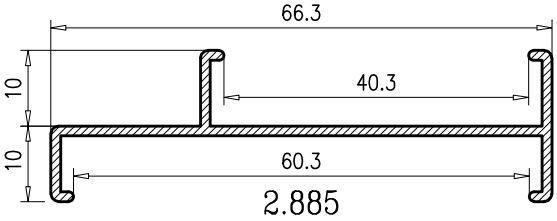

61
40
10.898

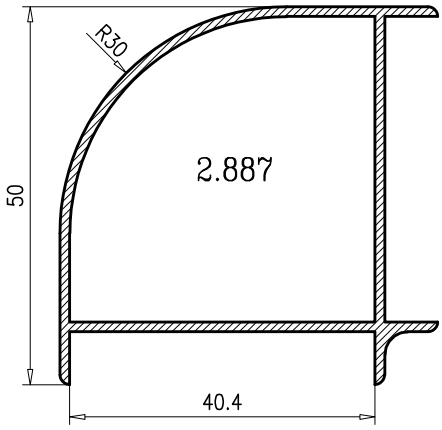

78
10.899

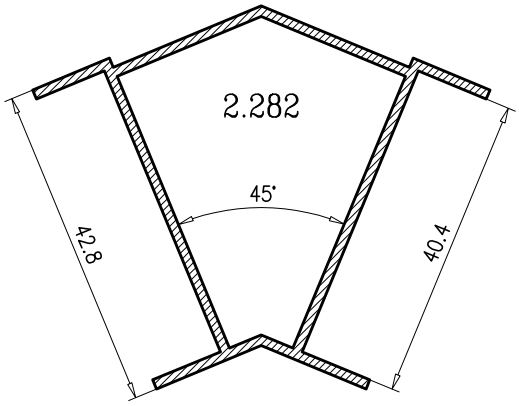

100
17.182

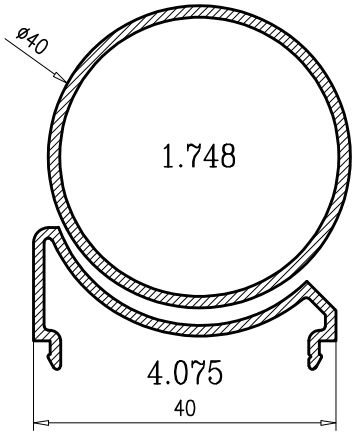

40
10
4.278

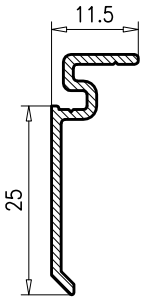

40.8
12
9.498


66.3
10
40.3
10
60.3
2.885

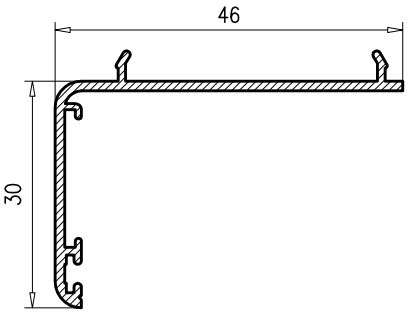

R30
50
2.887
40.4


2.282
45°
42.8
40.4

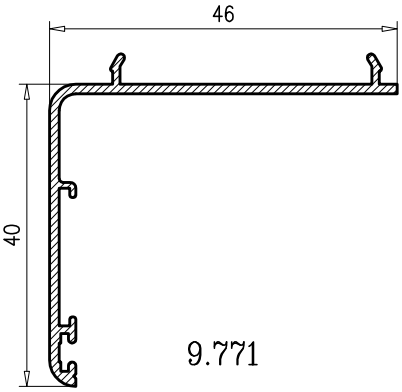

ø40
1.748
4.075
40



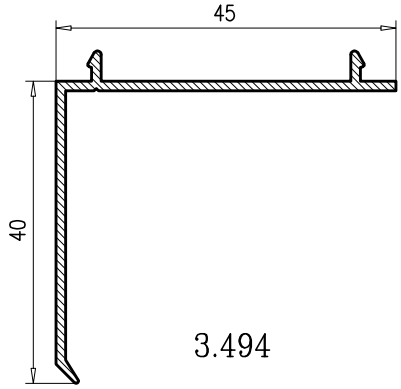

8.491



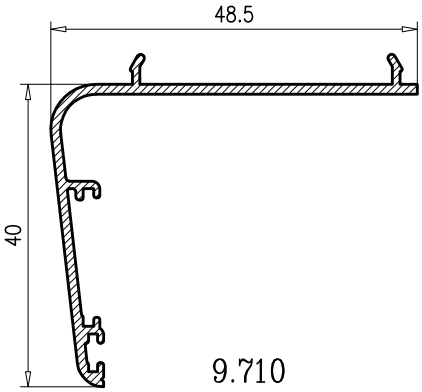

6.070



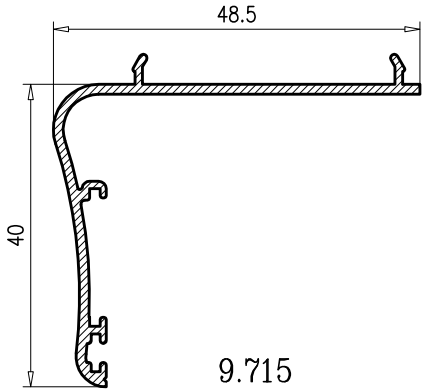

9.771



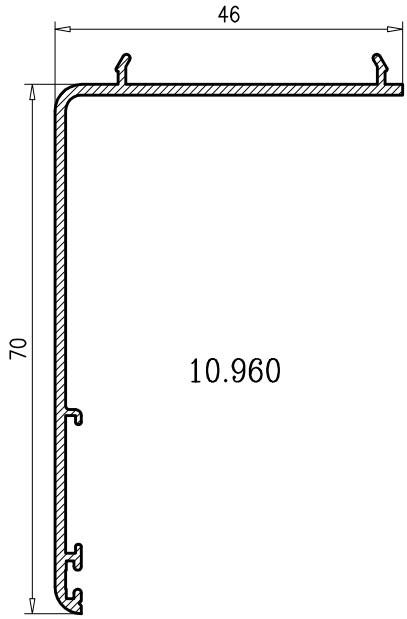

3.494



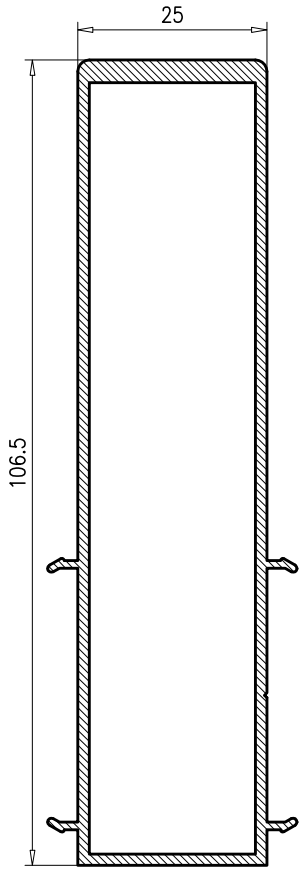

9.710



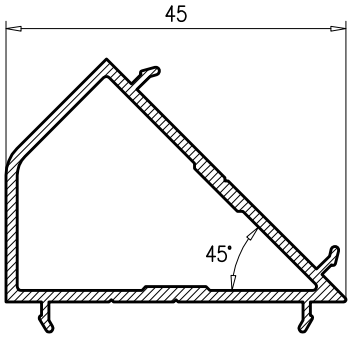

9.715



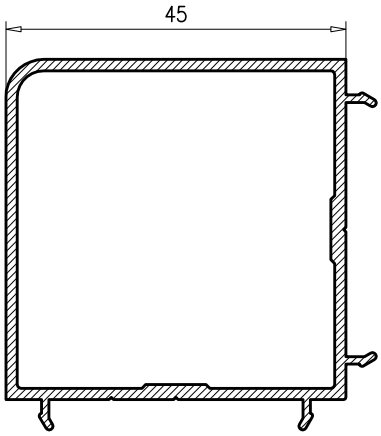

10.960



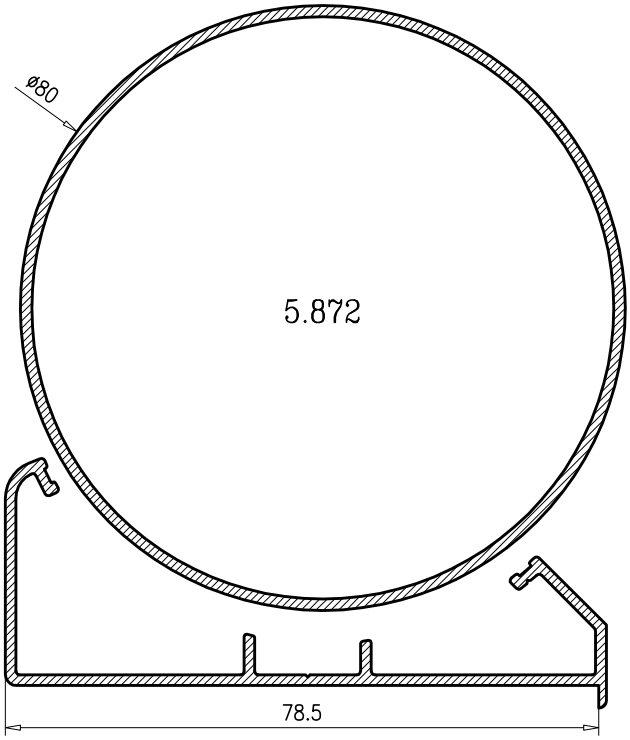

7.059




7.057

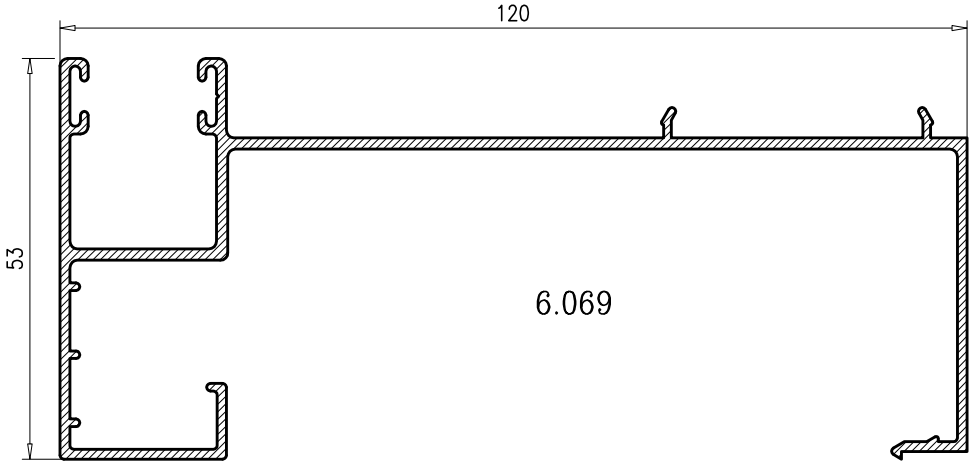


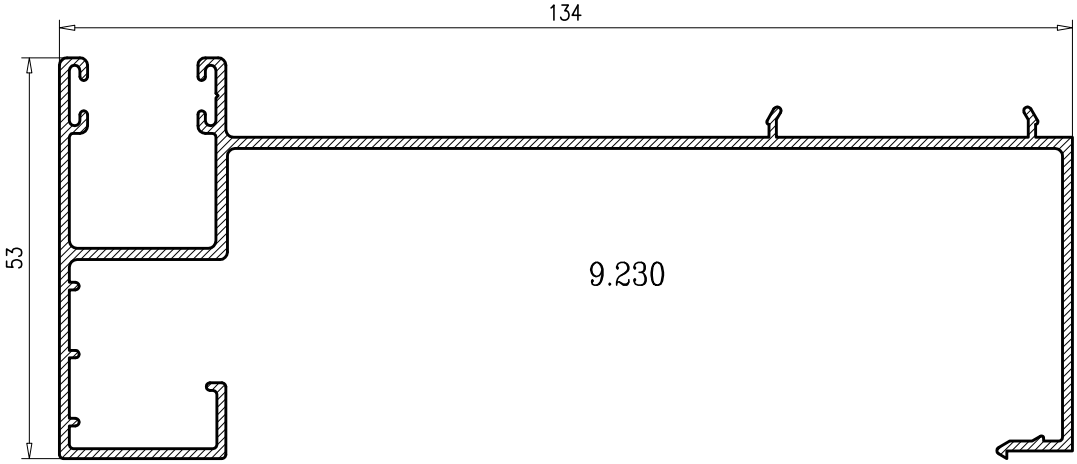

7.058

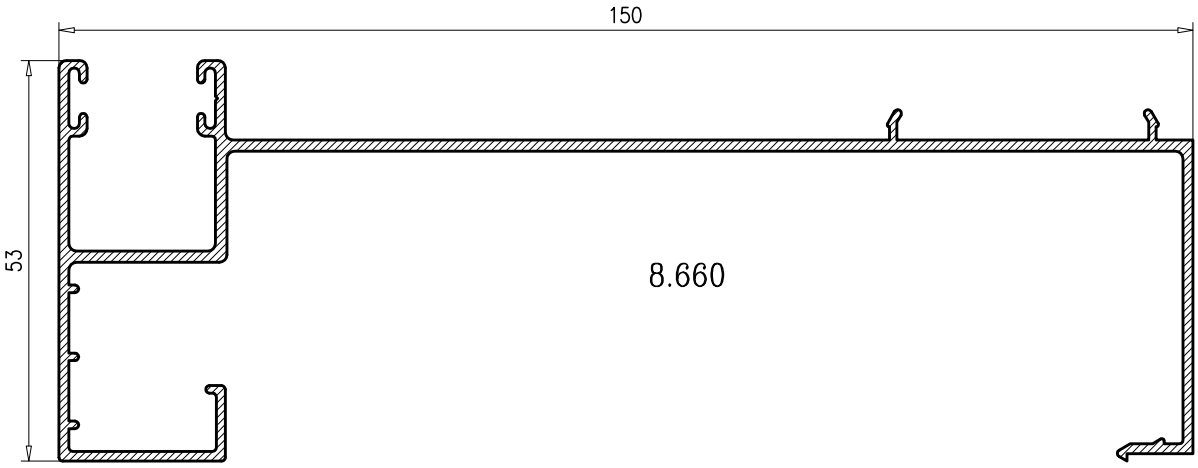


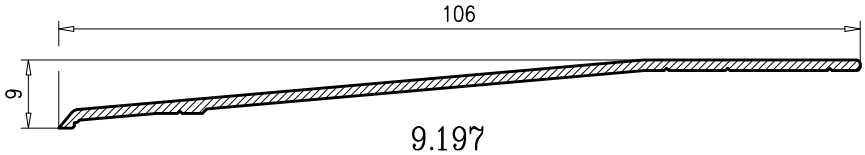

5.872

9.210

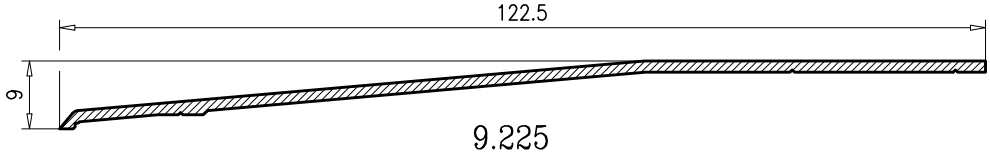


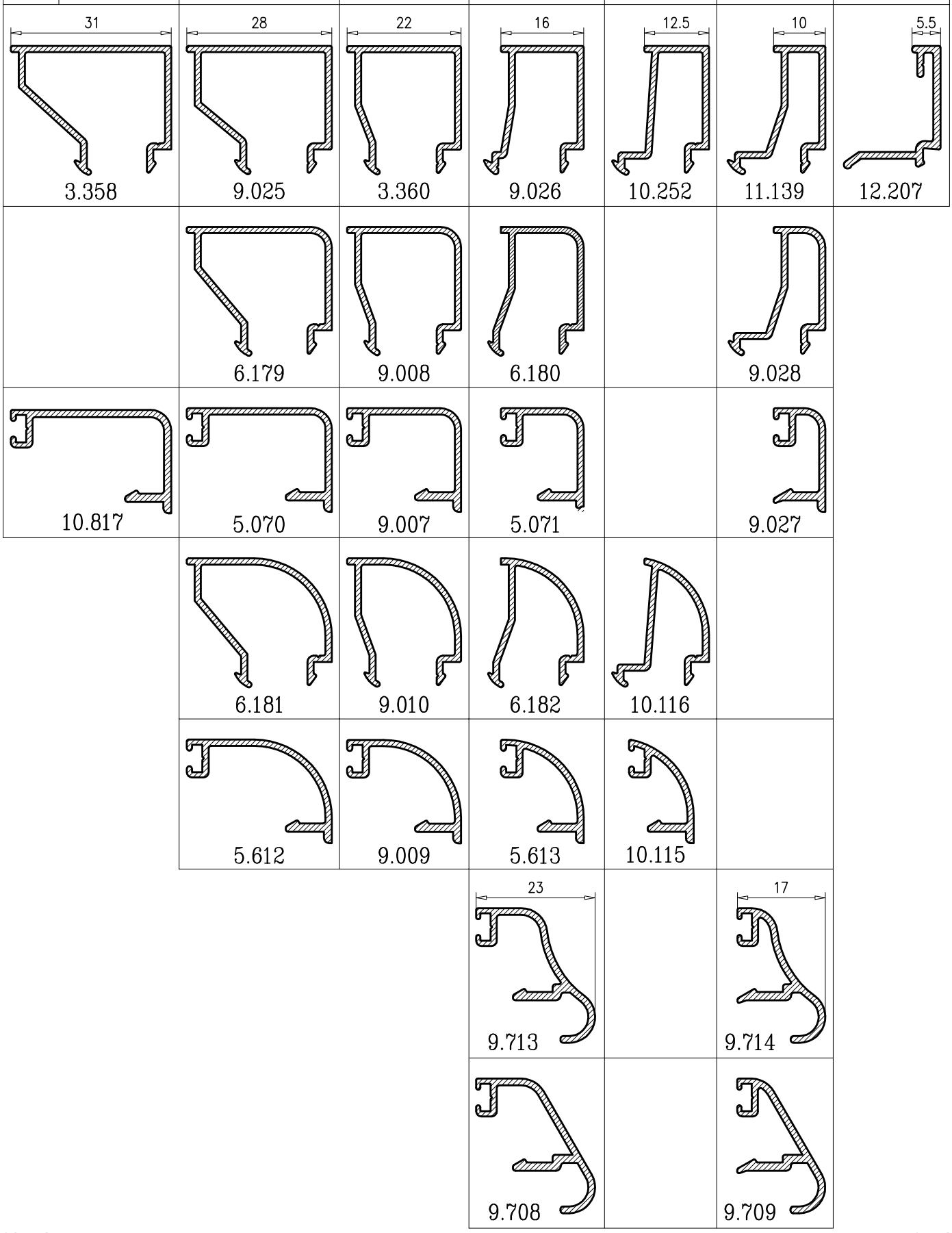

9.197

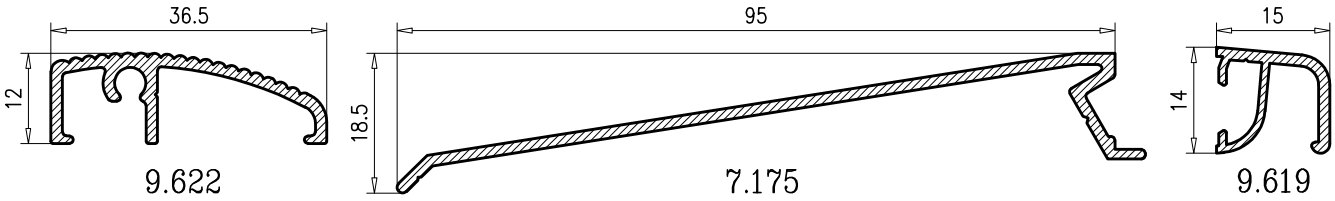


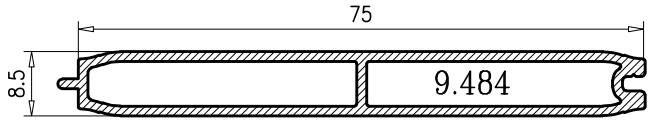

9.225

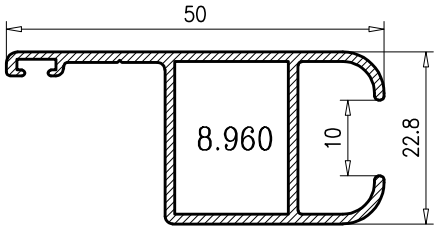
# E16/16RPT

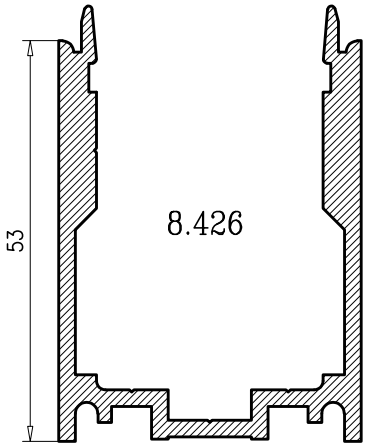
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 40mm | Cámara: | 8.5 | 14.5 | 20.5 | 24 | 26.5 | 31 |
| 45mm | Cámara: 10.5 | 13.5 | 19.5 | 25.5 | 29 | 31.5 | 36 |
| 55mm | Cámara: 20.5 | 23.5 | 29.5 | 35.5 | 39 | 41.5 | 46 |

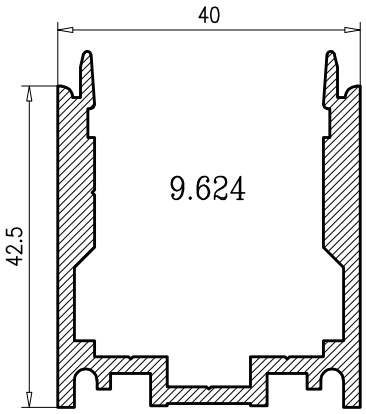


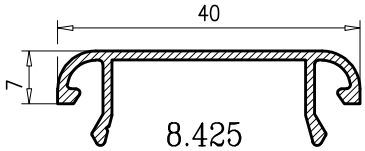

36.5
12
9.622
95
18.5
7.175
15
14
9.619

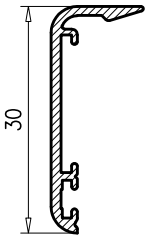

75
8.5
9.484

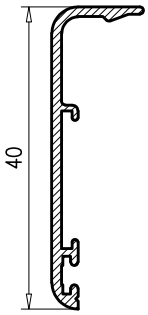

50
8.960
10
22.8

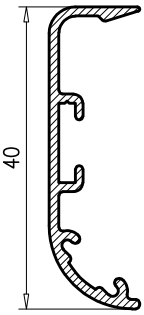

53
8.426

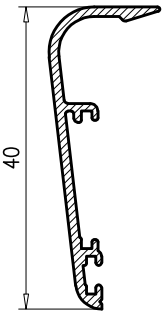

40
42.5
9.624

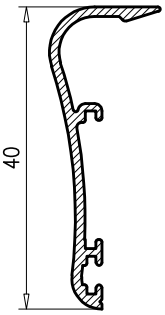

40
7
8.425

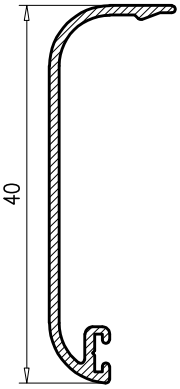

30
6.064

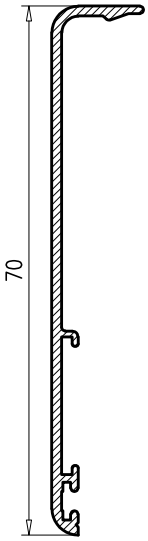

40
8.525

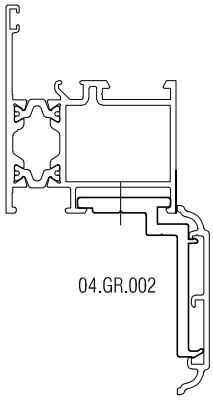

40
11.654

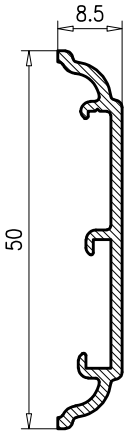

40
9.712

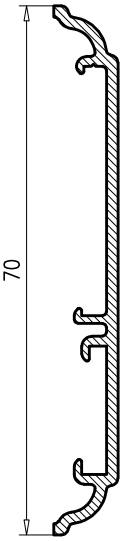

40
9.717

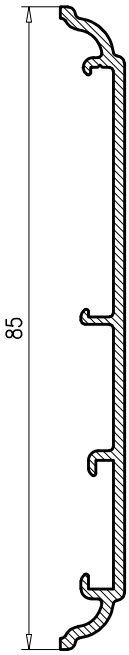

40
6.470


70
10.959

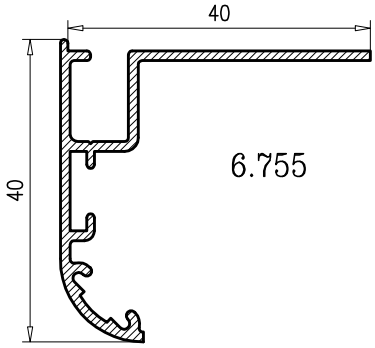

04.GR.002

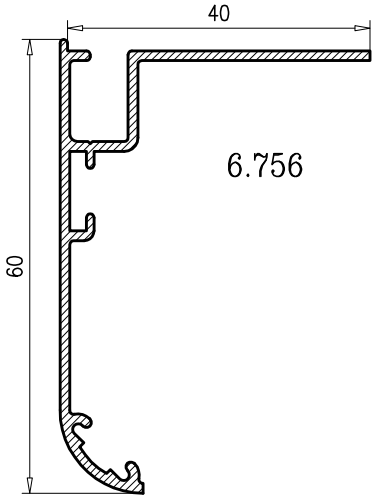

8.5
50
7.225

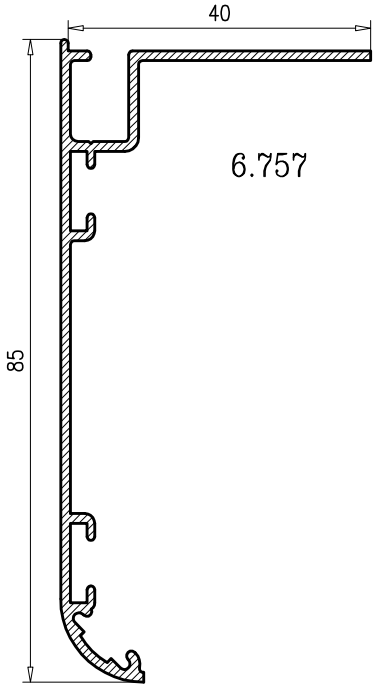

70
7.224

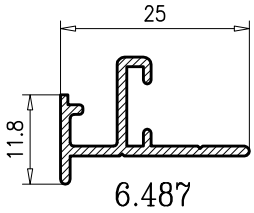

85
7.223

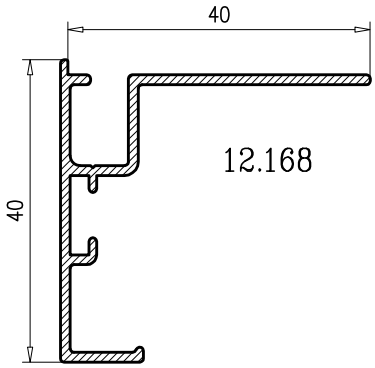
# E16/16RPT

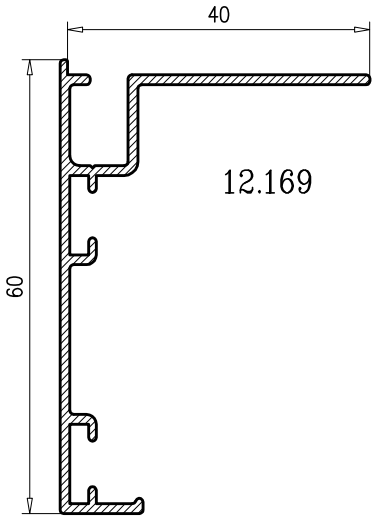

40
40
6.755

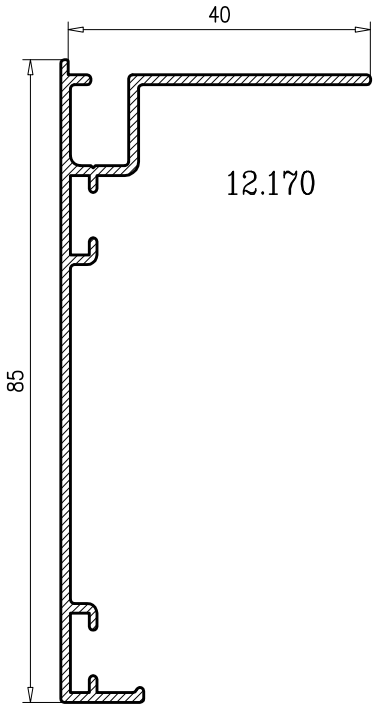

40
60
6.756

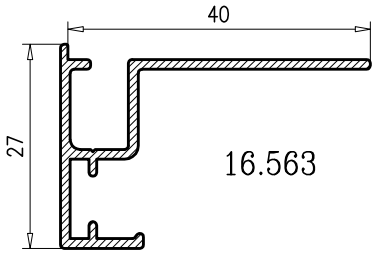

40
85
6.757


25
11.8
6.487


40
40
12.168


40
60
12.169

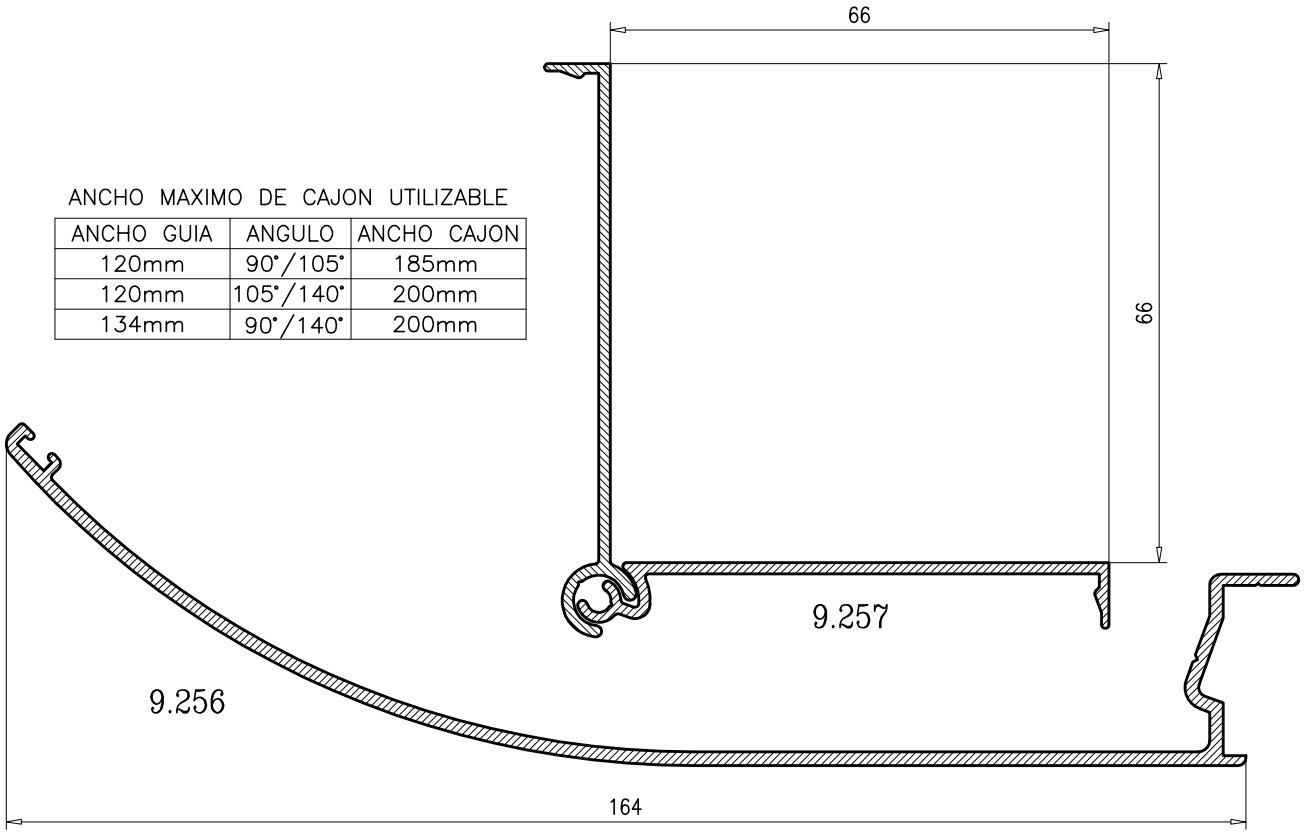

40
85
12.170


40
27
16.563

## ESQUINERO REGULABLE GUIAS COMPACTO 120/134mm.

ANCHO MAXIMO DE CAJON UTILIZABLE

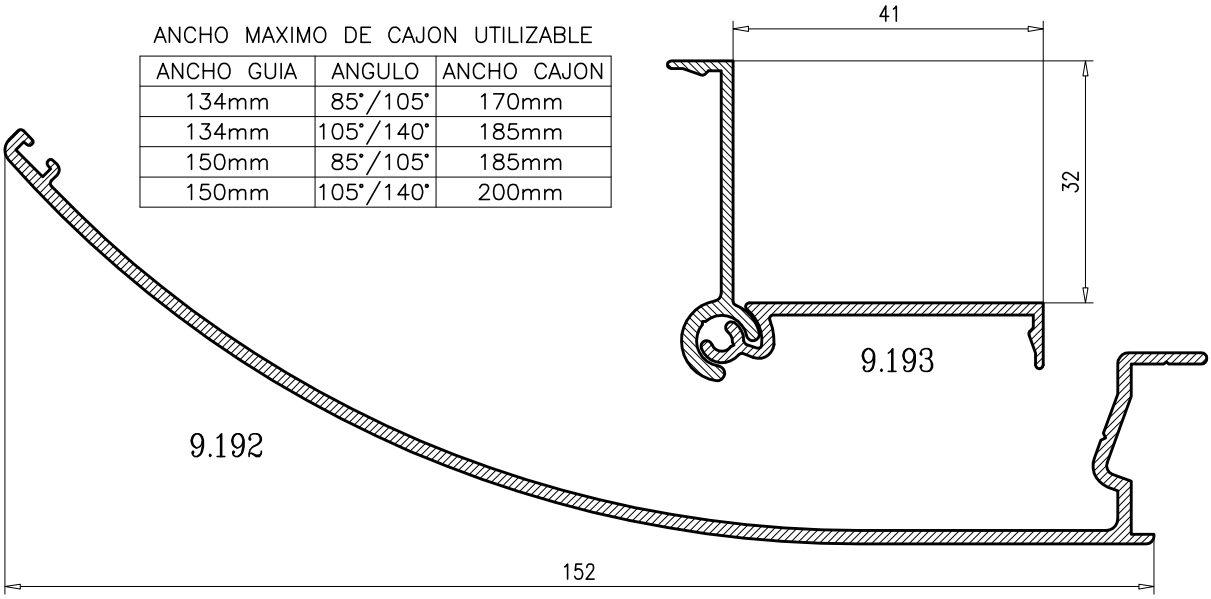
| ANCHO GUIA | ANGULO | ANCHO CAJON |
|---|---|---|
| 120mm | 90°/105° | 185mm |
| 120mm | 105°/140° | 200mm |
| 134mm | 90°/140° | 200mm |



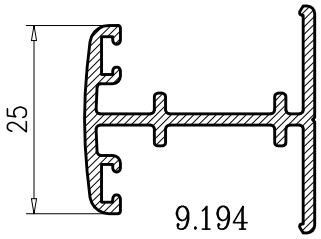

## ESQUINERO REGULABLE GUIAS COMPACTO 134/150mm.

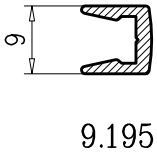
ANCHO MAXIMO DE CAJON UTILIZABLE

| ANCHO GUIA | ANGULO | ANCHO CAJON |
|---|---|---|
| 134mm | 85°/105° | 170mm |
| 134mm | 105°/140° | 185mm |
| 150mm | 85°/105° | 185mm |
| 150mm | 105°/140° | 200mm |

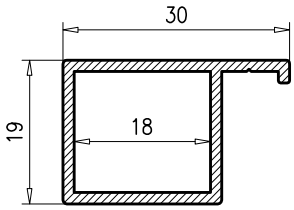



## UNION GUIAS COMPACTO Y MARCOS LATERALES DE GRAPA

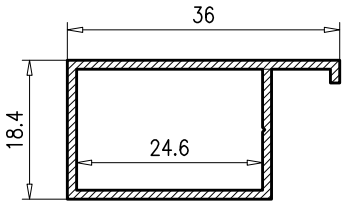


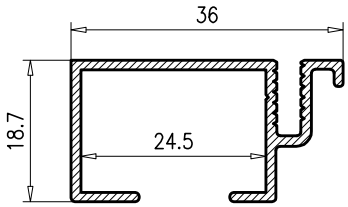
# E16/16RPT



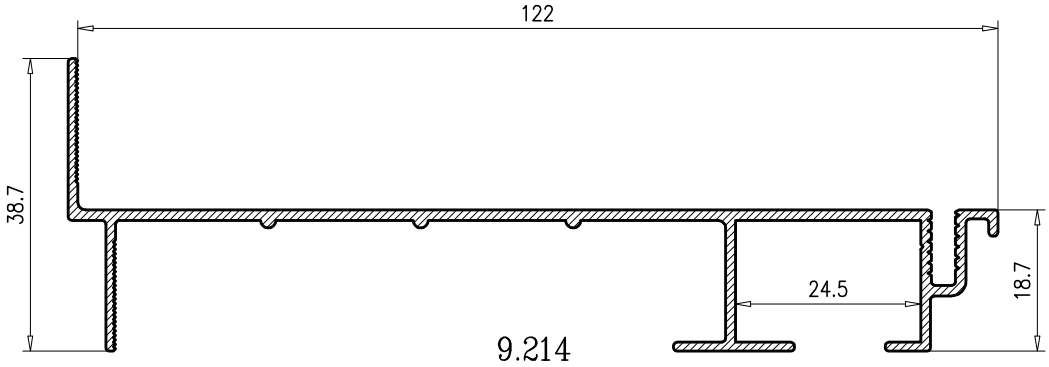

9.660



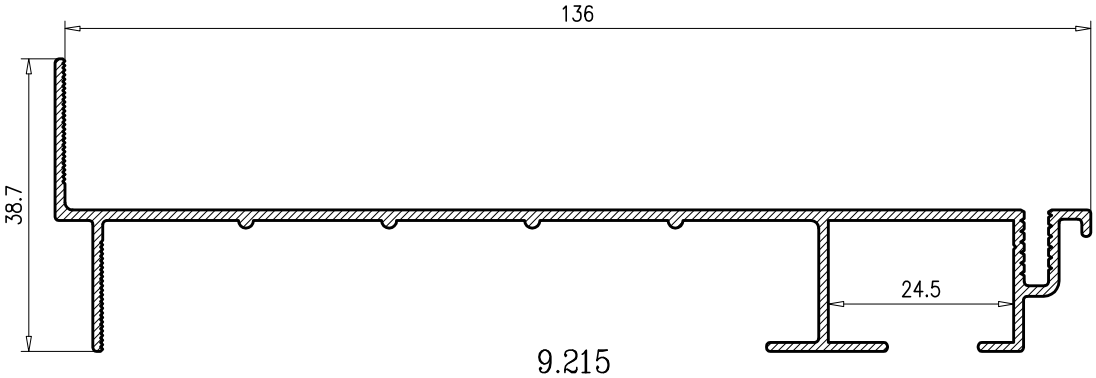

2.797



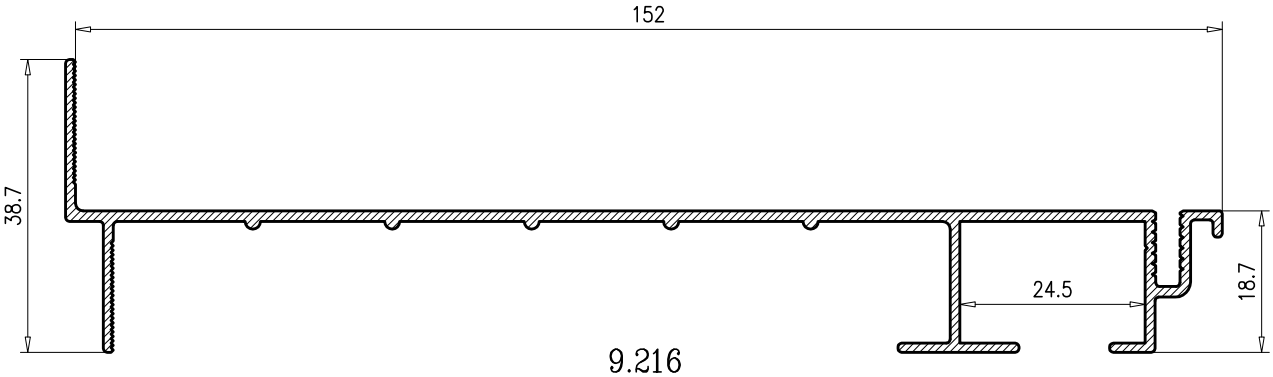

9.213




9.214

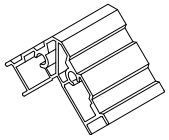



9.215



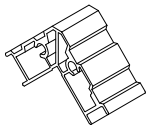

9.216

Escudra ensamblar Marco 45mm



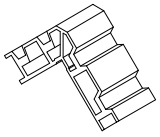
04.ES.028

Escudra ensamblar Marcos RPT y 40mm



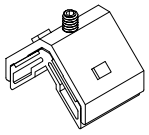
04.ES.030

Escudra ensamblar Hojas Ventana



04.ES.031

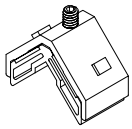
Escuadra Marco 45mm



04.ES.032

Escuadra Marcos RPT

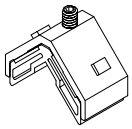
Y Marcos de 40mm con troquel 04.TRO.S22



04.ES.034

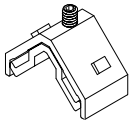
Escuadra Marco 40mm

Con troquel 432 de WINKHAUS



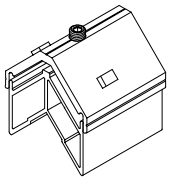
04.ES.034C

Escuadra Hojas Ventana



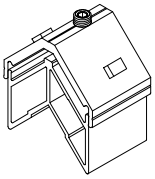
04.ES.035

Escuadra Puerta 45mm



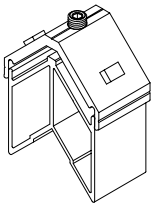
04.ES.039

Escuadra Hojas Puerta RPT



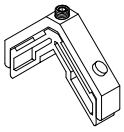
04.ES.040

Escuadra Marcos Puerta RPT



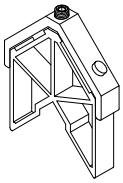
04.ES.047

Escuadra Ext. E-16/55 Marco Ventana



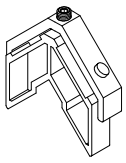
04.ES.053

Escuadra Ext. E-16/55 Marco Puerta



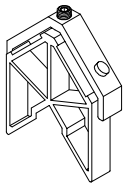
04.ES.054

Escuadra Ext. E-16/55 Hoja Ventana



04.ES.055

Escuadra Ext. E-16/55 Hoja Puerta

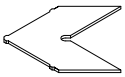


04.ES.056

Escuadra alineamiento 5x0.8

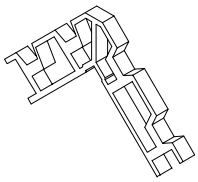
04.EA.002

Escuadra Alineamiento Hojas 14x1



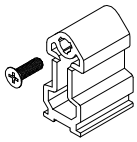
04.EA.008

E. Alineaminto cámara ext. hojas 16x5.5



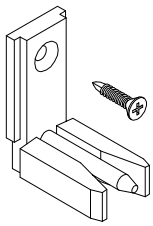
04.ES.012

Tocho de unión Pilastras



04.TO.017

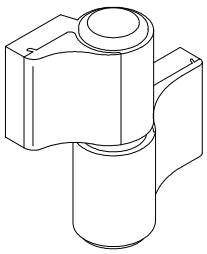
Tope marco inferior 9.622



04.TA.034

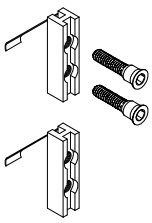
Bisagra puerta

2 Bisagras: 150Kg Max.
3 Bisagras: 180Kg Max.



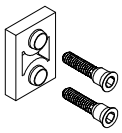
04.BP.001

Kit de fijación para suplemento



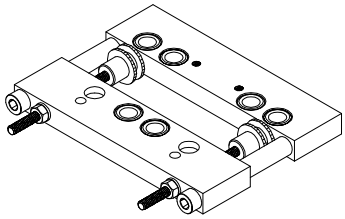
04.BP.003

Suplemento 7mm



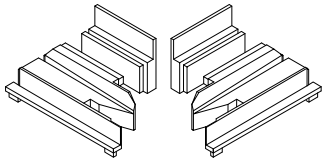
04.BP.004

Plantilla emplazamiento bisagras



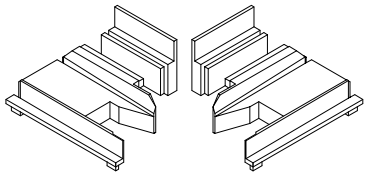
Intereje 60 y 79 04.TRO.BP2
Intereje 62.5 y 84 04.TRO.BP2

Tapas inversor 45mm



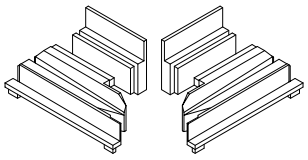
04.TA.023

Tapas inversor 55mm



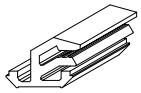
04.TA.024

Tapas inversor 40mm



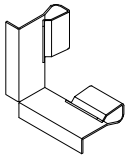
04.TA.025

Grapa junquillo curvo



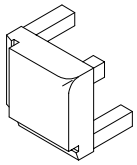
04.GR.001

Grapa alineamiento junquillos con forma



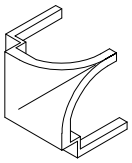
04.GR.013

Escudo Junquillos curvos R-4



04.GR.005

Escudo Junquillos curvos R-15

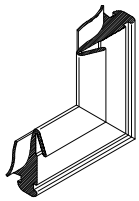


04.GR.007

Junta central EPDM

04.JU.001

Angulo Junta central



04.JU.A01

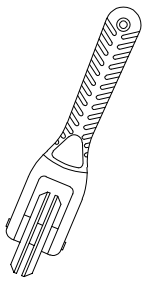
Junta Interior EPDM

04.JU.004.D

Junta exterior

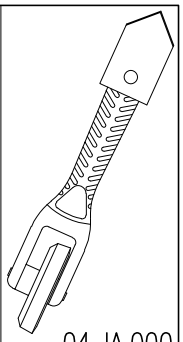
04.JU.005

Rodillo Juntas Centrales



04.JU.000

Rodillo Juntas Acristalamiento



04.JA.000

Junta acristalamiento exterior 2.5mm. EPDM

04.JA.001

Junta acristalamiento 2/3mm. EPDM

04.JA.002

Junta acristalamiento 2.5/4mm. EPDM

04.JA.003

Junta acristalamiento 3.5/5.5mm. EPDM

04.JA.004

Junta acristalamiento 5/7mm. EPDM

04.JA.005

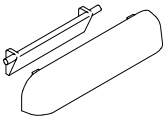
Junta acristalamiento 6/8mm. EPDM

04.JA.006

Junta acristalamiento 7/10mm. EPDM

04.JA.007

Tapa desagüe con deflector



04.TA.016

Tubo desagüe hoja 33mm

04.AC.TD2

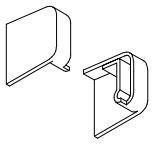
Tubo desagüe hoja 36mm

04.AC.TD3

Tubo desagüe hoja 44mm

04.AC.TD4

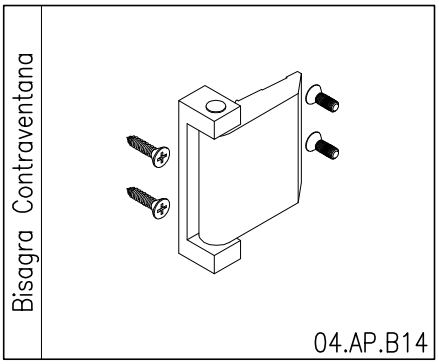
Juego tapas laterales para 9.619

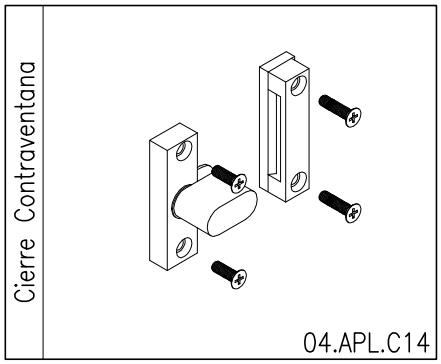


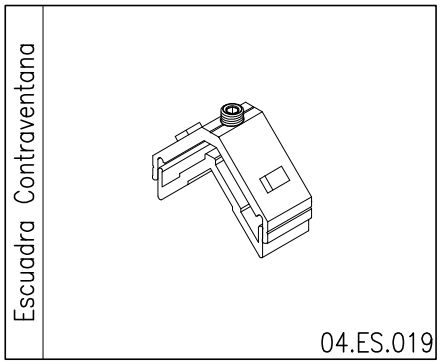
04.TA.020

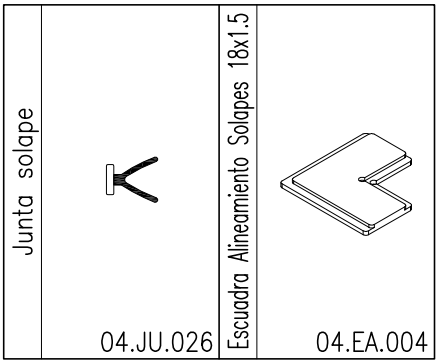
Tornillo de clipaje para 9.619

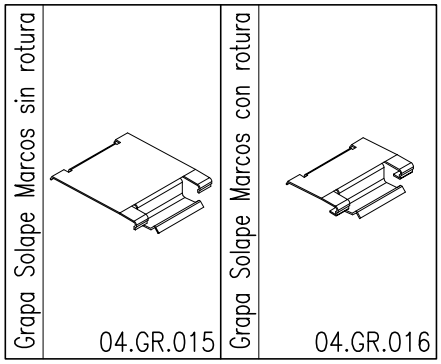
04.AC.008

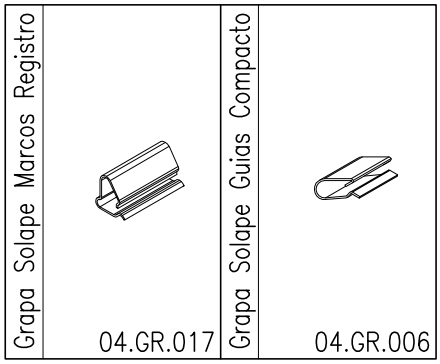

Bisagra Contraventana
04.AP.B14

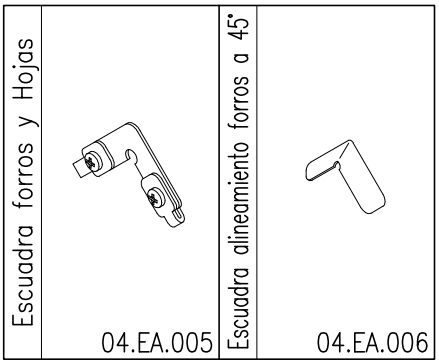

Cierre Contraventana
04.APL.C14

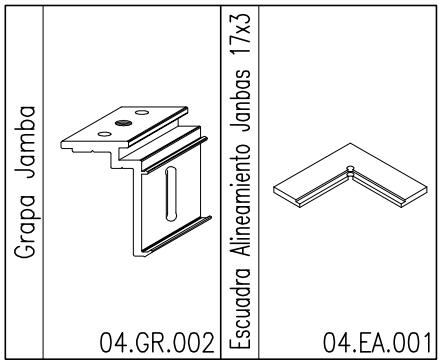

Escuadra Contraventana
04.ES.019

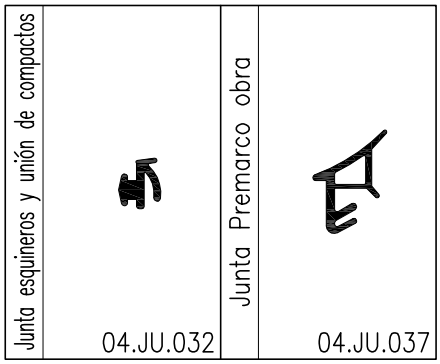

Junta solape
04.JU.026
Escuadra Alineamiento Solapes 18x1.5
04.EA.004

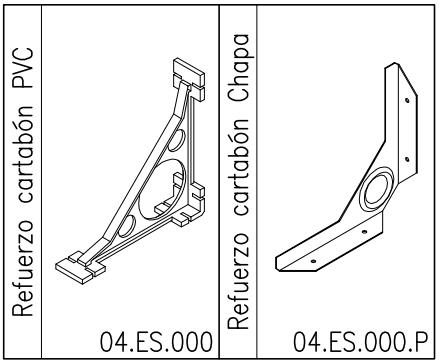

Grapa Solape Marcos sin rotura
04.GR.015
Grapa Solape Marcos con rotura
04.GR.016

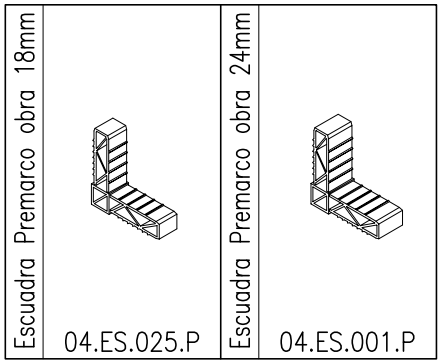

Grapa Solape Marcos Registro
04.GR.017
Grapa Solape Guias Compacto
04.GR.006

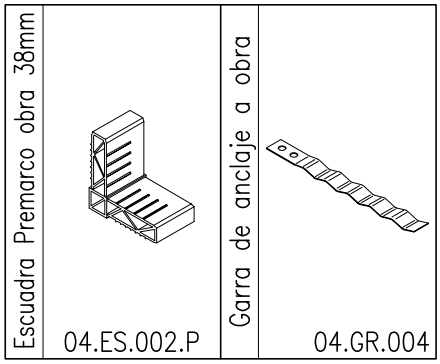

Escuadra forros y Hojas
04.EA.005
Escuadra alineamiento forros a 45°
04.EA.006

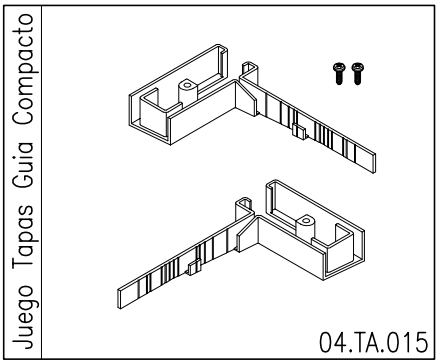

Grapa Jamba
04.GR.002
Escuadra Alineamiento Janbas 17x3
04.EA.001

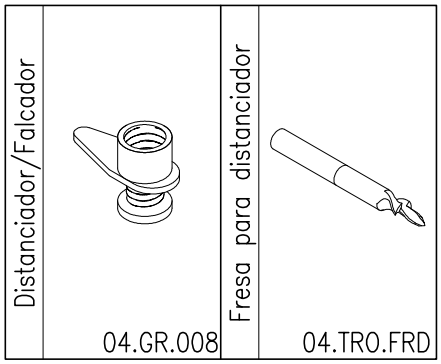

Junta esquineros y unión de compactos
04.JU.032
Junta Premarco obra
04.JU.037

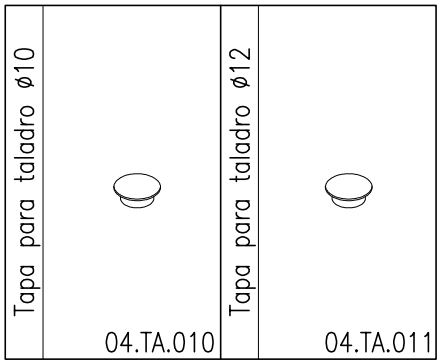

Refuerzo cartabón PVC
04.ES.000
Refuerzo cartabón Chapa
04.ES.000.P


Escuadra Premarco obra 18mm
04.ES.025.P
Escuadra Premarco obra 24mm
04.ES.001.P

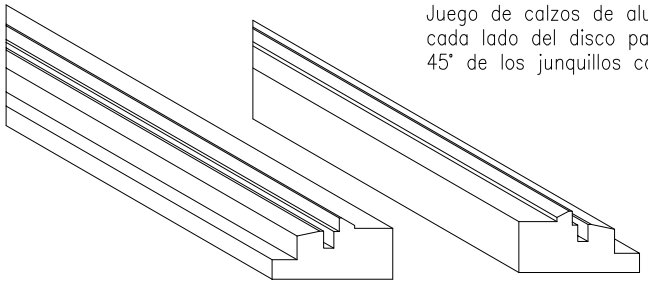

Escuadra Premarco obra 38mm
04.ES.002.P
Garra de anclaje a obra
04.GR.004


Juego Tapas Guia Compacto
04.TA.015


Distanciador/Falcador
04.GR.008
Fresa para distanciador
04.TRO.FRD


Tapa para taladro ø10
04.TA.010
Tapa para taladro ø12
04.TA.011

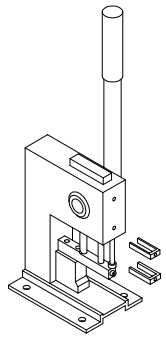
Juego de calzos para corte de junquillos con forma



Juego de calzos de aluminio para colocar a cada lado del disco para facilitar el corte a 45° de los junquillos con "forma".

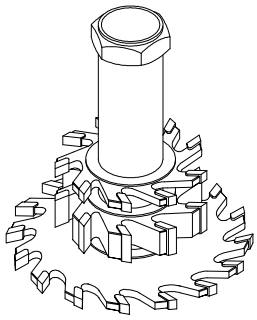
04.TRO.Z01

Troquel Manual para 04.ES.051/056



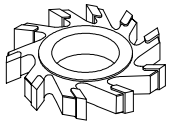
04.TRO.ES

Juego fresas pilastras



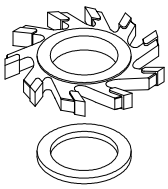
04.TRO.JF25

Complemento fresa 70x11



04.TRO.JF16

Complemento fresa 70x7.5



04.TRO.JF22

***FRESAS NECESARIAS SEGUN PIALSTRA:***

- 10.899 (40mm): 04.TRO.JF25+04.TRO.JF22
- 10.104 y R-053 (45mm): 04.TRO.JF25+04.TRO.JF16
- R-058 (55mm): 04.TRO.JF25+(2x)04.TRO.JF16

## *Operaciones Troquel 04.TRO.S22*

- Punzonado para Escuadra en Marcos y Hojas con y sin rotura
- Punzonado para Pilastras con y sin rotura
- Desagüe en Marcos y Pilastras sin rotura

***ESTE TROQUEL SE UTILIZA TAMBIEN PARA LAS SERIES 22, 25, 25/70. 28, 36, 45 y 54***

WINKHAUS

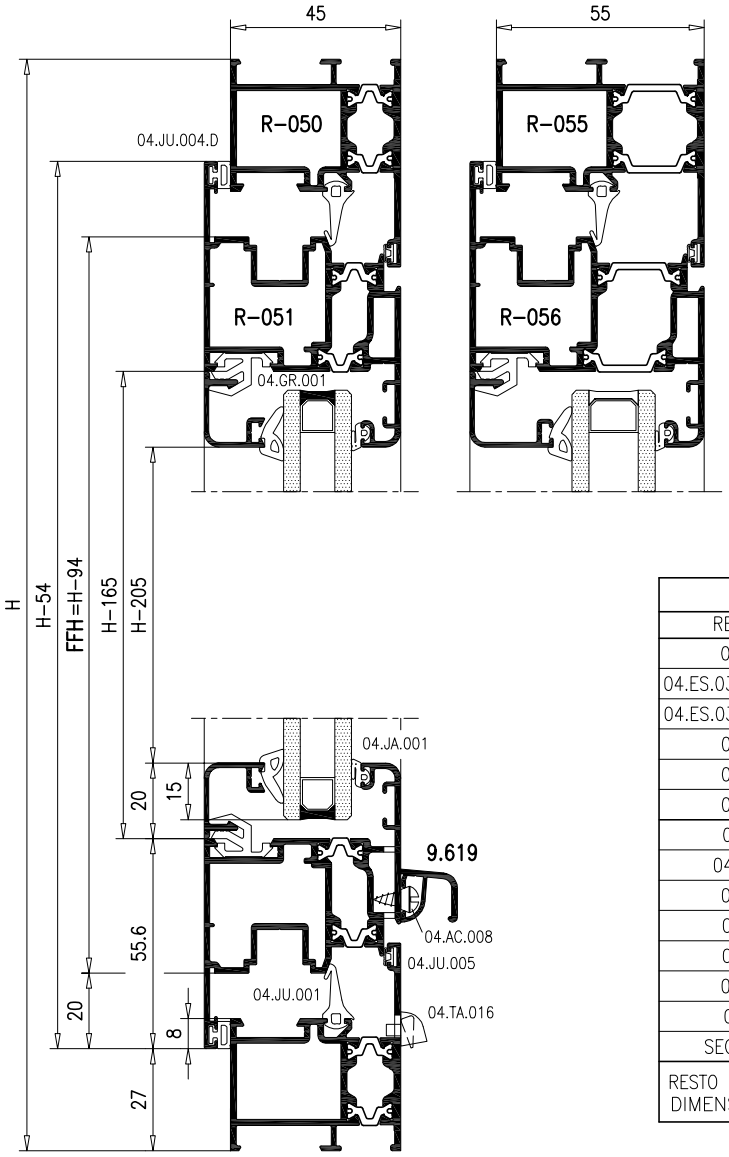
## *Operaciones Troquel 432*

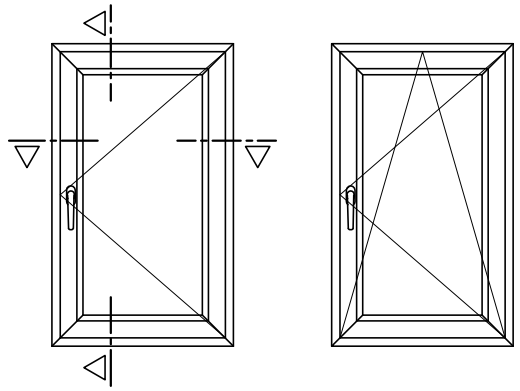
- Punzonado para Escuadra en Marcos y Hojas con y sin rotura
- Punzonado para Pilastras con y sin rotura
- Desagüe en Marcos y Pilastras con y sin rotura
- Cajeado para cremona en Hojas con y sin rotura
- Taladros para manilla en Hojas con y sin rotura

***TROQUEL EXCLUSIVO DE LA SERIE DISTRIBUIDO POR WINKHAUS***

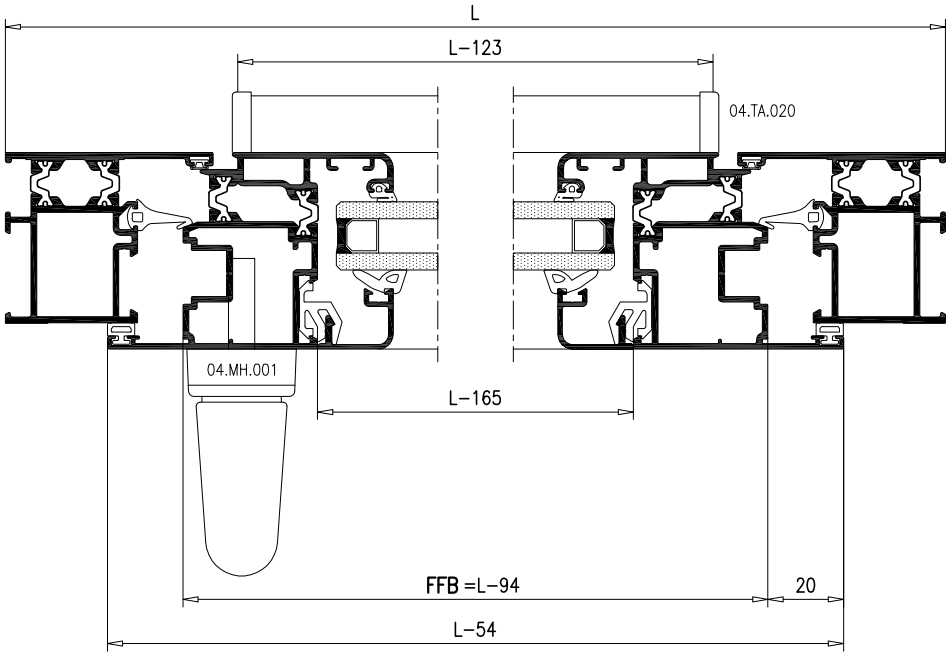
# E16RPT 45mm/55mm

## VENTANA 1 HOJA PRACTICABLE Y OSCILOBATIENTE



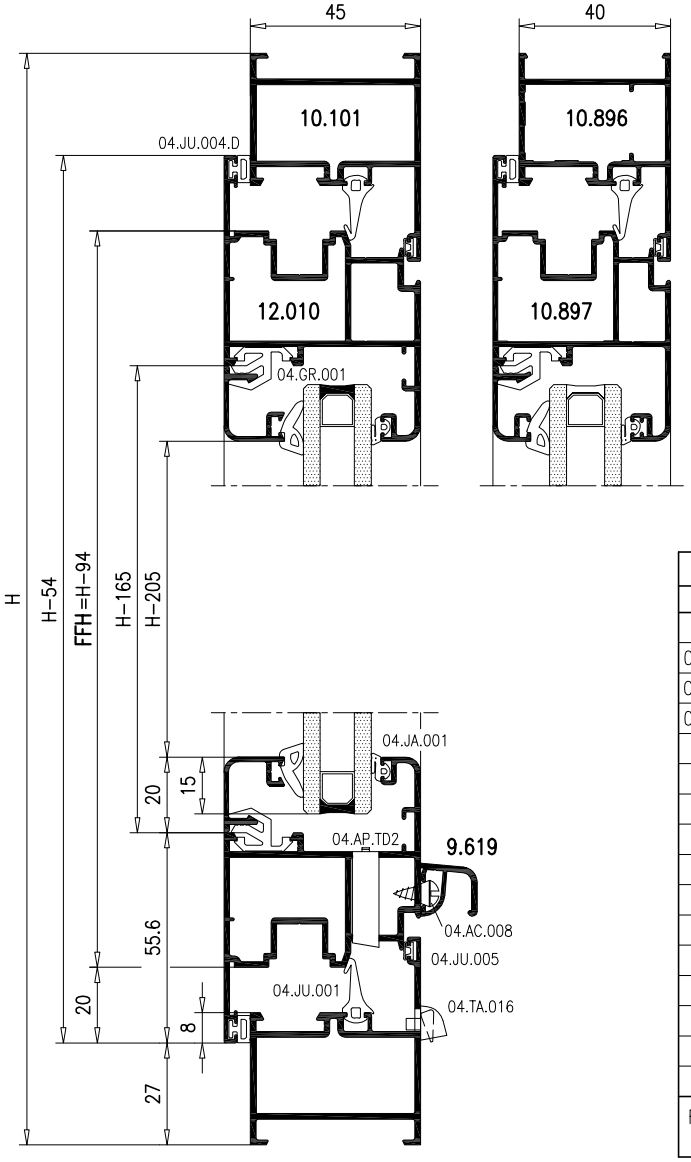



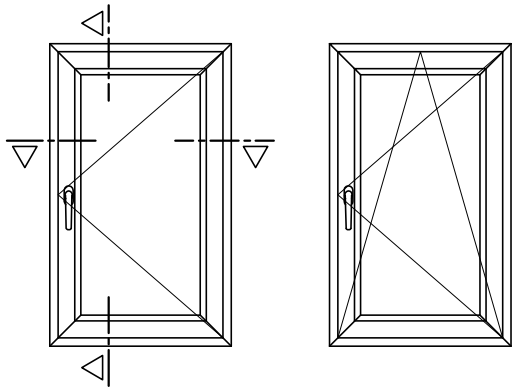
| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.MH.001 | Manilla | 1 |
| 04.ES.030 ó 04.ES.034 | Escuadra Marco | 4 |
| 04.ES.031 ó 04.ES.035 | Escuadra Hoja | 4 |
| 04.EA.002 | Escuadra alinemiento Marco | 8 |
| 04.EA.005 | Escuadra alinamiento Hoja | 4 |
| 04.EA.008 | Escuadra alinamiento Hoja | 4 |
| 04.JU.001 | Junta central | 2H + 2L |
| 04.JU.004.D | Junta interior | 2H + 2L |
| 04.JU.005 | Junta exterior | 2H + 2L |
| 04.TA.016 | Tapa desagüe | 2 |
| 04.TA.020 | Juego tapas vierteaguas hoja | 1 |
| 04.AC.008 | Tornillo de clipaje para vierteaguas hoja | 4/ml |
| 04.JA.001 | Junta Acristalamiento Ext. | 2H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 2H + 2L |
| RESTO DE HERRAJE CONSULTAR CON PROVEEDOR C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA. | | |



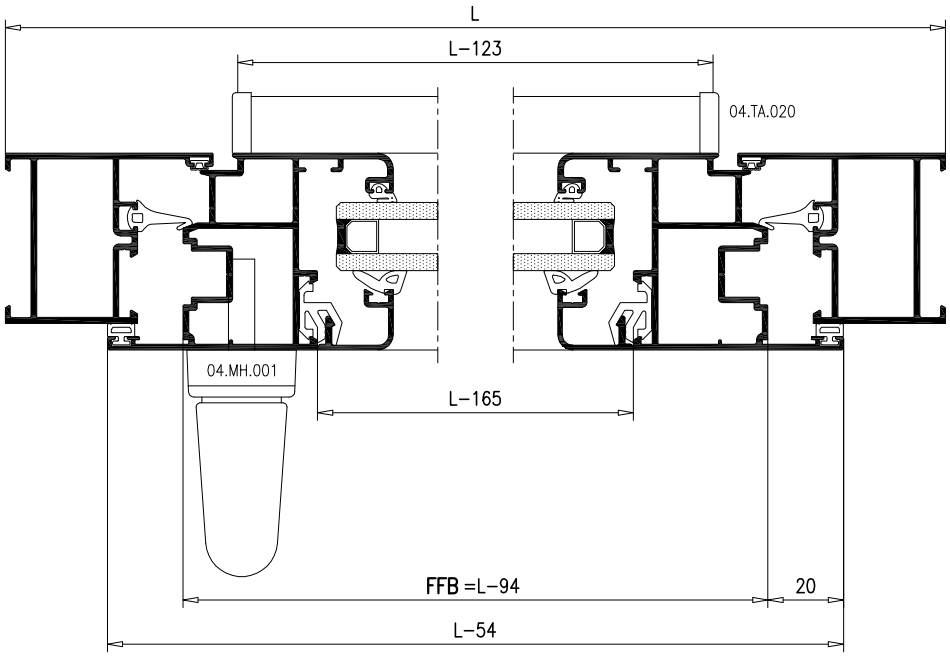
# E16 45mm/40mm

## VENTANA 1 HOJA PRACTICABLE Y OSCILOBATIENTE



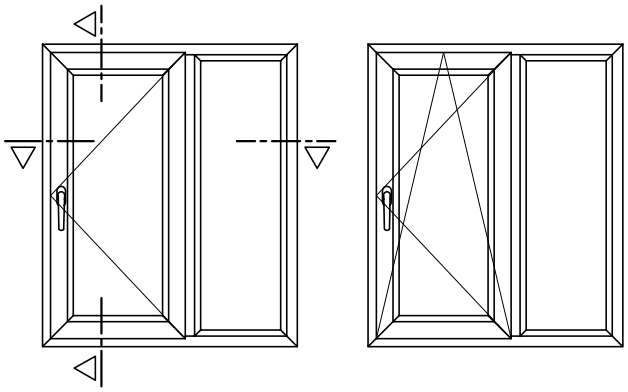



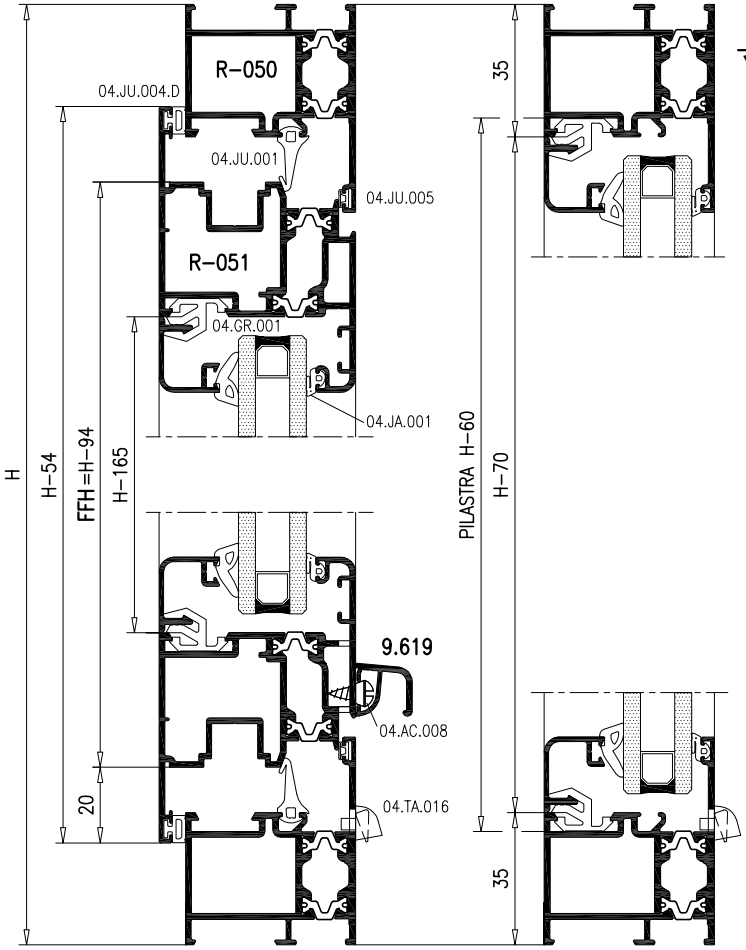
| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.MH.001 | Manilla | 1 |
| 04.ES.028 ó 04.ES.032 | Escuadra Marco 45mm | 4 |
| 04.ES.030 ó 04.ES.034 | Escuadra Marco 40mm | |
| 04.ES.031 ó 04.ES.035 | Escuadra Hoja | 4 |
| 04.EA.002 | Escuadra alinemiento Marco | 8 |
| 04.EA.005 | Escuadra alinamiento Hoja | 4 |
| 04.EA.008 | Escuadra alinamiento Hoja | 4 |
| 04.JU.001 | Junta central | 2H + 2L |
| 04.JU.004.D | Junta interior | 2H + 2L |
| 04.JU.005 | Junta exterior | 2H + 2L |
| 04.TA.016 | Tapa desagüe | 2 |
| 04.AP.TD2 | Tubo desagüe hoja | 2 |
| 04.TA.020 | Juego tapas vierteaguas hoja | 1 |
| 04.AC.008 | Tornillo de clipaje para vierteaguas hoja | 4/ml |
| 04.JA.001 | Junta Acristalamiento Ext. | 2H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 2H + 2L |
| RESTO DE HERRAJE CONSULTAR CON PROVEEDOR C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA. | | |



# E16RPT 45mm/55mm

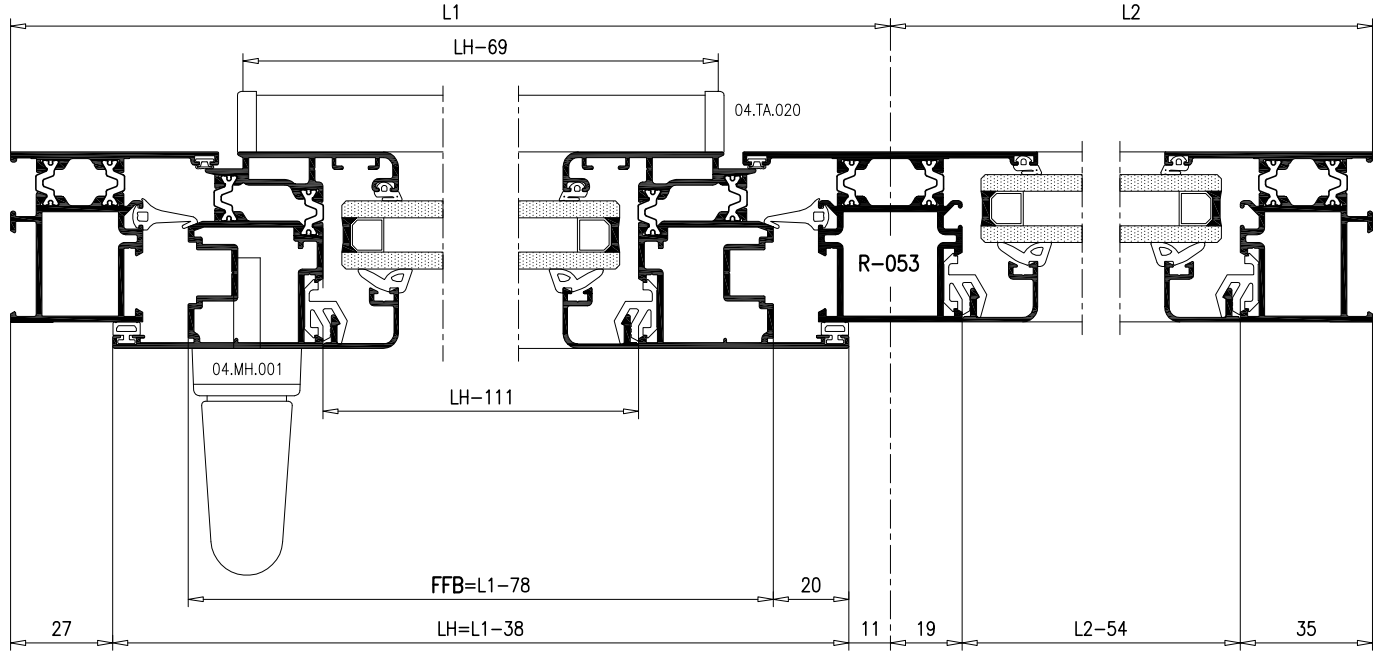
## VENTANA 1 HOJA+FIJO PRACTICABLE Y OSCILOBATIENTE



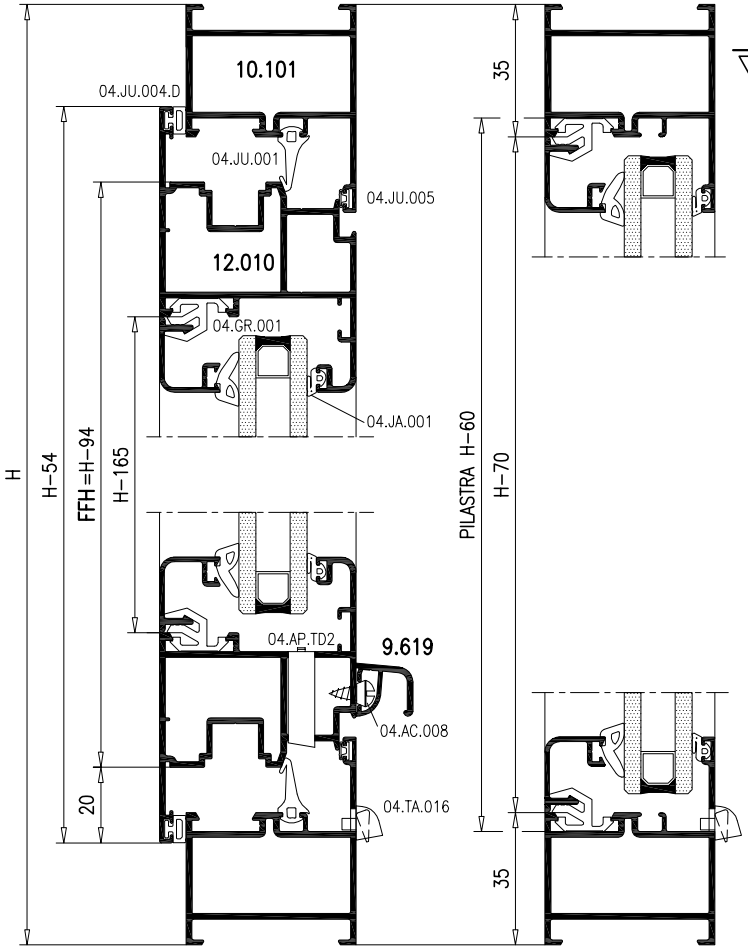


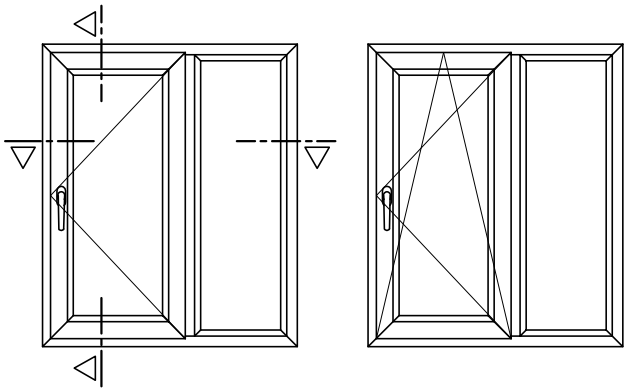

| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.MH.001 | Manilla | 1 |
| 04.ES.030 ó 04.ES.034 | Escuadra Marco | 4 |
| 04.ES.031 ó 04.ES.035 | Escuadra Hoja | 4 |
| 04.EA.002 | Escuadra alinemiento Marco | 8 |
| 04.EA.005 | Escuadra alinamiento Hoja | 4 |
| 04.EA.008 | Escuadra alinamiento Hoja | 4 |
| 04.TO.017 | Tocho de unión pilastra | 2 |
| 04.JU.001 | Junta central | 2H + 2L1 |
| 04.JU.004.D | Junta interior | 2H + 2L1 |
| 04.JU.005 | Junta exterior | 2H + 2L1 |
| 04.TA.016 | Tapa desagüe | 4 |
| 04.TA.020 | Juego tapas vierteaguas hoja | 1 |
| 04.AC.008 | Tornillo de clipaje para vierteaguas hoja | 4/ml |
| 04.JA.001 | Junta Acristalamiento Ext. | 4H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 4H + 2L |

RESTO DE HERRAJE CONSULTAR CON PROVEEDOR C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA.



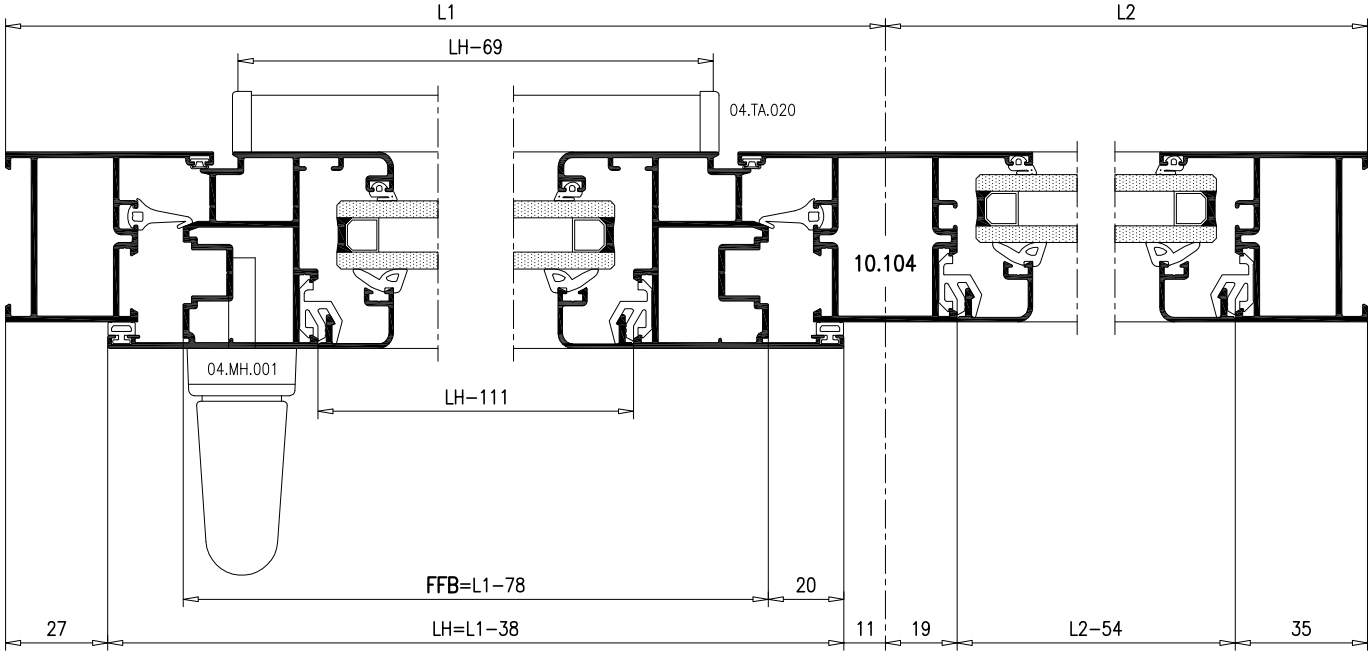
## VENTANA 1 HOJA+FIJO
## PRACTICABLE Y OSCILOBATIENTE



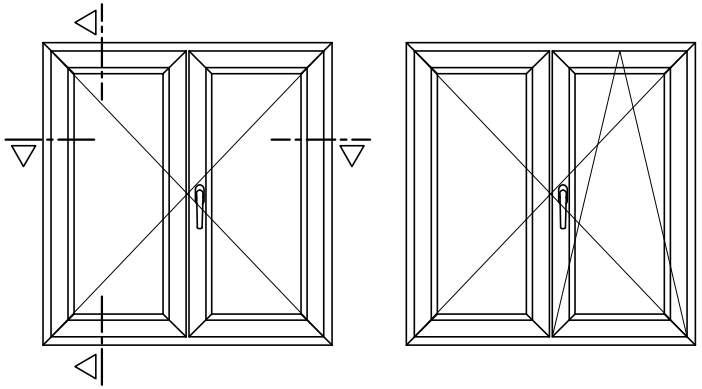



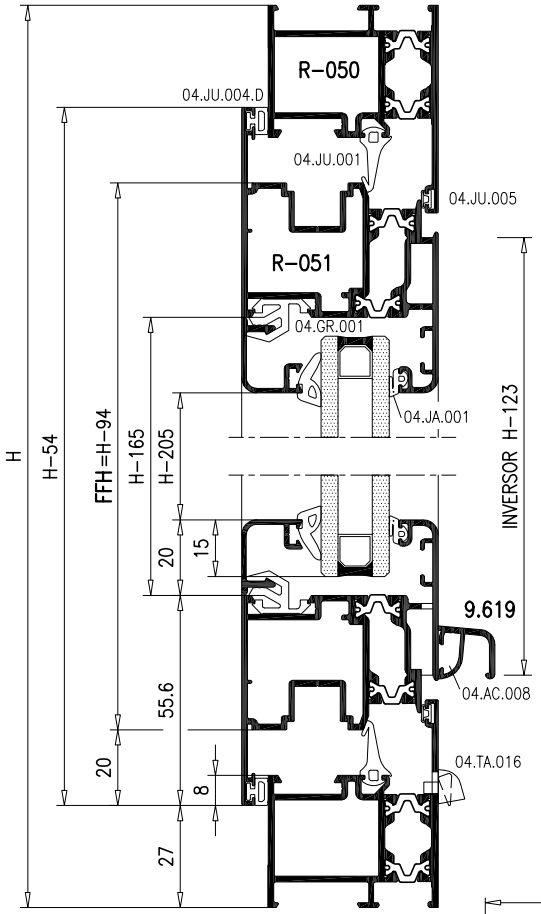
| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.MH.001 | Manilla | 1 |
| 04.ES.028 ó 04.ES.032 | Escuadra Marco 45mm | 4 |
| 04.ES.030 ó 04.ES.034 | Escuadra Marco 40mm | |
| 04.ES.031 ó 04.ES.035 | Escuadra Hoja | 4 |
| 04.EA.002 | Escuadra alinemiento Marco | 8 |
| 04.EA.005 | Escuadra alinamiento Hoja | 4 |
| 04.EA.008 | Escuadra alinamiento Hoja | 4 |
| 04.TO.017 | Tocho de unión pilastra | 2 |
| 04.JU.001 | Junta central | 2H + 2L1 |
| 04.JU.004.D | Junta interior | 2H + 2L1 |
| 04.JU.005 | Junta exterior | 2H + 2L1 |
| 04.TA.016 | Tapa desagüe | 4 |
| 04.AP.TD2 | Tubo desagüe hoja | 2 |
| 04.TA.020 | Juego tapas vierteaguas hoja | 1 |
| 04.AC.008 | Tornillo de clipaje para vierteaguas hoja | 4/ml |
| 04.JA.001 | Junta Acristalamiento Ext. | 4H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 4H + 2L |

RESTO DE HERRAJE CONSULTAR CON PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA.



# VENTANA 2 HOJAS
# PRACTICABLE Y OSCILOBATIENTE

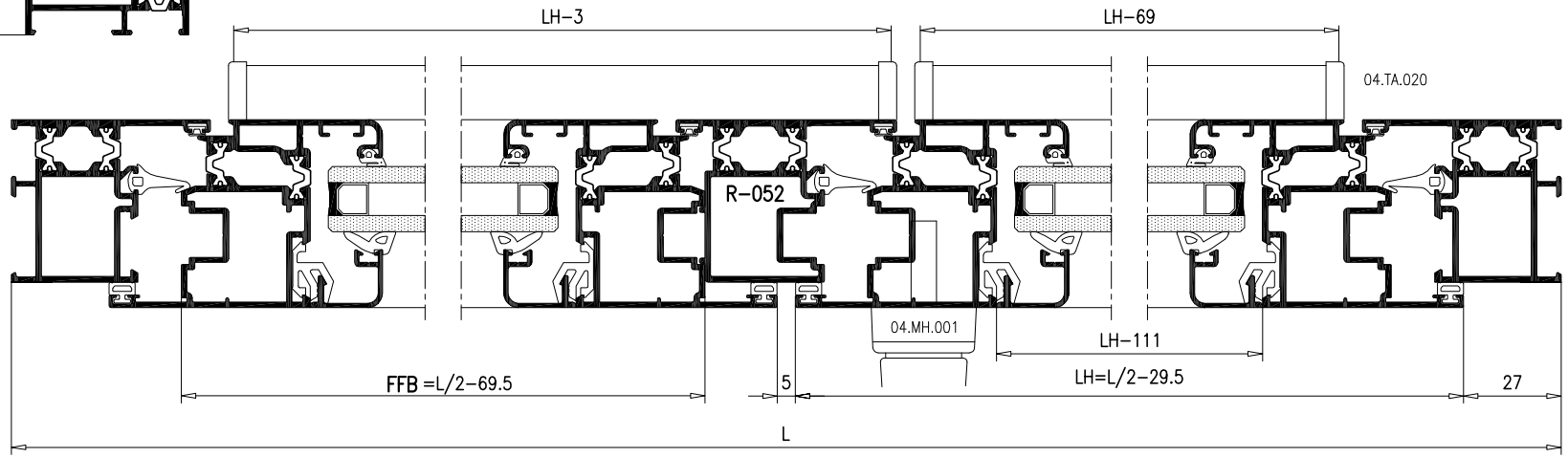





## ACCESORIOS

| REFERENCIA | DENOMINACION | UNIDADES |
|---|---|---|
| 04.MH.001 | Manilla | 1 |
| 04.ES.030 ó 04.ES.034 | Escuadra Marco | 4 |
| 04.ES.031 ó 04.ES.035 | Escuadra Hoja | 8 |
| 04.EA.002 | Escuadra alinemiento Marco | 12 |
| 04.EA.005 | Escuadra alinamiento Hoja | 8 |
| 04.EA.008 | Escuadra alinamiento Hoja | 8 |
| 04.TA.023 | Juego tapas inversor 45mm | 1 |
| 04.TA.024 | Juego tapas inversor 55mm | |
| 04.JU.001 | Junta central | 3H + 2L |
| 04.JU.004.D | Junta interior | 4H + 2L |
| 04.JU.005 | Junta exterior | 4H + 2L |
| 04.TA.016 | Tapa desagüe | 2 |
| 04.TA.020 | Juego tapas vierteaguas hoja | 2 |
| 04.AC.008 | Tornillo de clipaje para vierteaguas hoja | 4/ml |
| 04.JA.001 | Junta Acristalamiento Ext. | 4H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 4H + 2L |

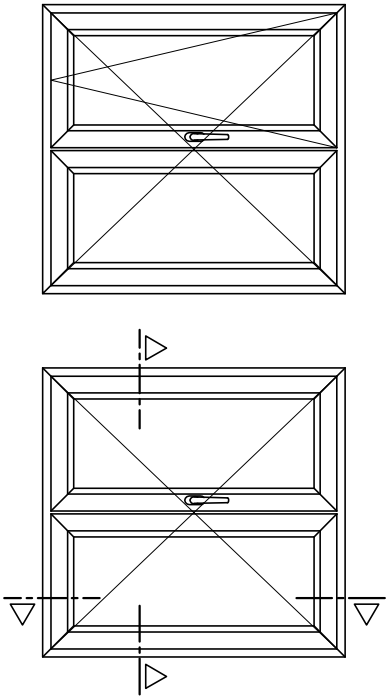
RESTO DE HERRAJE CONSULTAR CON PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA.




EXTRUAL sistemas

E16RPT 45mm/55mm

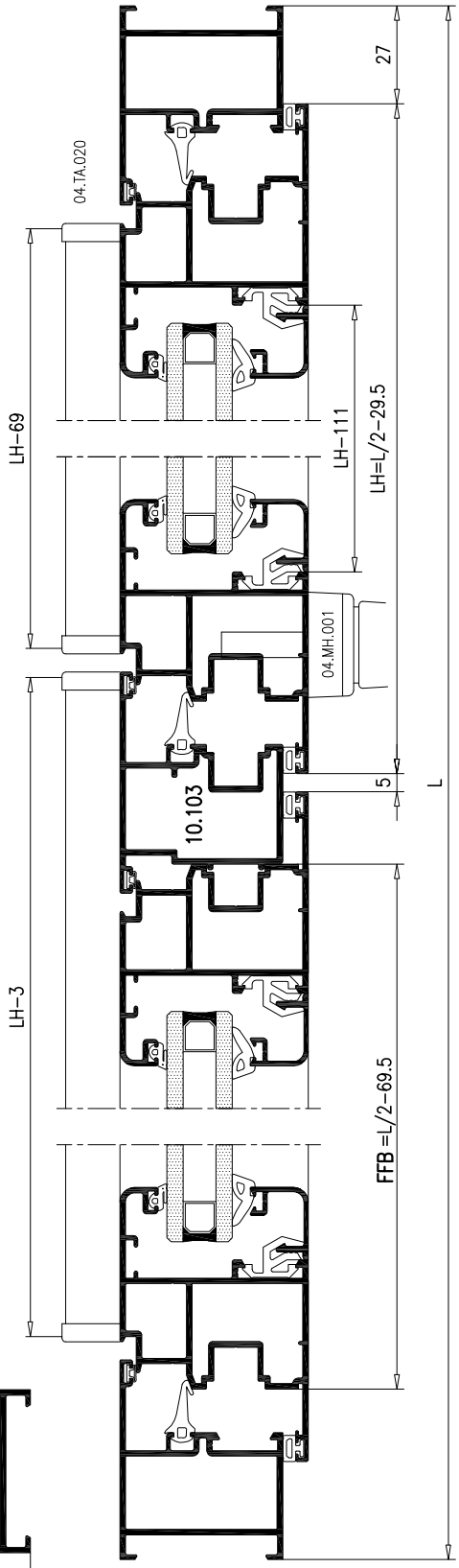
## VENTANA 2 HOJAS
## PRACTICABLE Y OSCILOBATIENTE

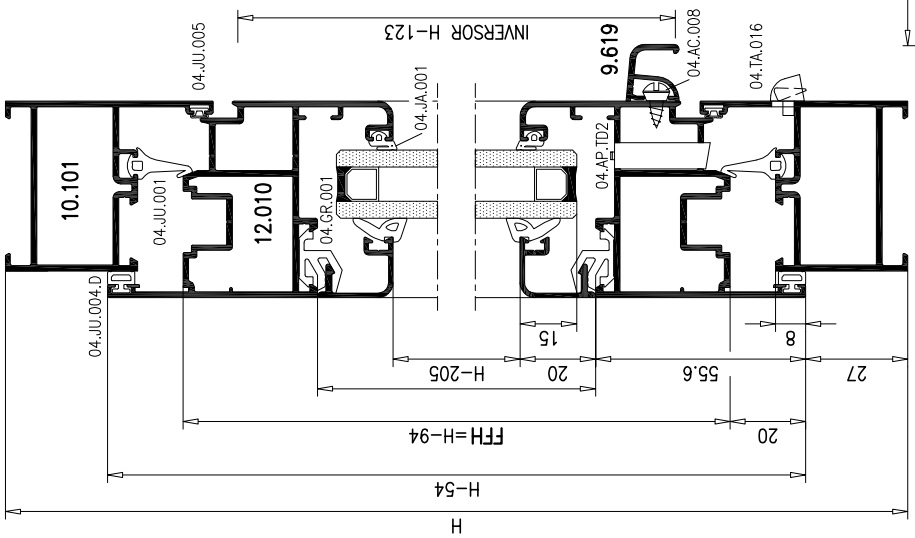


## ACCESORIOS

| REFERENCIA | DENOMINACION | UNIDADES |
|---|---|---|
| 04.MH.001 | Manilla | 1 |
| 04.ES.028 ó 04.ES.032 | Escuadra Marco 45mm | 4 |
| 04.ES.030 ó 04.ES.034 | Escuadra Marco 40mm | |
| 04.ES.031 ó 04.ES.035 | Escuadra Hoja | 8 |
| 04.EA.002 | Escuadra alinemiento Marco | 12 |
| 04.EA.008 | Escuadra alinamiento Hoja | 8 |
| 04.EA.005 | Escuadra alinamiento Hoja | 8 |
| 04.TA.023 | Juego tapas inversor 45mm | 1 |
| 04.TA.025 | Juego tapas inversor 40mm | |
| 04.JU.001 | Junta central | 3H + 2L |
| 04.JU.004.D | Junta interior | 4H + 2L |
| 04.JU.005 | Junta exterior | 4H + 2L |
| 04.TA.016 | Tapa desagüe | 2 |
| 04.AP.TD2 | Tubo desagüe hoja | 4 |
| 04.TA.020 | Juego tapas vierteaguas hoja | 2 |
| 04.AC.008 | Tornillo de clipaje para vierteaguas hoja | 4/ml |
| 04.JA.001 | Junta Acristalamiento Ext. | 4H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 4H + 2L |

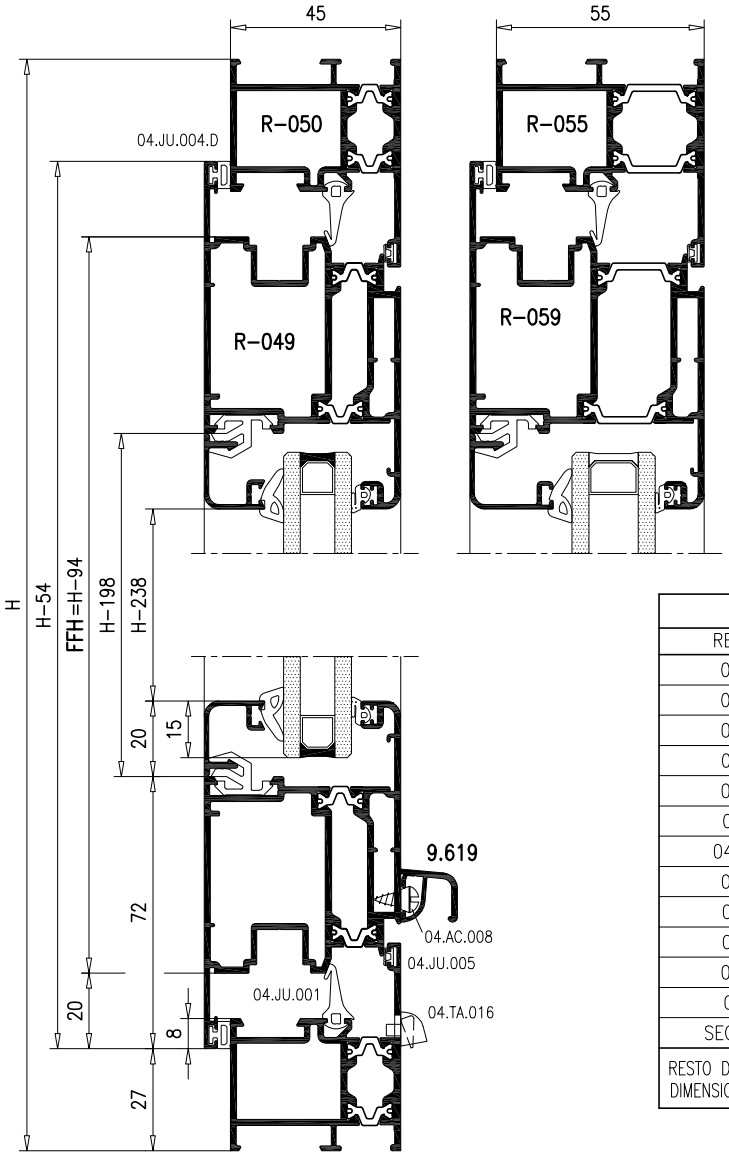
RESTO DE HERRAJE CONSULTAR CON PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA.

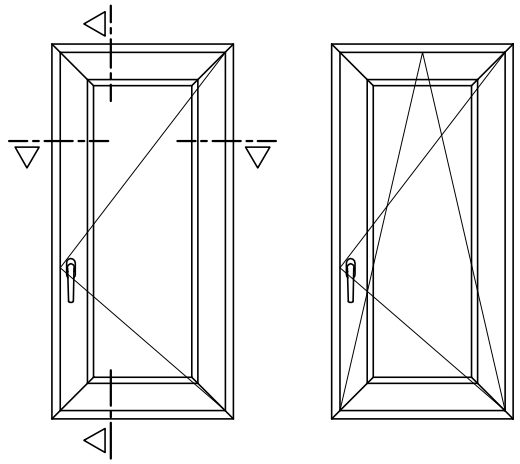


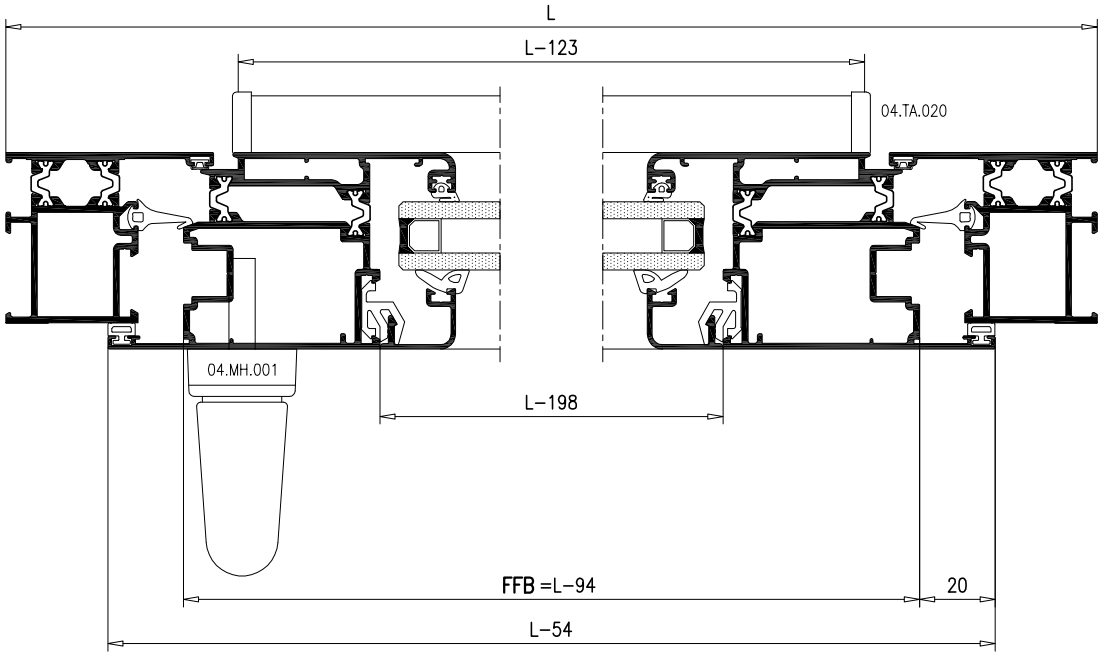
# E16RPT 45mm/55mm

## BALCONERA Y PUERTA 1 HOJA PRACTICABLE Y OSCILOBATIENTE

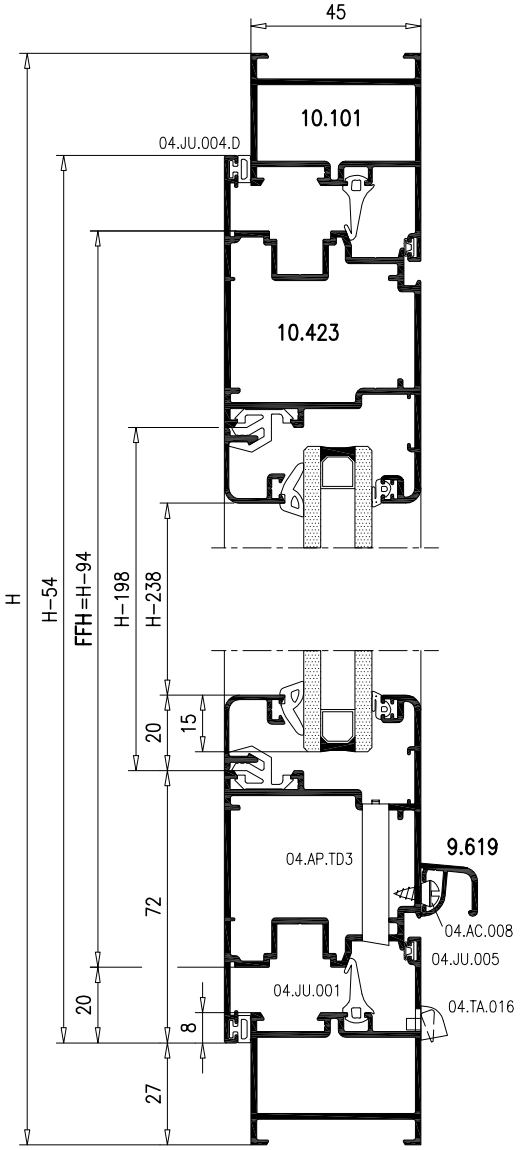


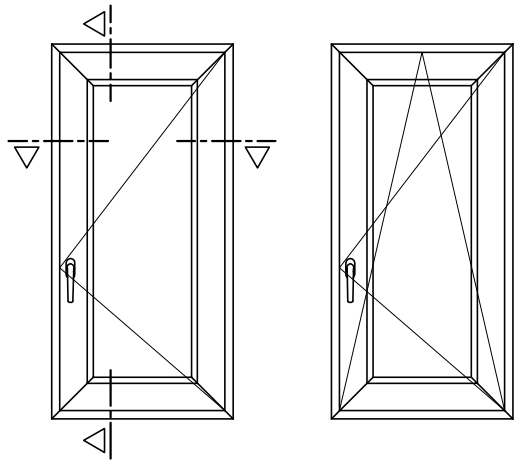



| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.MH.001 | Manilla | 1 |
| 04.ES.034 | Escuadra Marco | 4 |
| 04.ES.040 | Escuadra Hoja Balconera | 4 |
| 04.EA.008 | Escuadra alinamiento Hoja 14x1 | 8 |
| 04.ES.012 | Escuadra cámara exterior Hoja | 4 |
| 04.JU.001 | Junta central | 2H + 2L |
| 04.JU.004.D | Junta interior | 2H + 2L |
| 04.JU.005 | Junta exterior | 2H + 2L |
| 04.TA.016 | Tapa desagüe | 2 |
| 04.TA.020 | Juego tapas vierteaguas hoja | 1 |
| 04.AC.008 | Tornillo de clipaje para vierteaguas hoja | 4/ml |
| 04.JA.001 | Junta Acristalamiento Ext. | 2H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 2H + 2L |
| RESTO DE HERRAJE CONSULTAR CON PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA. | | |



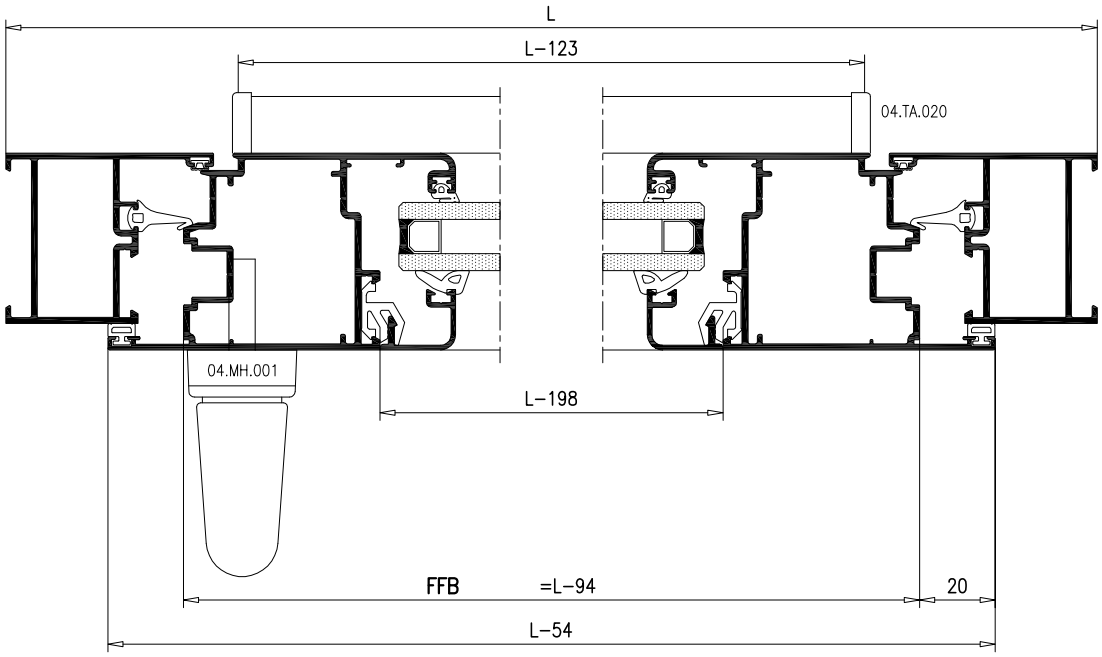
## BALCONERA Y PUERTA 1 HOJA PRACTICABLE Y OSCILOBATIENTE



| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.MH.001 | Manilla | 1 |
| 04.ES.032 | Escuadra Marco | 4 |
| 04.ES.039 | Escuadra Hoja Balconera | 4 |
| 04.EA.008 | Escuadra alinamiento Hoja 14x1 | 8 |
| 04.JU.001 | Junta central | 2H + 2L |
| 04.JU.004.D | Junta interior | 2H + 2L |
| 04.JU.005 | Junta exterior | 2H + 2L |
| 04.TA.016 | Tapa desagüe | 2 |
| 04.AP.TD3 | Tubo desagüe hoja 36mm | 2 |
| 04.TA.020 | Juego tapas vierteaguas hoja | 1 |
| 04.AC.008 | Tornillo de clipaje para vierteaguas hoja | 4/ml |
| 04.JA.001 | Junta Acristalamiento Ext. | 2H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 2H + 2L |

RESTO DE HERRAJE CONSULTAR CON PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA.



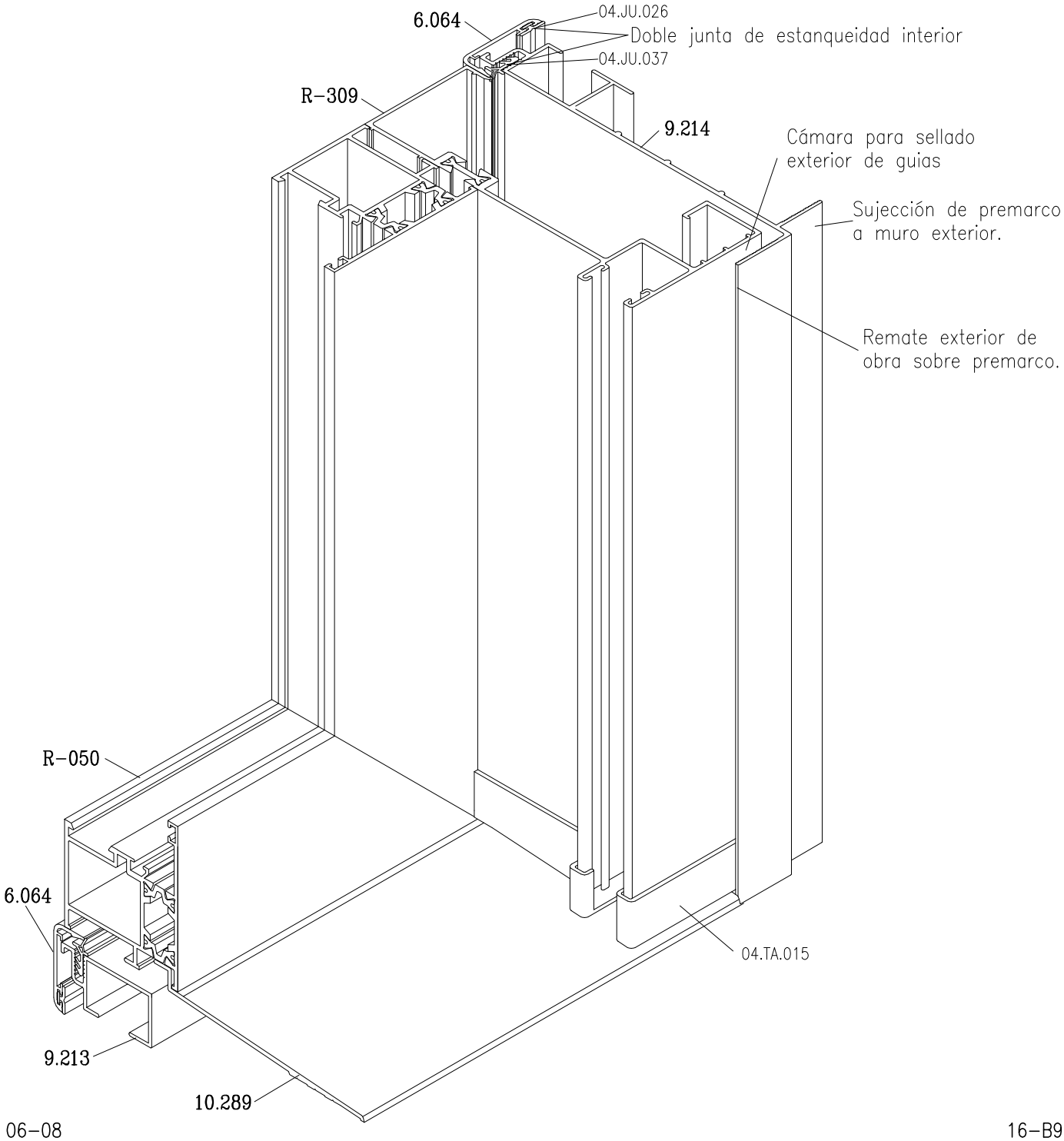
## SISTEMA DE PREMARCO DE OBRA PARA CARPINTERIAS CON COMPACTO

CARACTERISTICAS:

–Premarcos de obra ideados para recojer por completo las guias de compacto de 120 y 150mm. facilitando y ahorrando tiempos de montaje en la colocación de la carpinteria y mejorando el acabado y estanqueidad de la carpintería.

–Los premarcos se cortan en recto e incorporan un canal para el atornillamiento del refuerzo cartabon y de posibles tirantes según dimensiones sin necesidad de realizar taladros y facilitando su recuperación en el momento de instalar la carpintería, en este momento se puede colocar una junta perimetral en dicho alojamiento (04.JU.037), que unida a la junta del solape hace innecesario el sellado con silicona,

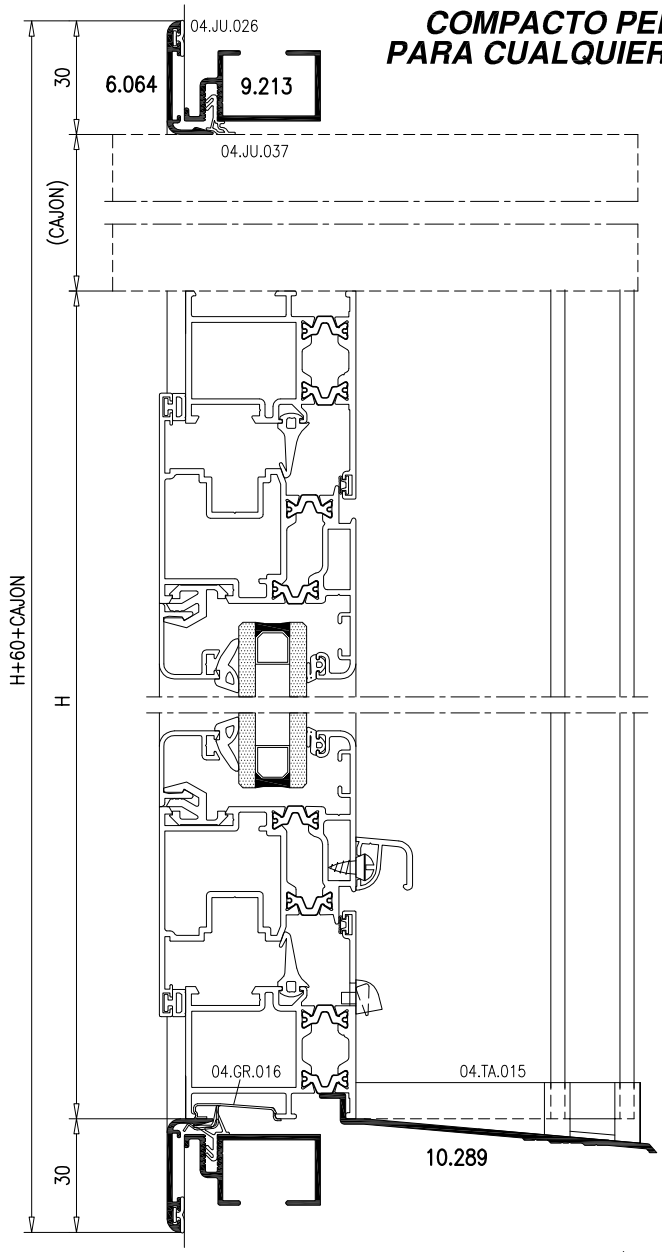
–Las guias de compacto se cortan en recto y se unen al vierteaguas gracias a las tapas compensadoras 04.TA.015 que van atornilladas a este sellandose la unión por detras, lo que proporciona un acabado perfecto en el encuentro entre guia y vierteaguas sea este con perfil o directamente sobre la piedra colocada en obra.

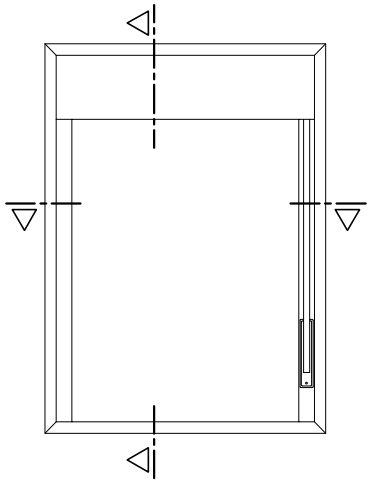


EXTRUAL sistemas

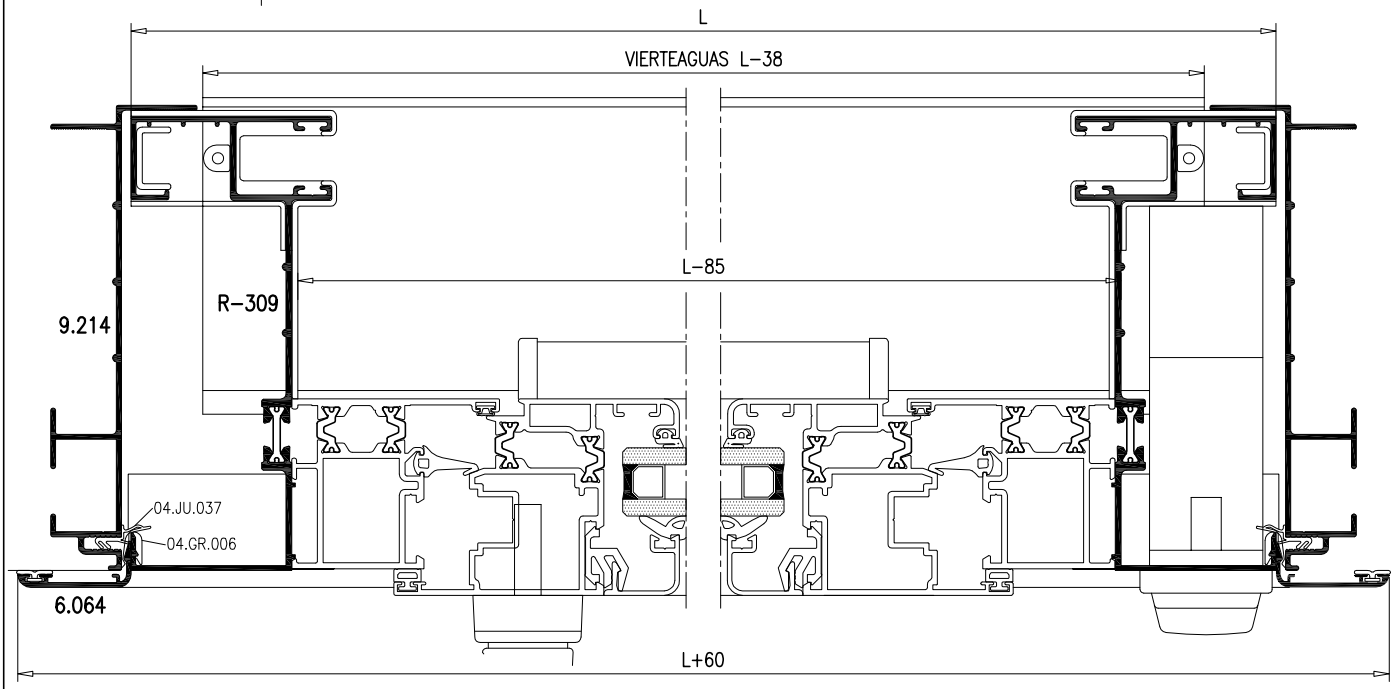
# E16RPT 45mm/55mm

## COMPACTO PERSIANA 120mm Y PREMARCO DE OBRA PARA CUALQUIER TIPOLOGIA DE VENTANA O BALCONERA



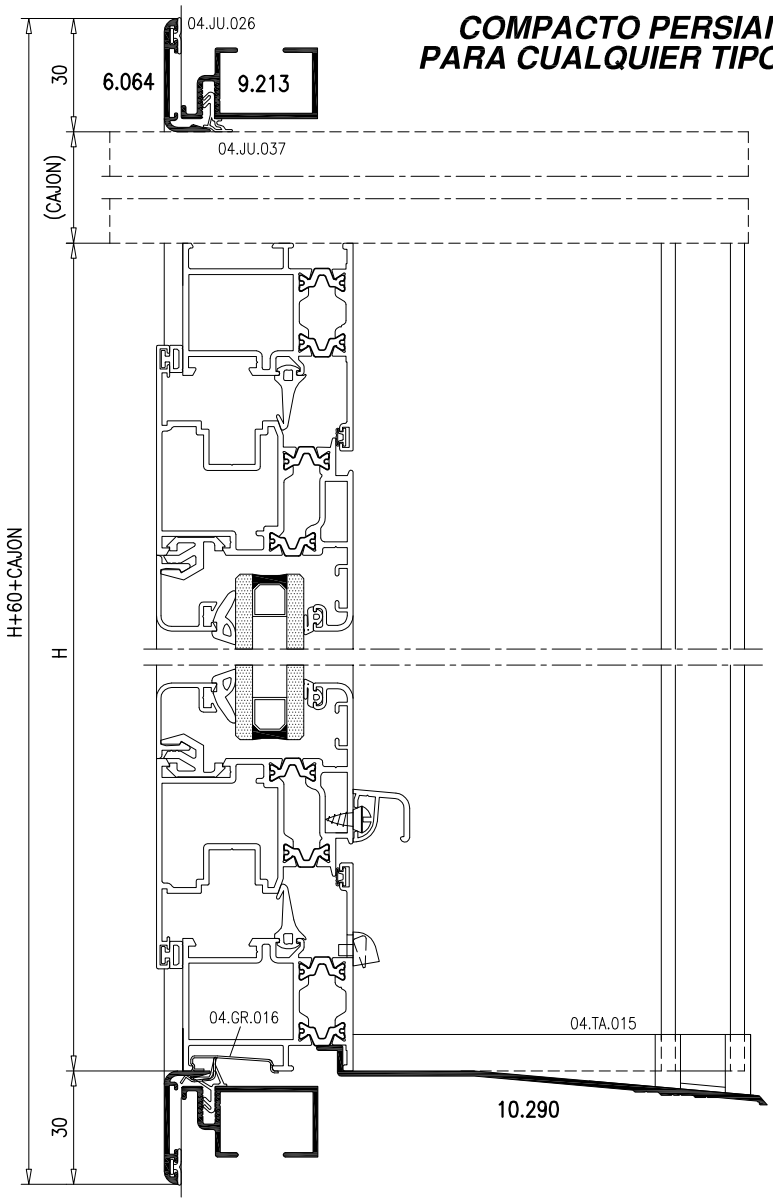
| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.GR.006 | Grapa solape Guia compacto | 4xml |
| 04.GR.016 | Grapa solape marco rotura | 4xml |
| 04.EA.004 | Escuadra alineamiento solape | 4 |
| 04.JU.026 | Junta solape | Segun dimensiones |
| 04.TA.015 | Juego tapas guia compacto | 1 |
| 04.ES.001.P | Escuadra Premarco obra | 4 |
| 04.JU.037 | Junta Premarco obra | Segun dimensiones |
| 04.GR.004 | Garra de anclaje | Segun dimensiones |

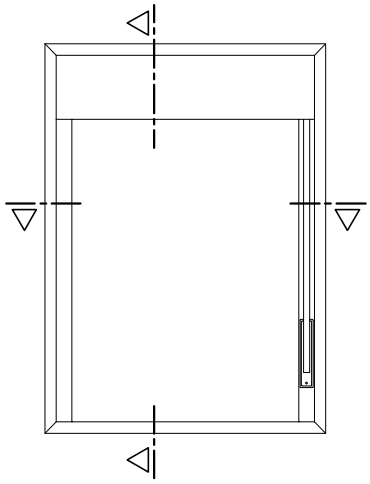


EXTRUAL sistemas

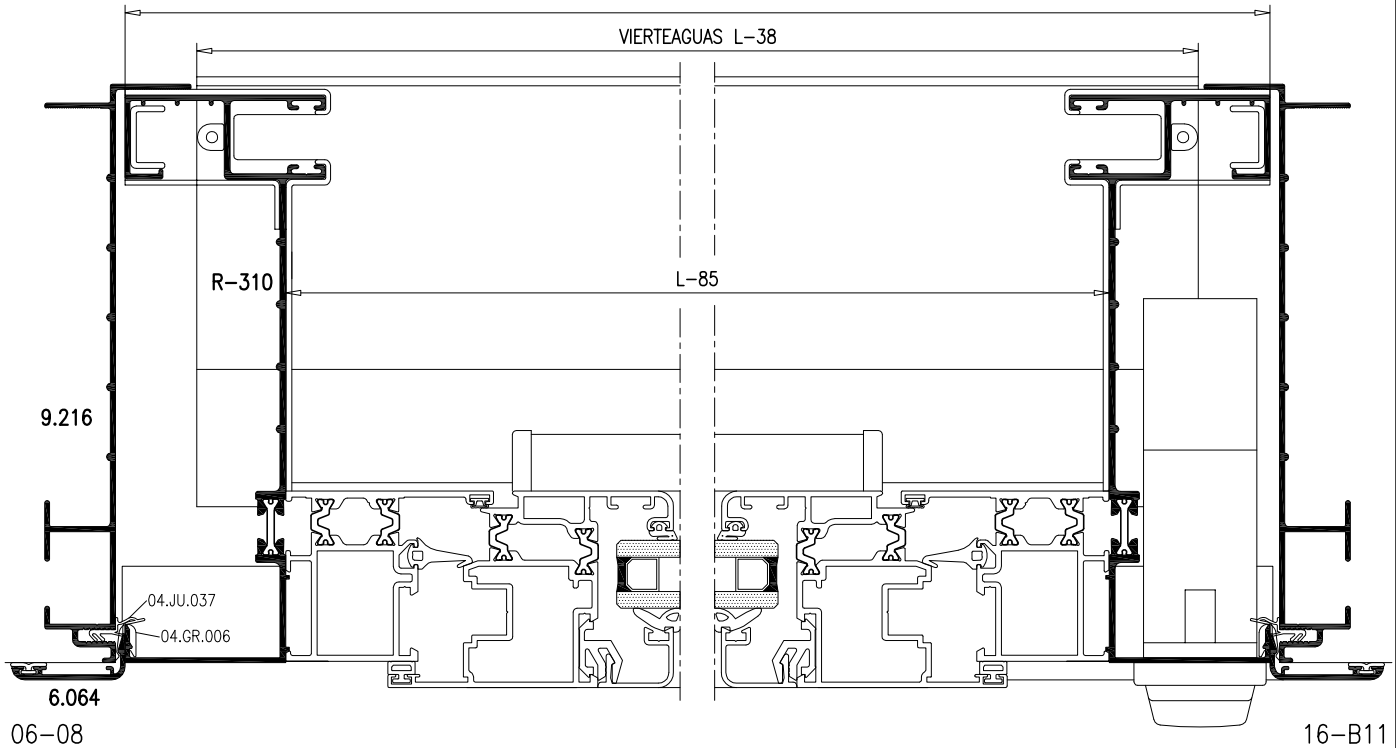
# E16RPT 45mm/55mm

## COMPACTO PERSIANA 150mm Y PREMARCO DE OBRA PARA CUALQUIER TIPOLOGIA DE VENTANA O BALCONERA



| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.GR.006 | Grapa solape Guia compacto | 4xml |
| 04.GR.016 | Grapa solape marco rotura | 4xml |
| 04.EA.004 | Escuadra alineamiento solape | 4 |
| 04.JU.026 | Junta solape | Segun dimensiones |
| 04.TA.015 | Juego tapas guia compacto | 1 |
| 04.ES.001.P | Escuadra Premarco obra | 4 |
| 04.JU.037 | Junta Premarco obra | Segun dimensiones |
| 04.GR.004 | Garra de anclaje | Segun dimensiones |



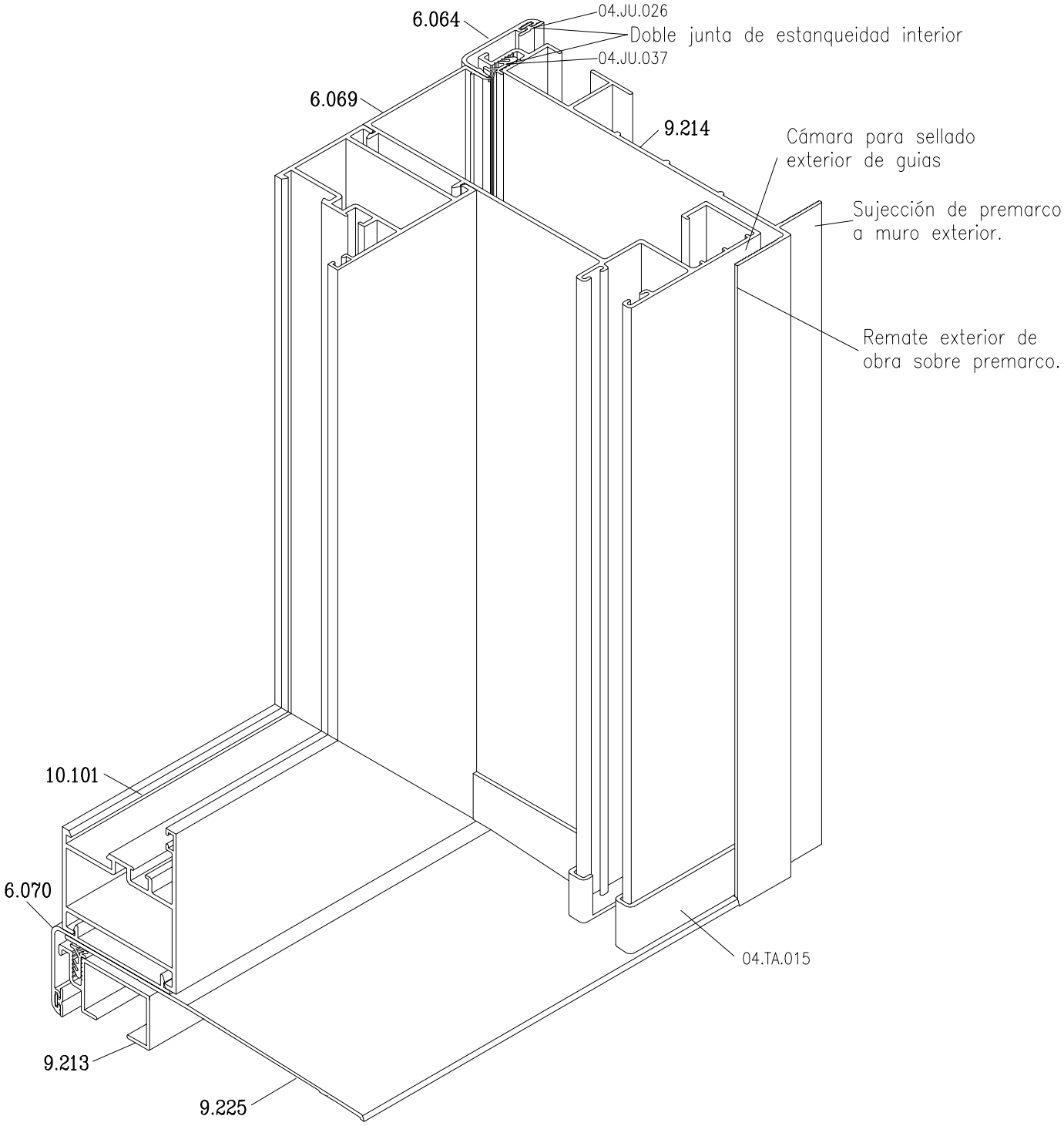
## SISTEMA DE PREMARCO DE OBRA PARA CARPINTERIAS CON COMPACTO

CARACTERISTICAS:

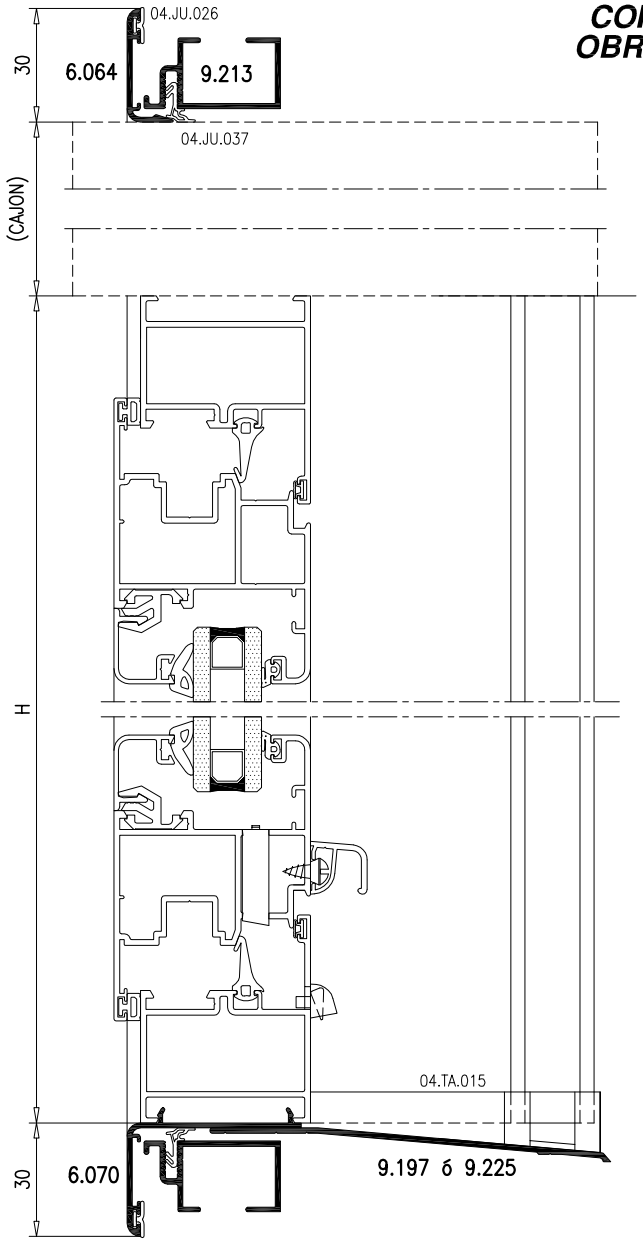
–Premarcos de obra ideados para recojer por completo las guias de compacto de 120, 134 y 150mm. facilitando y ahorrando tiempos de montaje en la colocación de la carpinteria y mejorando el acabado y estanqueidad de la carpintería.

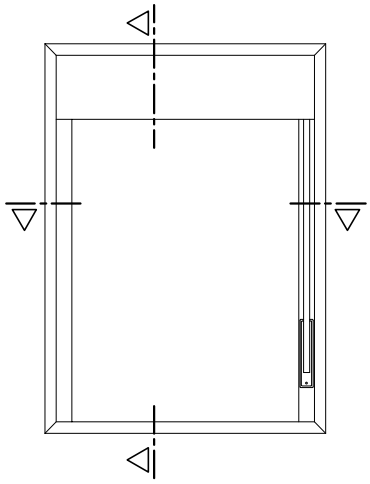
–Los premarcos se cortan en recto e incorporan un canal para el atornillamiento del refuerzo cartabon y de posibles tirantes según dimensiones sin necesidad de realizar taladros y facilitando su recuperación en el momento de instalar la carpintería, en este momento se puede colocar una junta perimetral en dicho alojamiento (04.JU.037), que unida a la junta del solape hace innecesario el sellado con silicona,

–Las guias de compacto se cortan en recto y se unen al vierteaguas gracias a las tapas compensadoras 04.TA.015 que van atornilladas a este sellandose la unión por detras, lo que proporciona un acabado perfecto en el encuentro entre guia y vierteaguas sea este con perfil o directamente sobre la piedra colocada en obra.

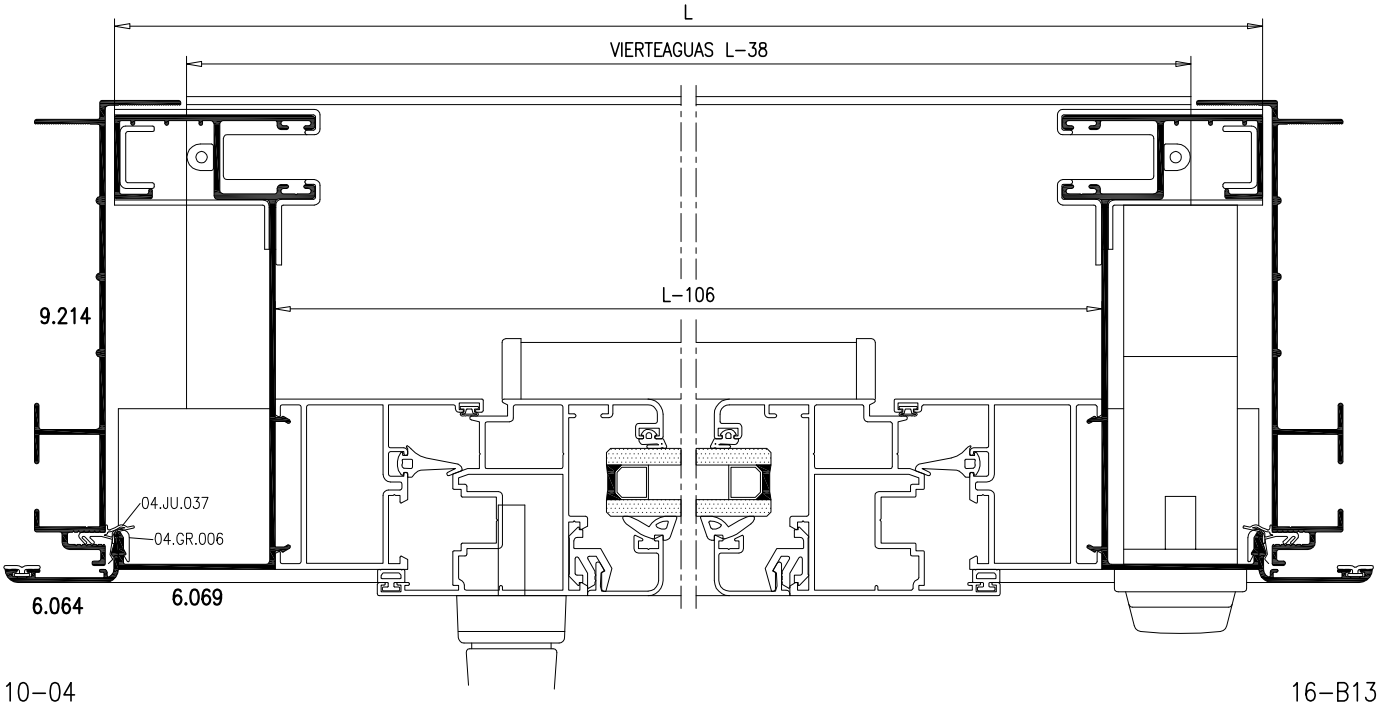


## COMPACTO PERSIANA 120mm Y PREMARCO DE OBRA PARA CUALQUIER TIPOLOGIA DE VENTANA



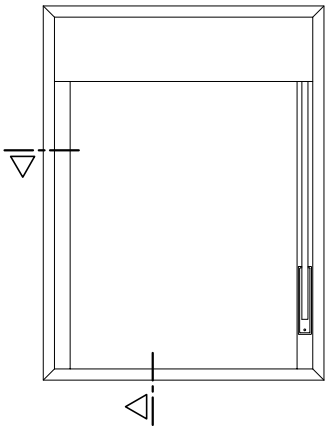



| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.GR.006 | Grapa solape | 4xml |
| 04.EA.004 | Escuadra alineamiento solape | 4 |
| 04.JU.026 | Junta solape | Segun dimensiones |
| 04.TA.015 | Juego tapas guia compacto | 1 |
| 04.ES.001.P | Escuadra Premarco obra | 4 |
| 04.JU.037 | Junta Premarco obra | Segun dimensiones |
| 04.GR.004 | Garra de anclaje | Segun dimensiones |



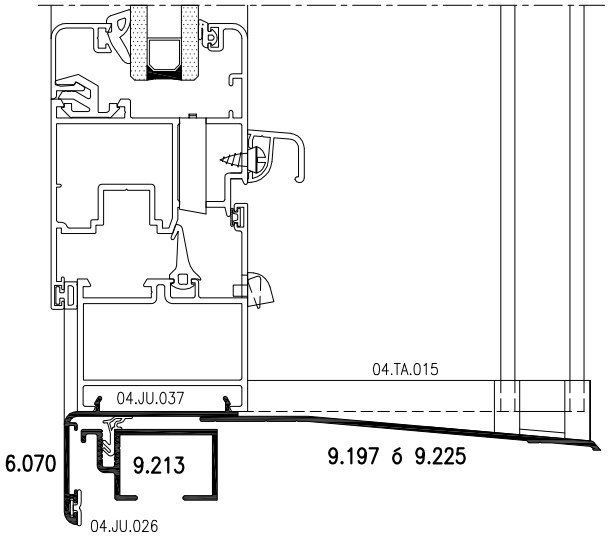
# E16 45mm/40mm

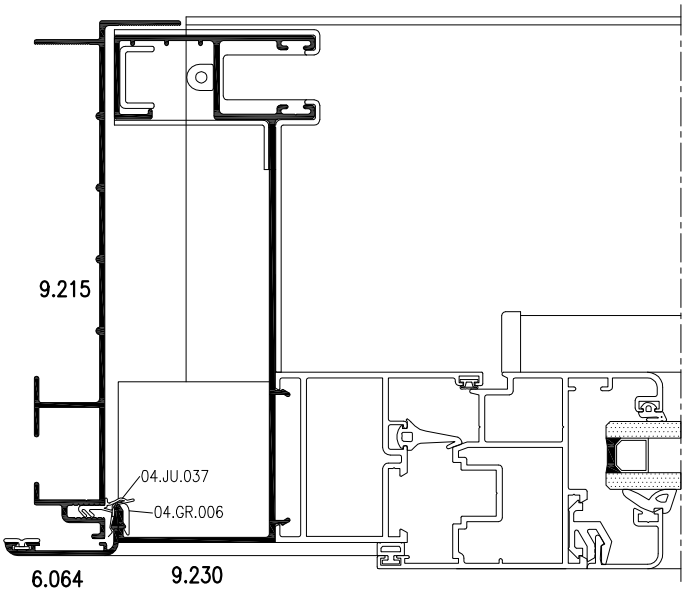
## COMPACTO PERSIANA Y PREMARCO DE OBRA PARA CUALQUIER TIPOLOGIA DE VENTANA



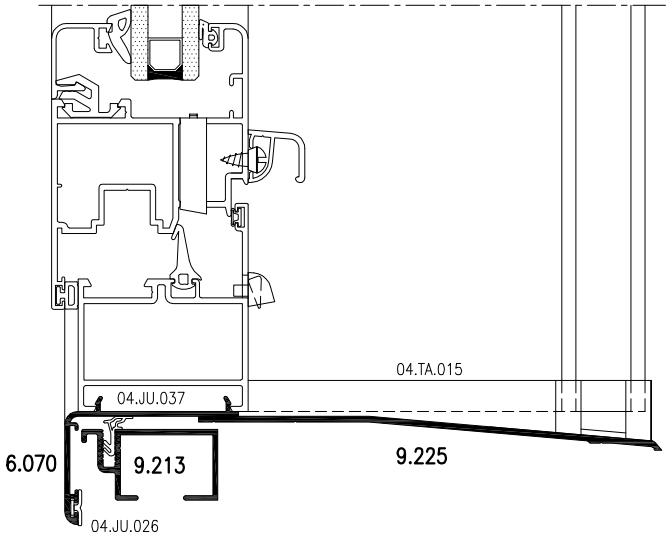
| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.GR.006 | Grapa solape | 4xml |
| 04.EA.004 | Escuadra alineamiento solape | 4 |
| 04.JU.026 | Junta solape | Segun dimensiones |
| 04.TA.015 | Juego tapas guia compacto | 1 |
| 04.ES.001.P | Escuadra Premarco obra | 4 |
| 04.JU.037 | Junta Premarco obra | Segun dimensiones |
| 04.GR.004 | Garra de anclaje | Segun dimensiones |

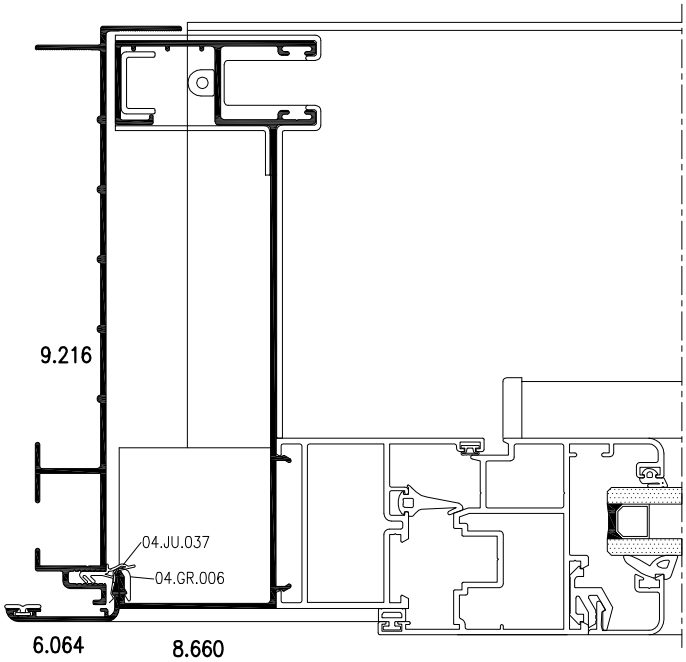
### SECCIONES COMPACTO 134mm



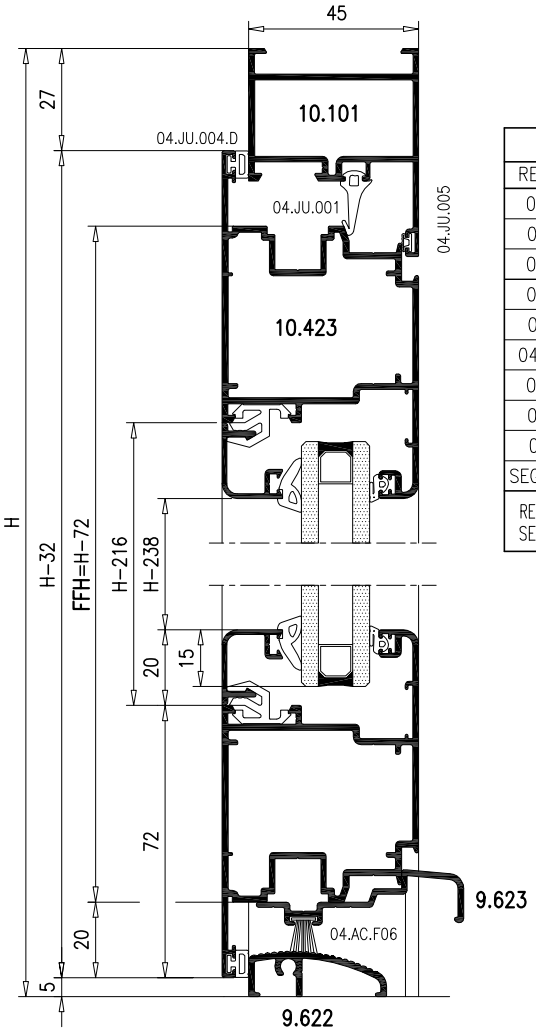




### SECCIONES COMPACTO 150mm

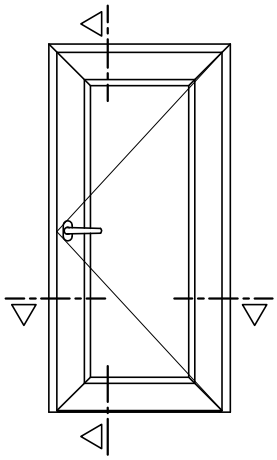


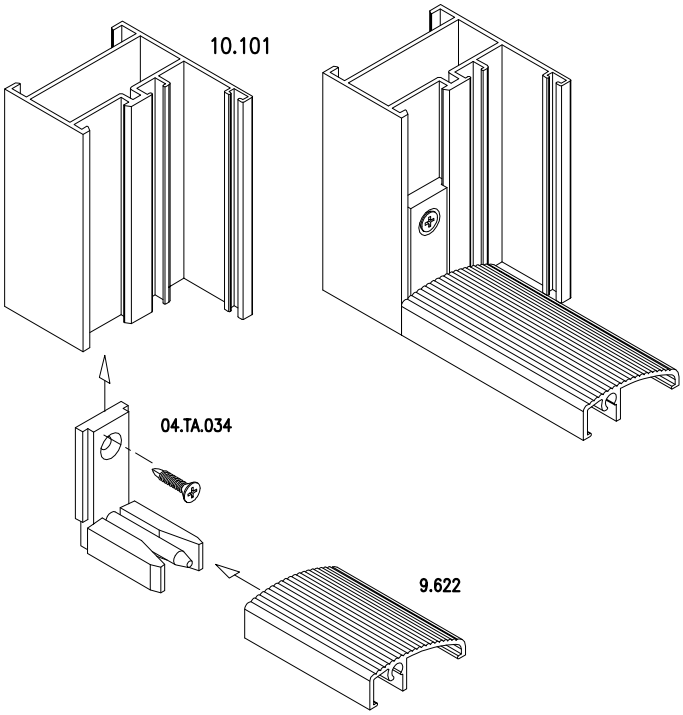



## PUERTA 1 HOJA
## APERTURA INTERIOR

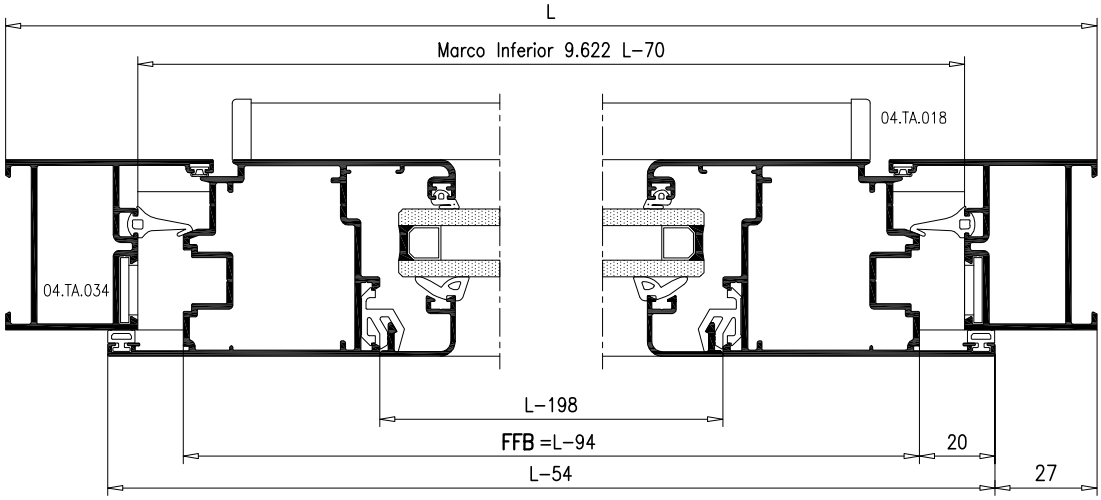



| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.ES.032 | Escuadra Marco | 2 |
| 04.TA.034 | Tope unión Marco Inferior | 2 |
| 04.ES.039 | Escuadra Hoja | 4 |
| 04.EA.008 | Escuadra alinamiento Hoja 14x1 | 8 |
| 04.JU.001 | Junta central | 2H + L |
| 04.JU.004.D | Junta interior | 2H + 2L |
| 04.JU.005 | Junta exterior | 2H + L |
| 04.TA.018 | Juego tapas vierteaguas hoja | 1 |
| 04.JA.001 | Junta Acristalamiento Ext. | 2H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 2H + 2L |
| RESTO DE HERRAJE CONSULTAR CON PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA. | | |

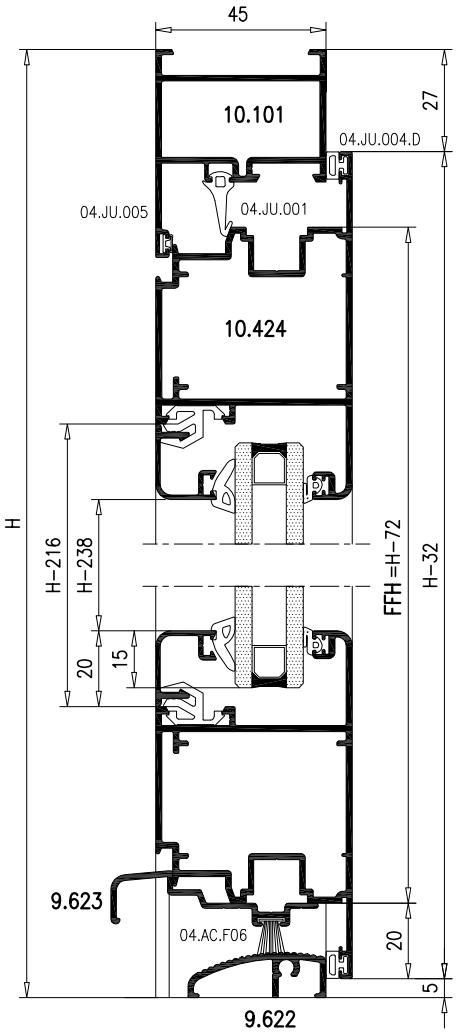


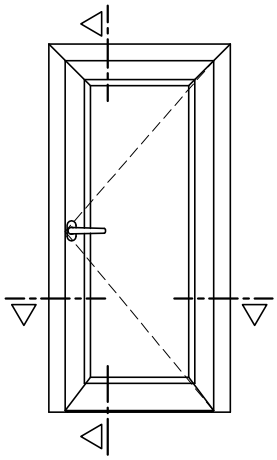



La utilización del marco 9.622 mejora la estanqueidad ya que permite un cierre con junta tanto en apertura interior como exterior, además impide deformaciones del marco en su colocación en obra.
La pieza 04.TA.034 facilita la colocación del marco 9.622 evitando todo tipo de mecanizados, se puede utilizar en todos los marcos del sitema con y sin rotura de puete térmico.

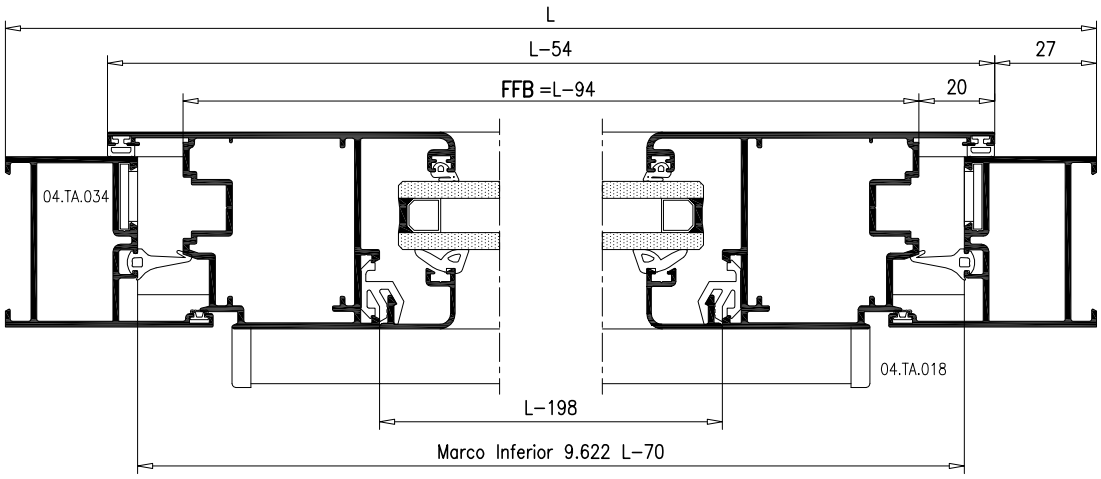


## PUERTA 1 HOJA
## APERTURA EXTERIOR

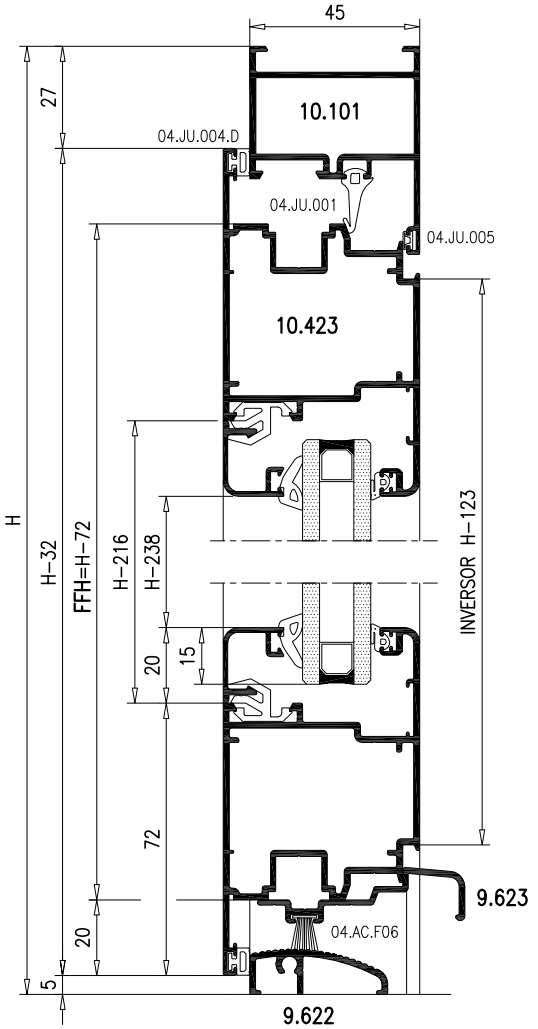


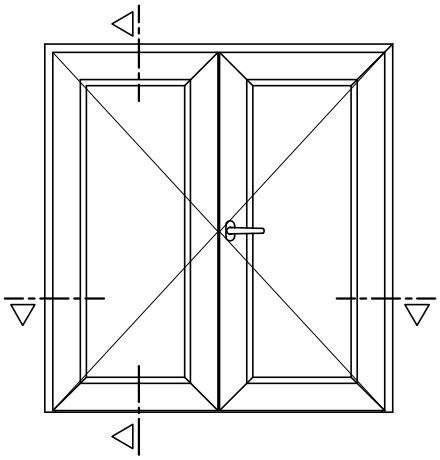



| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.ES.032 | Escuadra Marco | 2 |
| 04.TA.034 | Tope unión Marco Inferior | 2 |
| 04.ES.039 | Escuadra Hoja | 4 |
| 04.EA.008 | Escuadra alinamiento Hoja 14x1 | 8 |
| 04.JU.001 | Junta central | 2H + L |
| 04.JU.004.D | Junta interior | 2H + 2L |
| 04.JU.005 | Junta exterior | 2H + L |
| 04.TA.018 | Juego tapas vierteaguas hoja | 1 |
| 04.JA.001 | Junta Acristalamiento Ext. | 2H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 2H + 2L |
| RESTO DE HERRAJE CONSULTAR PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA. | | |

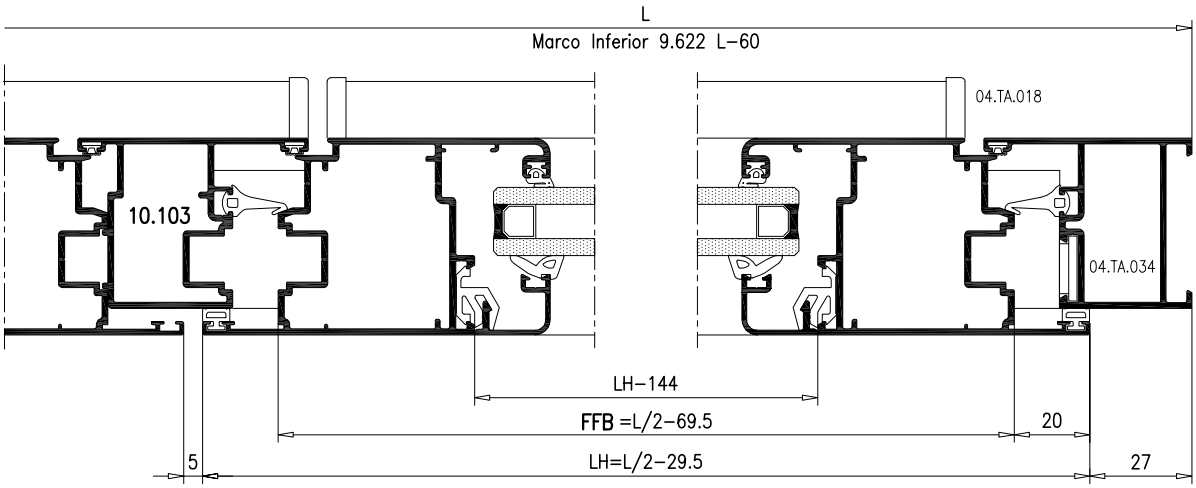


## PUERTA 2 HOJAS
## APERTURA INTERIOR



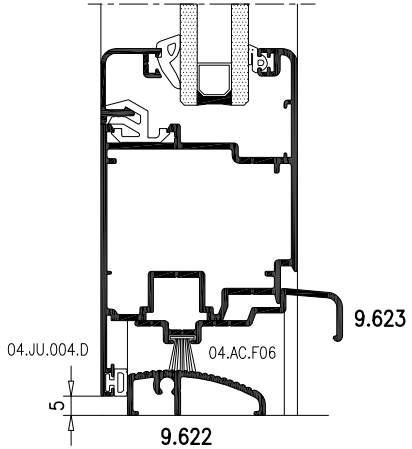



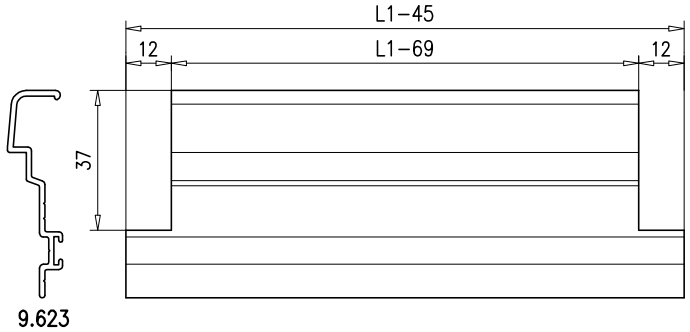
| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.ES.032 | Escuadra Marco | 2 |
| 04.TA.034 | Tope unión Marco inferior | 2 |
| 04.ES.039 | Escuadra Hoja | 8 |
| 04.EA.008 | Escuadra alinamiento Hoja 14x1 | 16 |
| 04.TA.023 | Juego tapas inversor | 1 |
| 04.JU.001 | Junta central | 3H + L |
| 04.JU.004.D | Junta interior | 4H + 2L |
| 04.JU.005 | Junta exterior | 4H + L |
| 04.AC.F06 | Felpudo inferior 7x9 | L-94 |
| 04.TA.018 | Juego tapas vierteaguas hoja | 2 |
| 04.JA.001 | Junta Acristalamiento Ext. | 4H + 4L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 4H + 4L |
| RESTO DE HERRAJE CONSULTAR CON PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA. | | |



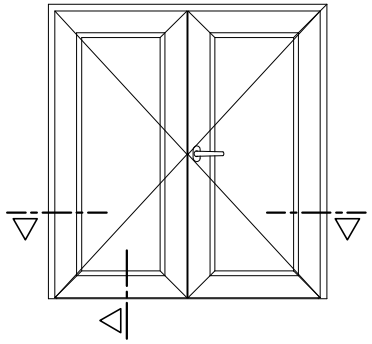
# CORTE Y MECANIZADO DEL PERFIL VIERTEAGUAS INFERIOR 9.623

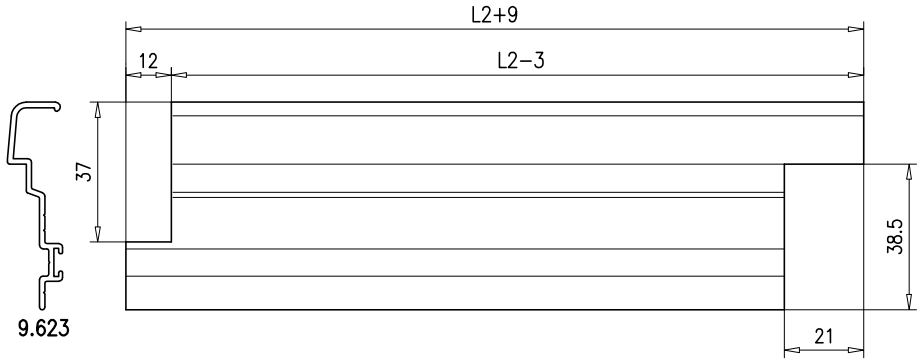
## Para puertas de 1 y 2 hojas de apertura interior y exterior



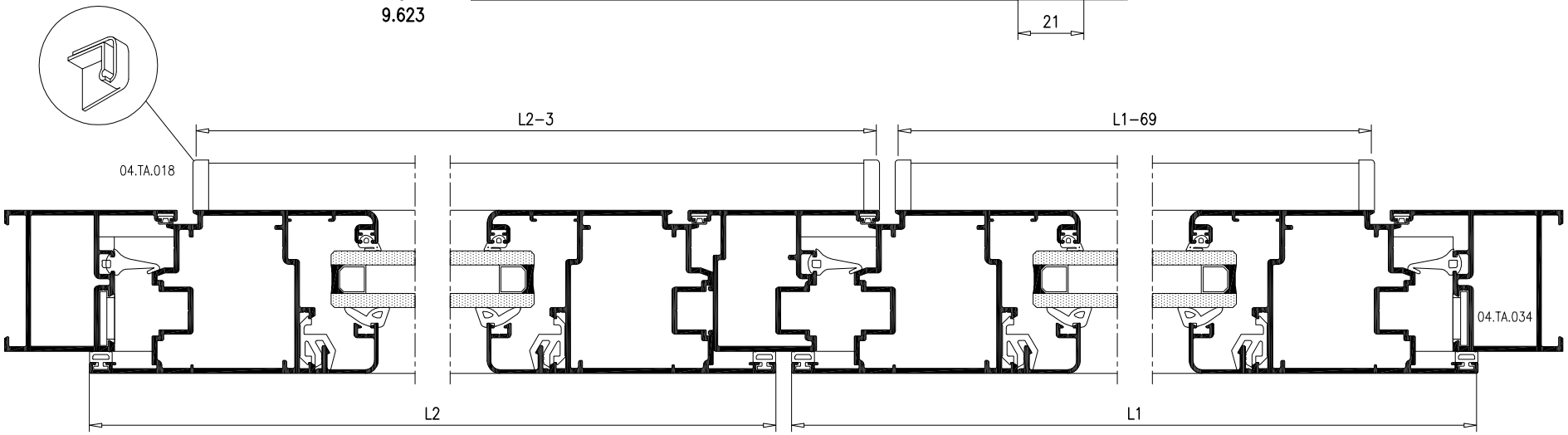




Corte y mecanizado para puertas de 1 hoja y hoja activa de puertas de 2 hojas, tanto de apertura interior como exterior.






Corte y mecanizado para hoja pasiva de puertas de 2 hojas, tanto de apertura interior como exterior.

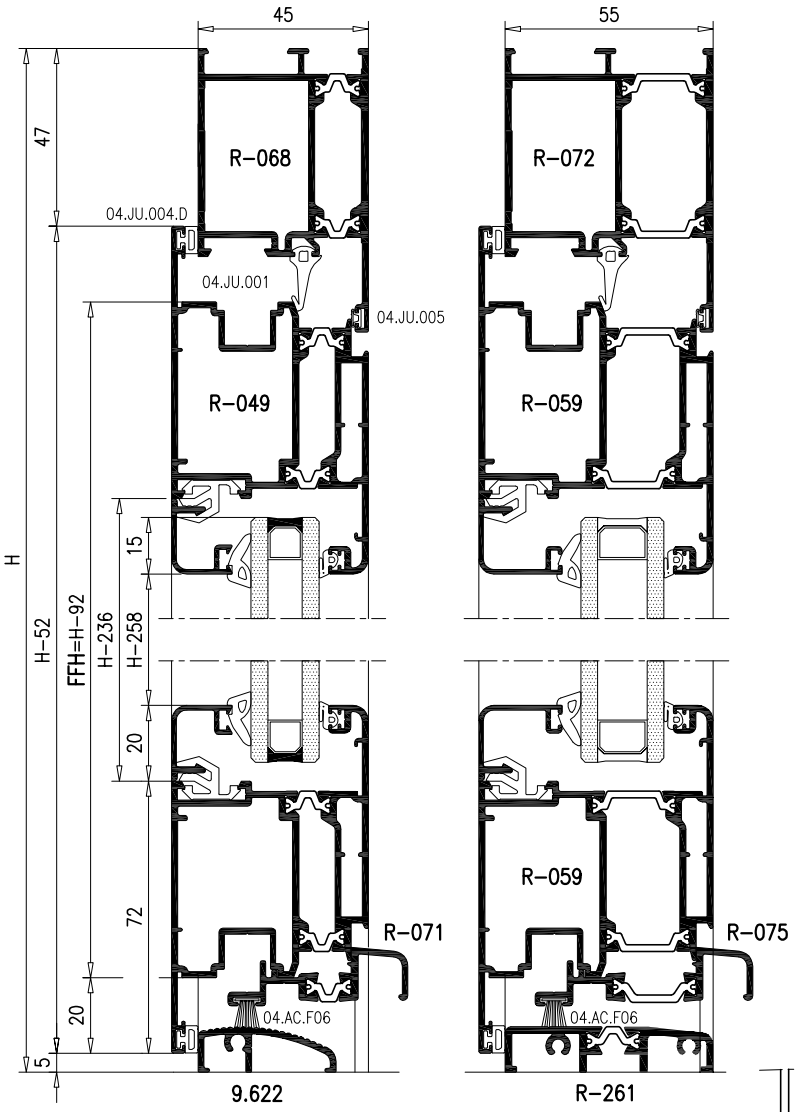





EXTRUAL sistemas

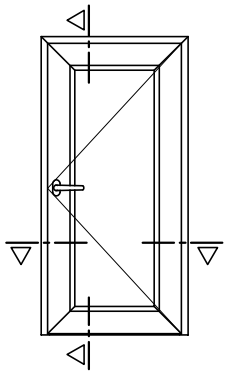
E16/45mm

# E16RPT 45mm/55mm



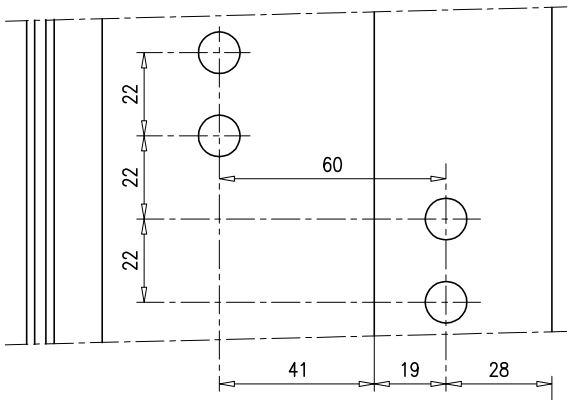

puede utilizarse tambien
la referencia 9.622

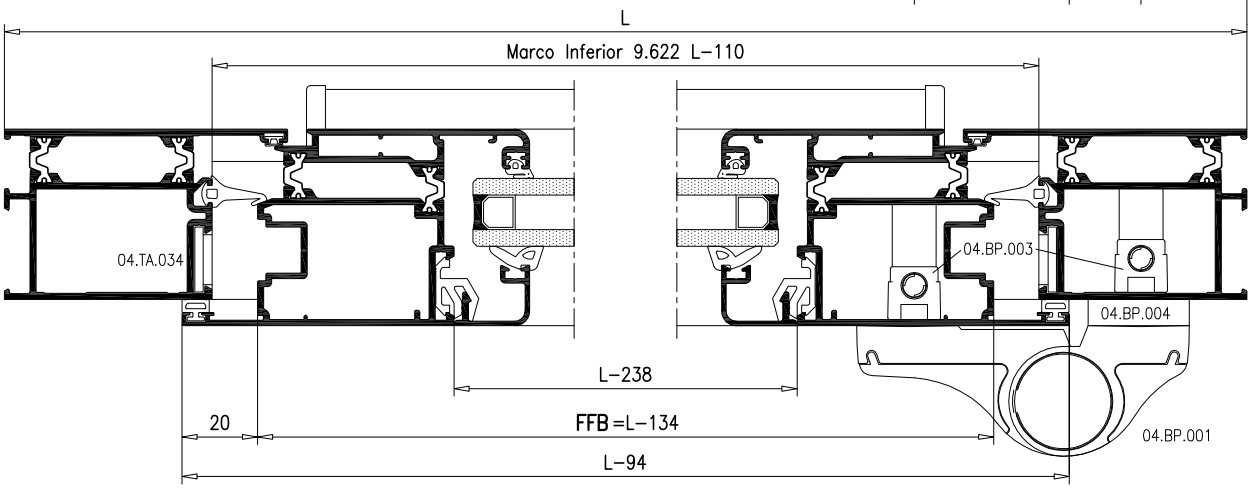
## PUERTA 1 HOJA
## APERTURA INTERIOR



| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.BP.001 | Bisagra Puerta | 2 |
| 04.BP.003 | Kit de Fijación Bisagra | 2 |
| 04.BP.004 | Suplemento 7mm Bisagra | 2 |
| 04.ES.047 | Escuadra Marco | 2 |
| 04.TA.034 | Tope unión Marco Inferior | 2 |
| 04.ES.040 | Escuadra Hoja | 4 |
| 04.EA.008 | Escuadra alinamiento Hoja 14x1 | 8 |
| 04.ES.012 | Escuadra refuerzo exterior Hoja | 4 |
| 04.JU.001 | Junta central | 2H + L |
| 04.JU.004.D | Junta interior | 2H + 2L |
| 04.JU.005 | Junta exterior | 2H + L |
| 04.AC.F06 | Felpudo Inferior 7x9 | L-135 |
| 04.TA.018 | Juego tapas vierteaguas hoja | 1 |
| 04.JA.001 | Junta Acristalamiento Ext. | 2H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 2H + 2L |
| RESTO DE HERRAJE CONSULTAR CON PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA. | | |

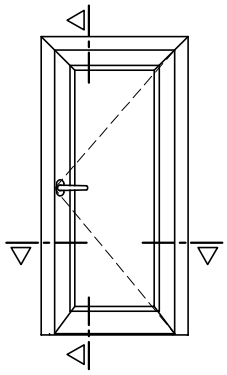
UTILIZAR PLANTILLA DE EMPLAZAMIENTO 04.TRO.BP1

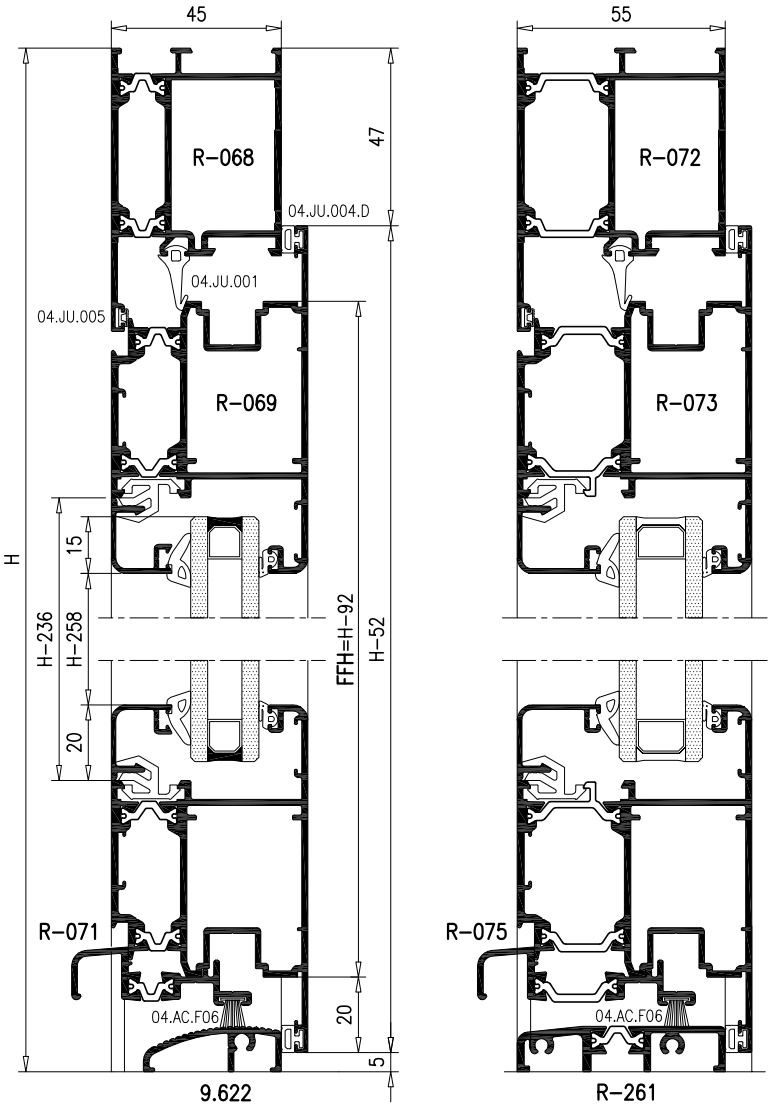


# E16RPT 45mm/55mm

## PUERTA 1 HOJA APERTURA EXTERIOR



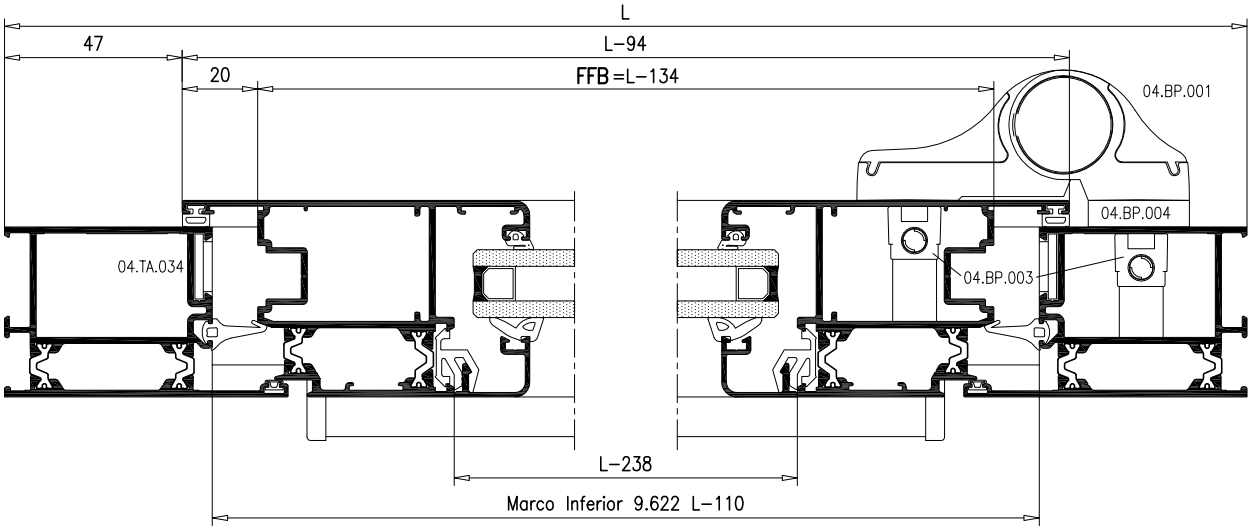



puede utilizarse tambien
la referencia 9.622

### ACCESORIOS

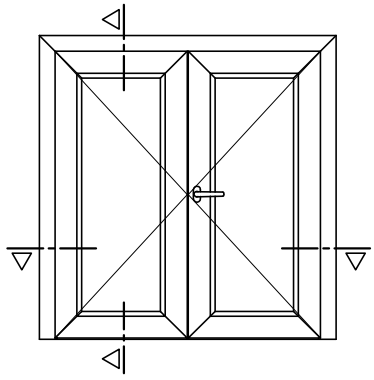
| REFERENCIA | DENOMINACION | UNIDADES |
|---|---|---|
| 04.BP.001 | Bisagra Puerta | 2 |
| 04.BP.003 | Kit de Fijación Bisagra | 2 |
| 04.BP.004 | Suplemento 7mm Bisagra | 2 |
| 04.ES.047 | Escuadra Marco | 2 |
| 04.TA.034 | Tope unión Marco Inferior | 2 |
| 04.ES.040 | Escuadra Hoja | 4 |
| 04.EA.008 | Escuadra alinamiento Hoja 14x1 | 12 |
| 04.JU.001 | Junta central | 2H + L |
| 04.JU.004.D | Junta interior | 2H + 2L |
| 04.JU.005 | Junta exterior | 2H + L |
| 04.AC.F06 | Felpudo Inferior 7x9 | L-135 |
| 04.TA.018 | Juego tapas vierteaguas hoja | 1 |
| 04.JA.001 | Junta Acristalamiento Ext. | 2H + 2L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 2H + 2L |

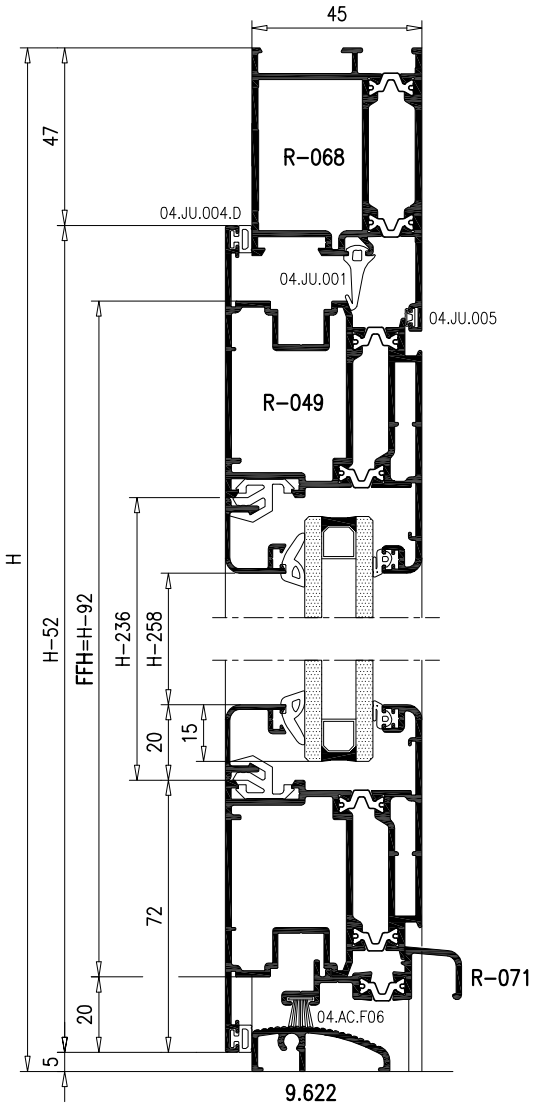
RESTO DE HERRAJE CONSULTAR CON PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA.



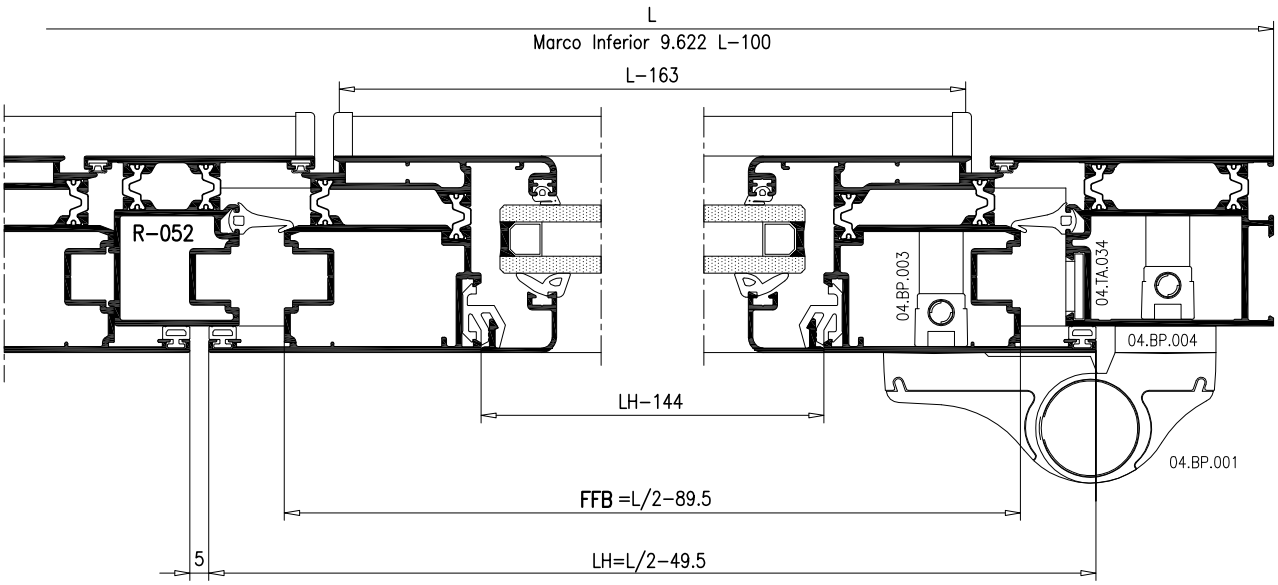
# E16RPT 45mm/55mm

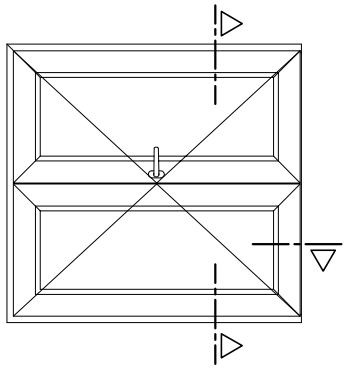
## PUERTA 2 HOJAS
## APERTURA INTERIOR






| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.BP.001 | Bisagra Puerta | 4 |
| 04.BP.003 | Kit de Fijación Bisagra | 4 |
| 04.BP.004 | Suplemento 7mm Bisagra | 4 |
| 04.ES.047 | Escuadra Marco | 2 |
| 04.TA.034 | Tope unión Marco Inferior | 2 |
| 04.ES.040 | Escuadra Hoja | 8 |
| 04.EA.008 | Escuadra alinamiento Hoja 14x1 | 16 |
| 04.ES.012 | Escuadra refuerzo exterior Hoja | 8 |
| 04.TA.023 | Juego tapas inversor | 1 |
| 04.JU.001 | Junta central | 3H + L |
| 04.JU.004.D | Junta interior | 4H + 2L |
| 04.JU.005 | Junta exterior | 4H + L |
| 04.AC.F06 | Felpudo inferior 7x9 | L-135 |
| 04.TA.018 | Juego tapas vierteaguas hoja | 2 |
| 04.JA.001 | Junta Acristalamiento Ext. | 4H + 4L |
| SEGUN VIDRIO | Junta Acristalamiento Int. | 4H + 4L |
| RESTO DE HERRAJE CONSULTAR CON PROVEEDOR HERRAJE C-16 SEGUN DIMENSIONES (FFH/FFB) Y PESO DE HOJA. | | |

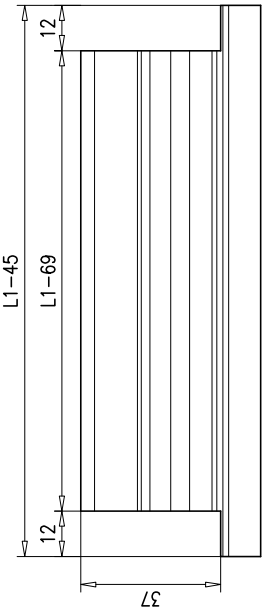




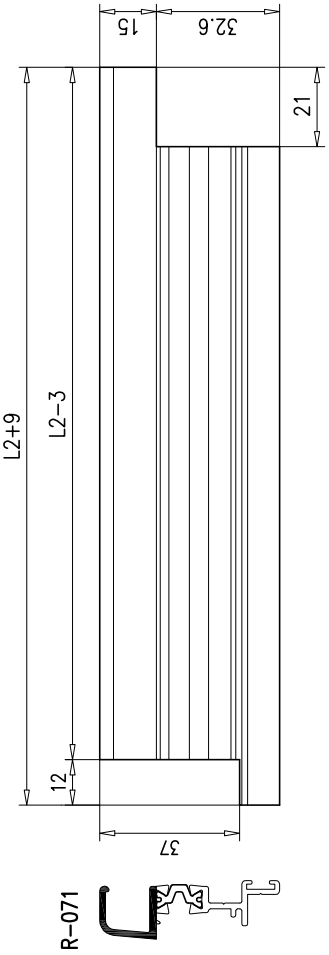
## CORTE Y MECANIZADO DEL PERFIL VIERTEAGUAS INFERIOR R-071

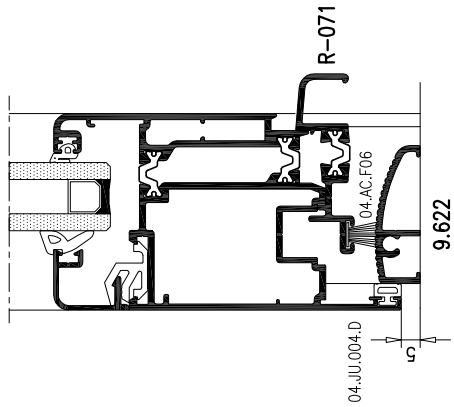
### Para puertas de 1 y 2 hojas de apertura interior y exterior

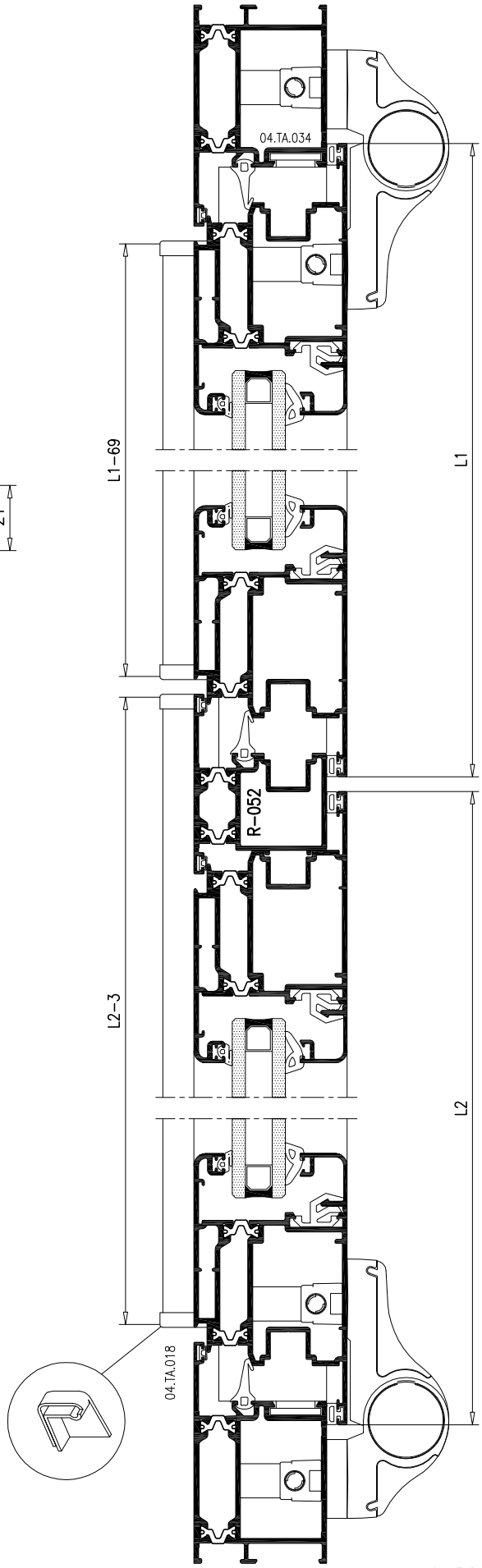
Corte y mecanizado para puertas de 1 hoja y hoja activa de puertas de 2 hojas, tanto de apertura interior como exterior.




Corte y mecanizado para hoja pasiva de puertas de 2 hojas, tanto de apertura interior como exterior.

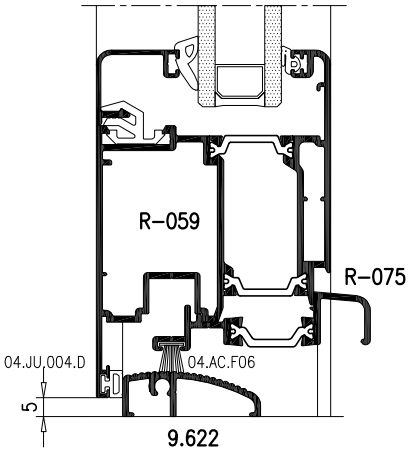


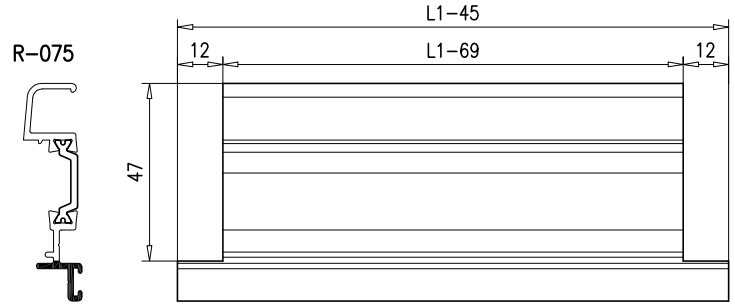



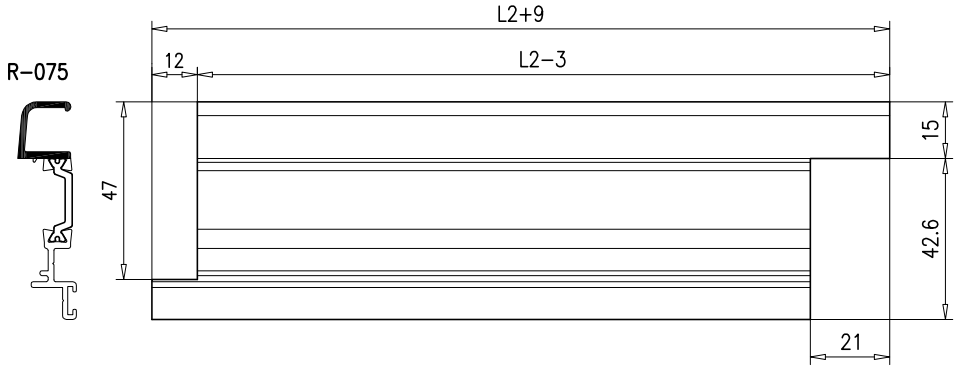
# CORTE Y MECANIZADO DEL PERFIL VIERTEAGUAS INFERIOR R-075

## Para puertas de 1 y 2 hojas de apertura interior y exterior

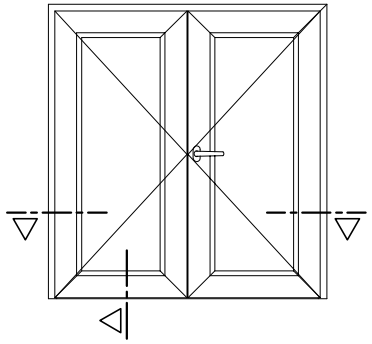


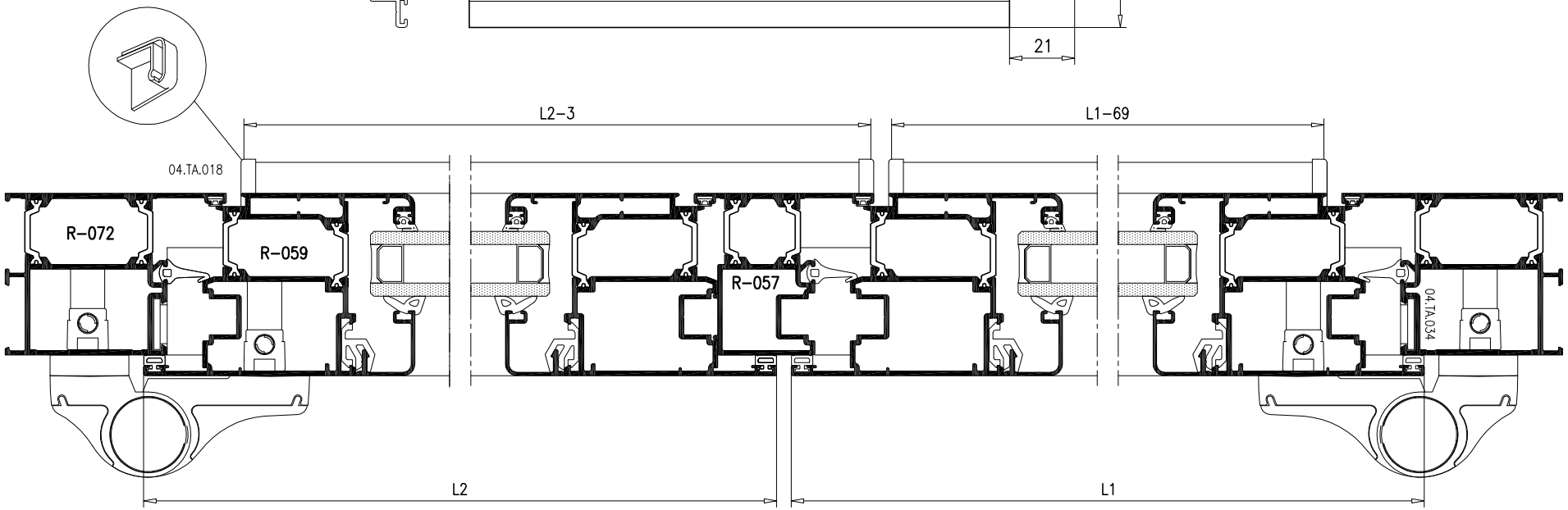




Corte y mecanizado para puertas de 1 hoja y hoja activa de puertas de 2 hojas, tanto de apertura interior como exterior.



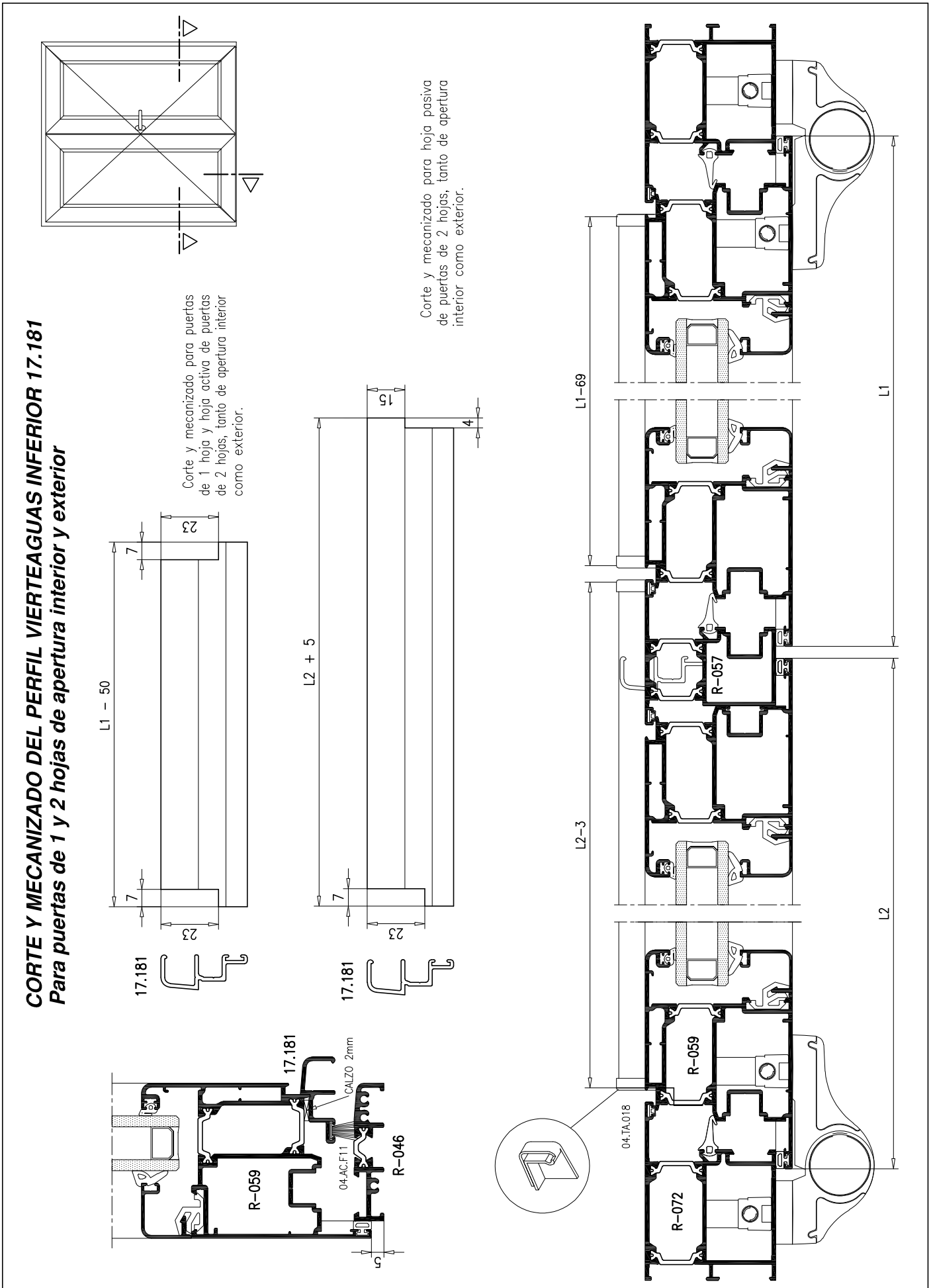

Corte y mecanizado para hoja pasiva de puertas de 2 hojas, tanto de apertura interior como exterior.



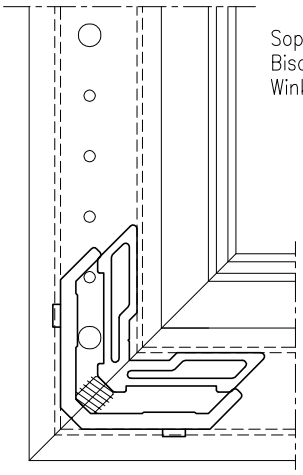



EXTRUAL sistemas

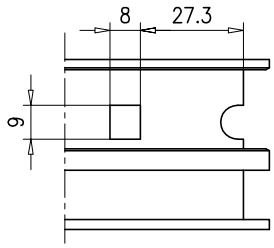
E16RPT/55mm

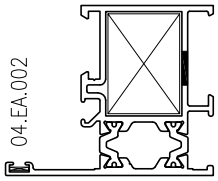

CORTE Y MECANIZADO DEL PERFIL VIERTEAGUAS INFERIOR 17.181
Para puertas de 1 y 2 hojas de apertura interior y exterior
Corte y mecanizado para puertas de 1 hoja y hoja activa de puertas de 2 hojas, tanto de apertura interior como exterior.
Corte y mecanizado para hoja pasiva de puertas de 2 hojas, tanto de apertura interior como exterior.
L1 - 50
L2 + 5
23
7
5
4
17.181
R-059
R-046
R-057
R-072
CALZO 2mm
04.AC.F11
04.TA.018
L1-69
L2-3
L1
L2

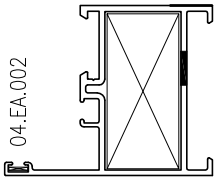
## Mecanizado de las escuadras de bloqueo




El mecanizado de las escuadras de bloqueo se realiza con el troquel 04.TRO.A22 ó WINKHAUS–432



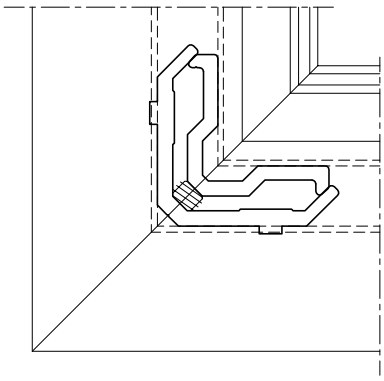



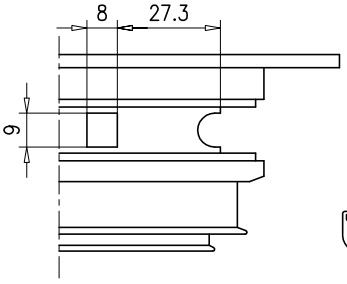

| | ESCUADRA |
|---|---|
| ***R-048, R-050 y R-064*** | 04.ES.034 |
| ***R-047, R-055 y R-079*** | 04.ES.034 |
| ****10.896 y 11.038*** | *04.ES.034 |
| ***R-068 y R-072*** | 04.ES.047 |

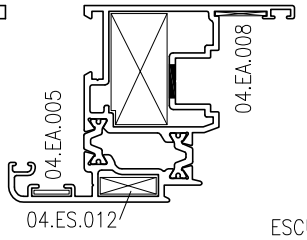
| | ESCUADRA |
|---|---|
| ***10.101*** | 04.ES.032 |

* Con troquel WINKHAUS utilizar escuadra 04.ES.034C en perfiles 10.896 y 11.038

Es imprescindible sellar los cortes

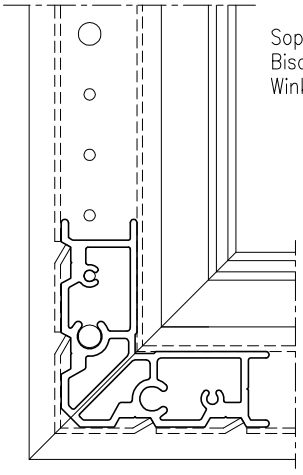


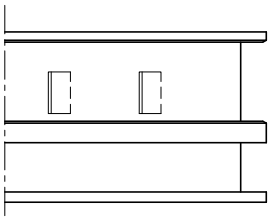


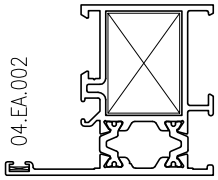

| | ESCUADRA |
|---|---|
| ***R-051, R-056, 10.897 y 12.010*** | 04.ES.035 |
| ***R-049, R-069 y R-070*** | 04.ES.040 |
| ***R-059, R-073 y R-074*** | 04.ES.040 |
| ***10.423 y 10.424*** | 04.ES.039 |

## Mecanizado de las escuadras de ensamblar



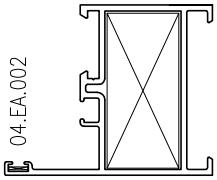



ESCUADRA 04.ES.030



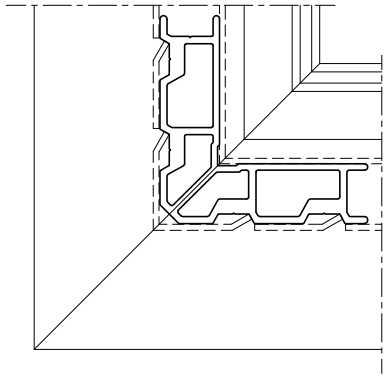

***R-048, R-050 y R-064***
***R-047, R-055 y R-079***
***10.896 y 11.038***

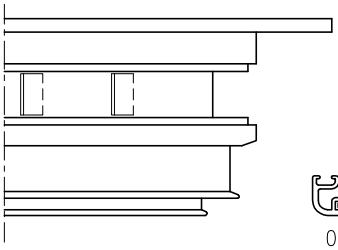
ESCUADRA 04.ES.028



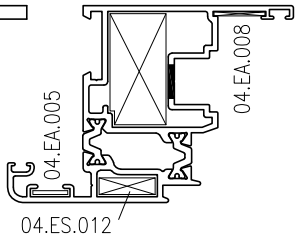

***10.101***

Es imprescindible sellar los cortes



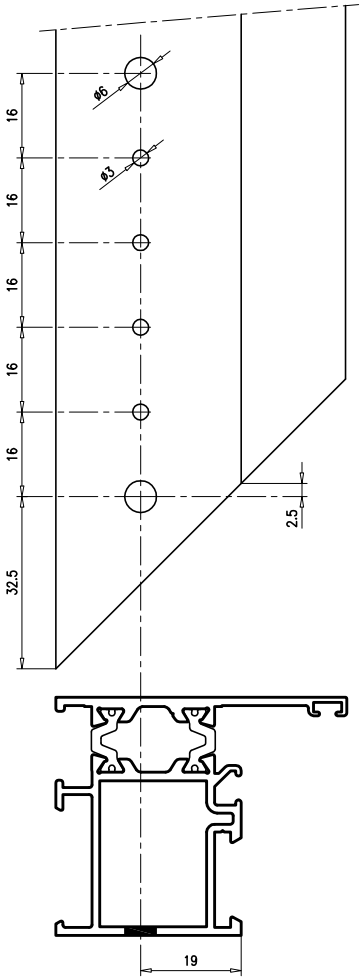


ESCUADRA 04.ES.031



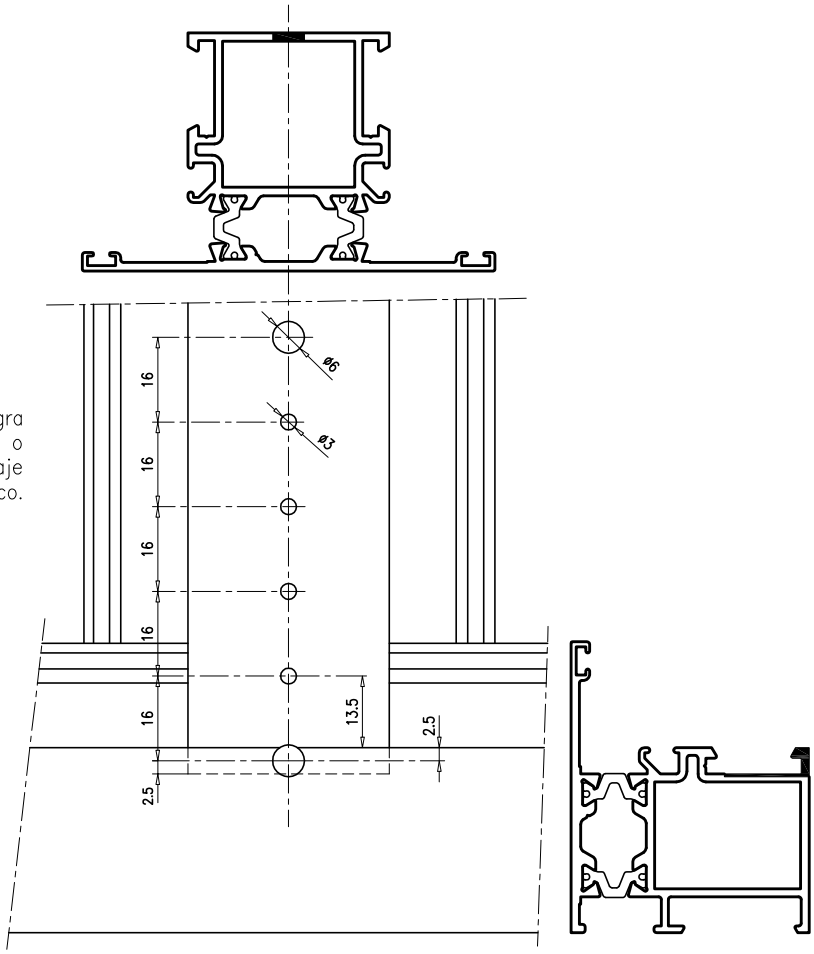

***R-051 y R-056***
***10.897 y 12.010***

## *Taladros soporte bisagras en marcos R-047, R-048, R-050, R-055, R-064, R-068, R-072, R-079, 10.101,10.896 y 11.038*




Los taladros para el soporte de la bisagra se realizan con el troquel WINKHAUS–432 o con plantilla segun proveedor de herraje.

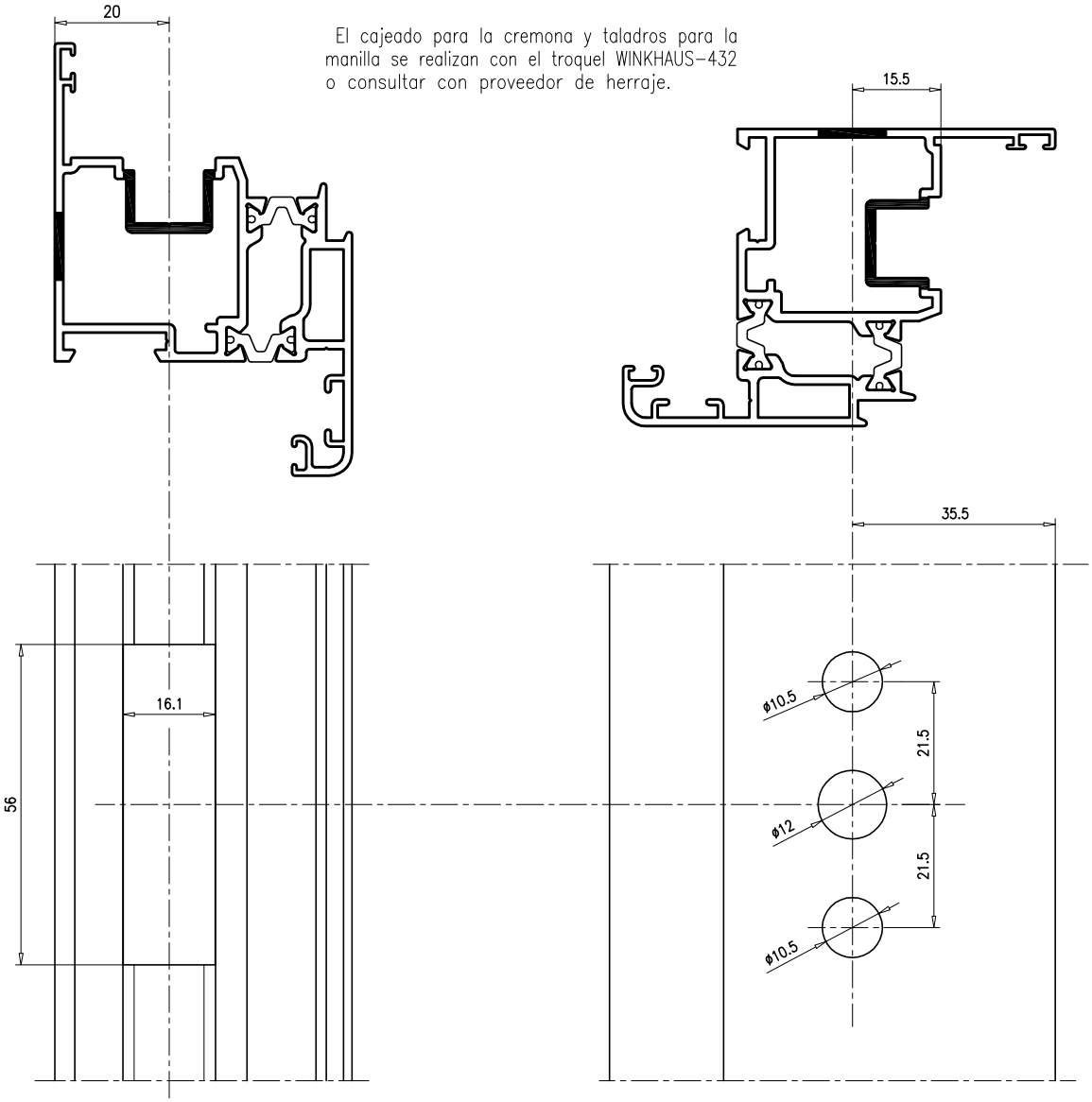
## *Taladros soporte bisagras en pilastras R-053, R-058, 10.104 y 10.899*




Los taladros para el soporte de la bisagra se realizan con el troquel WINKHAUS–432 o con plantilla segun proveedor de herraje una vez montad la pilastra sobre el marco.

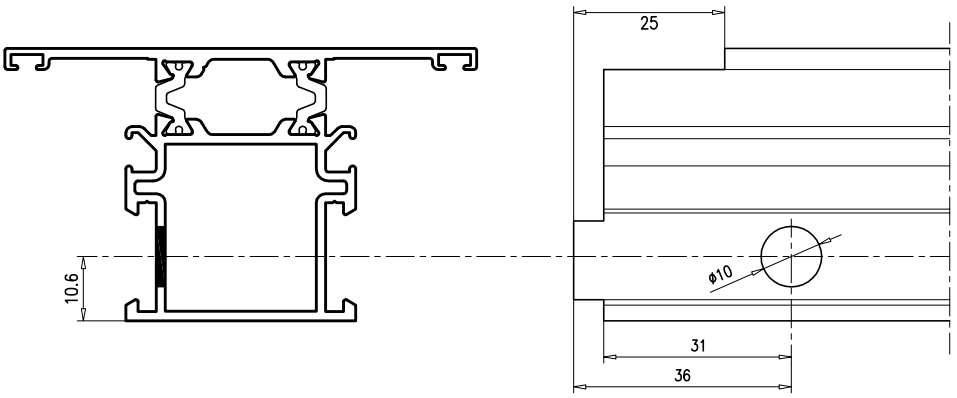
## *Cajeado cremona y Taladros manilla en hojas*

El cajeado para la cremona y taladros para la manilla se realizan con el troquel WINKHAUS-432 o consultar con proveedor de herraje.




## *Mecanizado Pilastras*

La unión de la pilastra al marco se realiza con el tocho 04.TO.017.

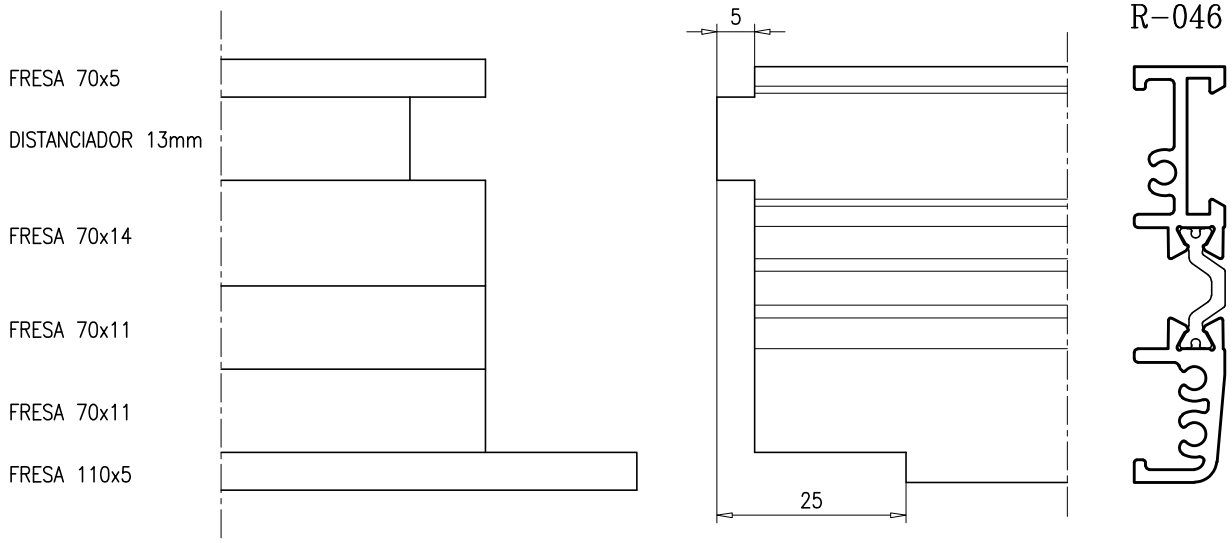


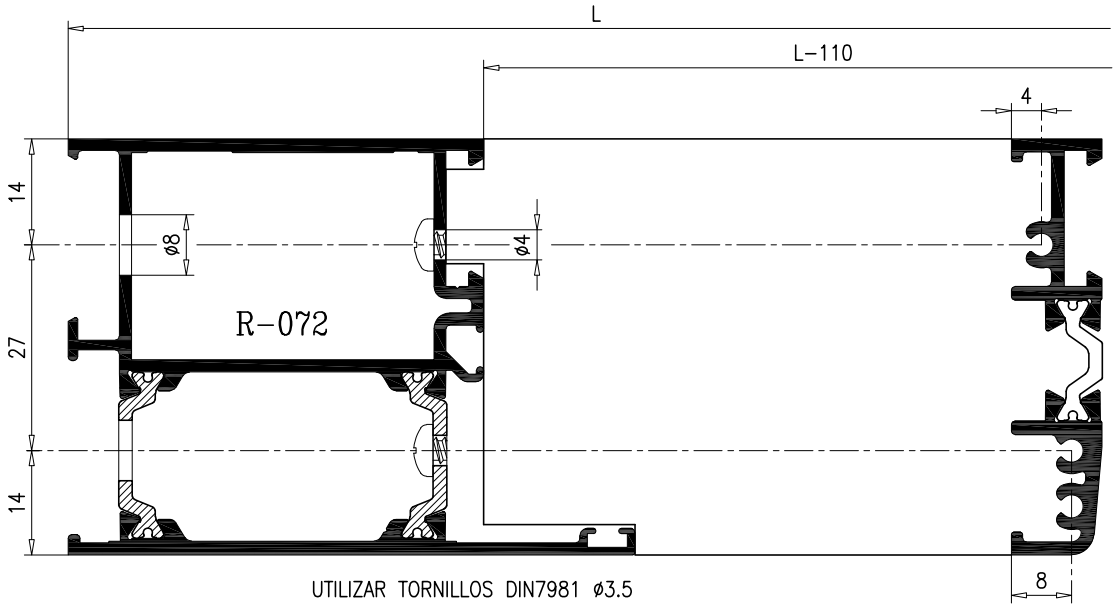

El taladro para el tocho de unión se reaiza con el troquel 04.TRO.A22 o WINKHAUS-432.

El mecanizado de la pilastra se realiza con:
10.899: 04.TRO.JF25+04.TRO.JF22
10.104 y R-053: 04.TRO.JF25+04.TRO.JF16
R-058: 04.TRO.JF25+(2x)04.TRO.JF16

## *MECANIZADO Y COLOCACION DE LA SOLERA R-046 EN PUERTAS*

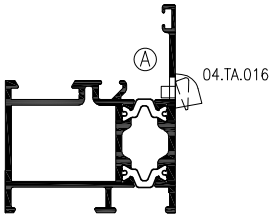
JUEGO DE FRESAS: 04.TRO.JF25+(2x)04.TRO.JF16



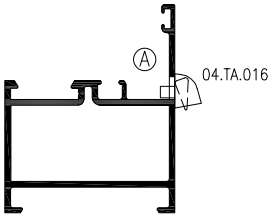



## Mecanizado de desagües en marcos y travesaños

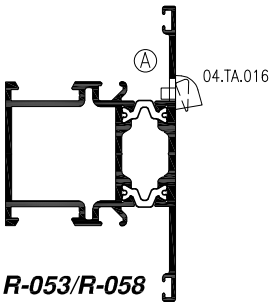
El mecanizado tipo "A" se realiza con el troquel WINKHAUS-432, a 100mm de cada extremo. Este mecanizado se realiza tambien para evacuar la cámara de acristalamiento de paños fijos. Para los perfiles sin rotura se puede utilizar tambien el troquel 04.TRO.S22.



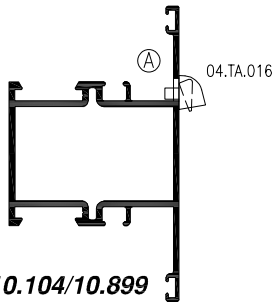

**R-050/R-055**




**10.101/10.896**



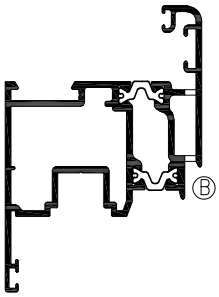

**R-053/R-058**



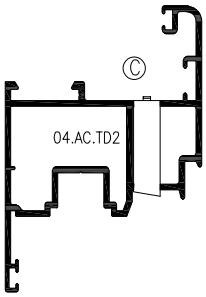

**10.104/10.899**

## Mecanizado de desagües de la cámara de acristalamiento en hojas

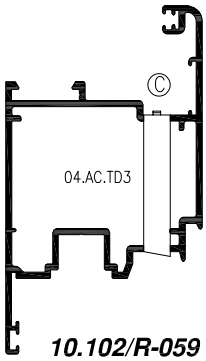
El mecanizado tipo "B" se realiza con una broca de ø3mm a 100mm de cada extremo.
El mecanizado tipo "C" se realiza con una broca de ø7mm a 100mm de cada extremo.



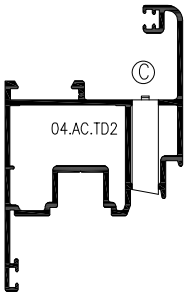

**R-051/R-049**
**R-056/R-059**




**12.010**
Cortar 5mm al tubo de desagüe 04.AC.TD2



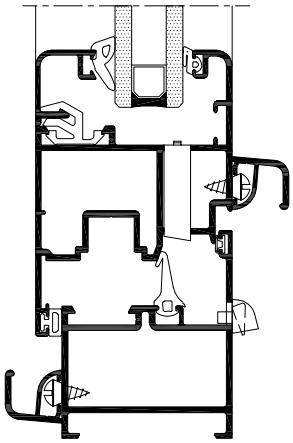

**10.102/R-059**
Para la hoja R-059 utilizar el tubo 04.AP.TD4

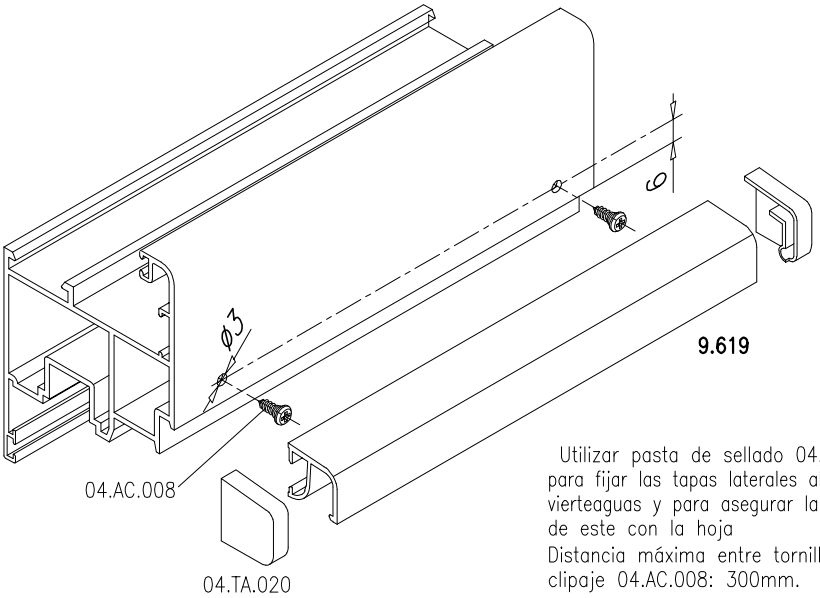



**10.897**
Cortar 8mm al tubo de desagüe 04.AC.TD2

## Colocación del perfil vierteaguas de hoja 9.619

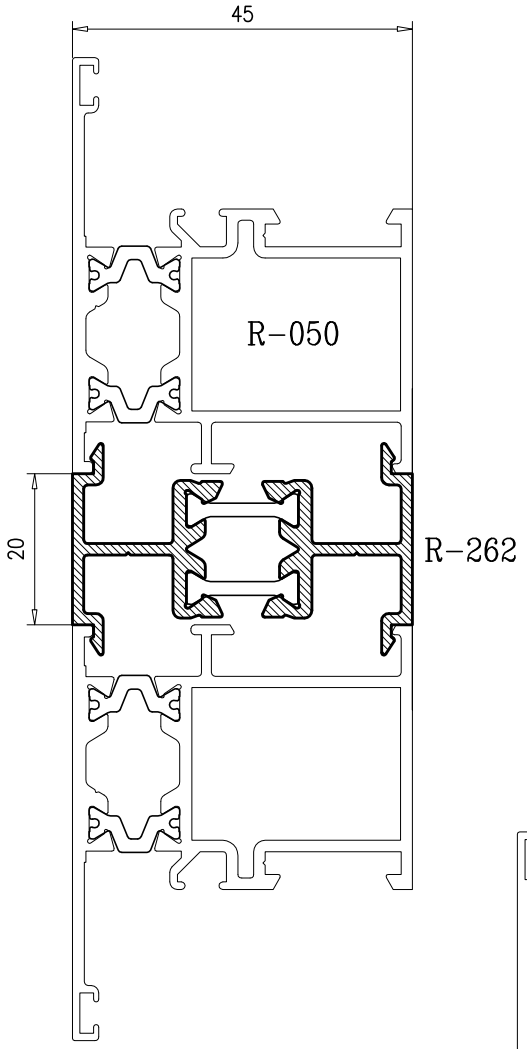
La utilización del perfil vierteaguas de hoja mejora la estanqueidad al agua de la ventana.
El perfil 9.619 puede utilizarse tambien como recojecondensaciones interior.

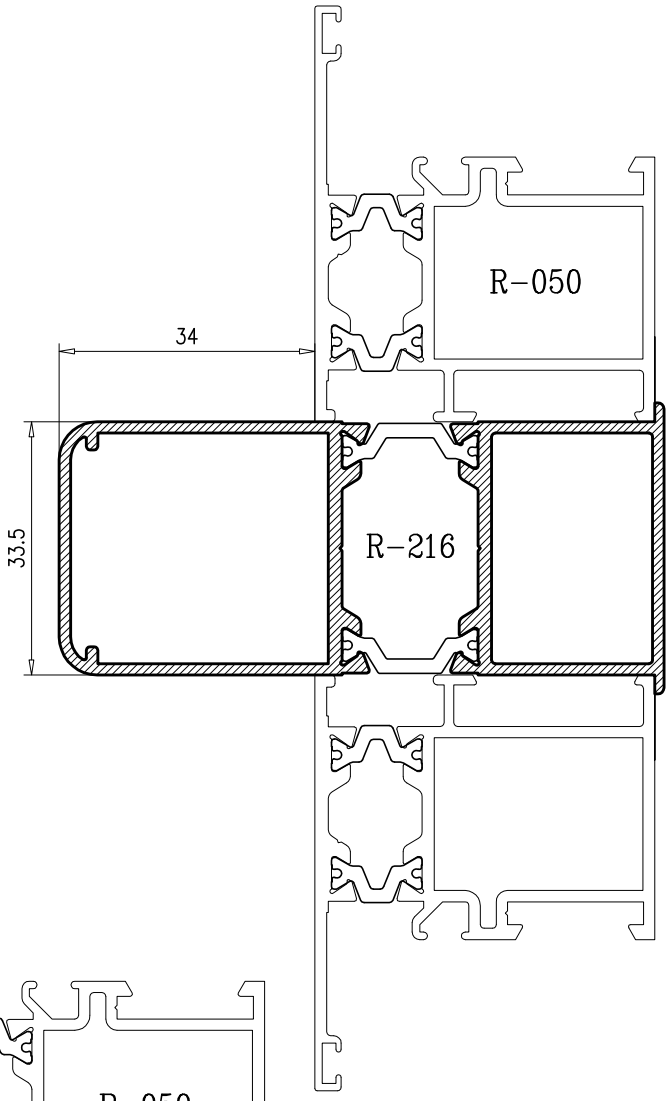


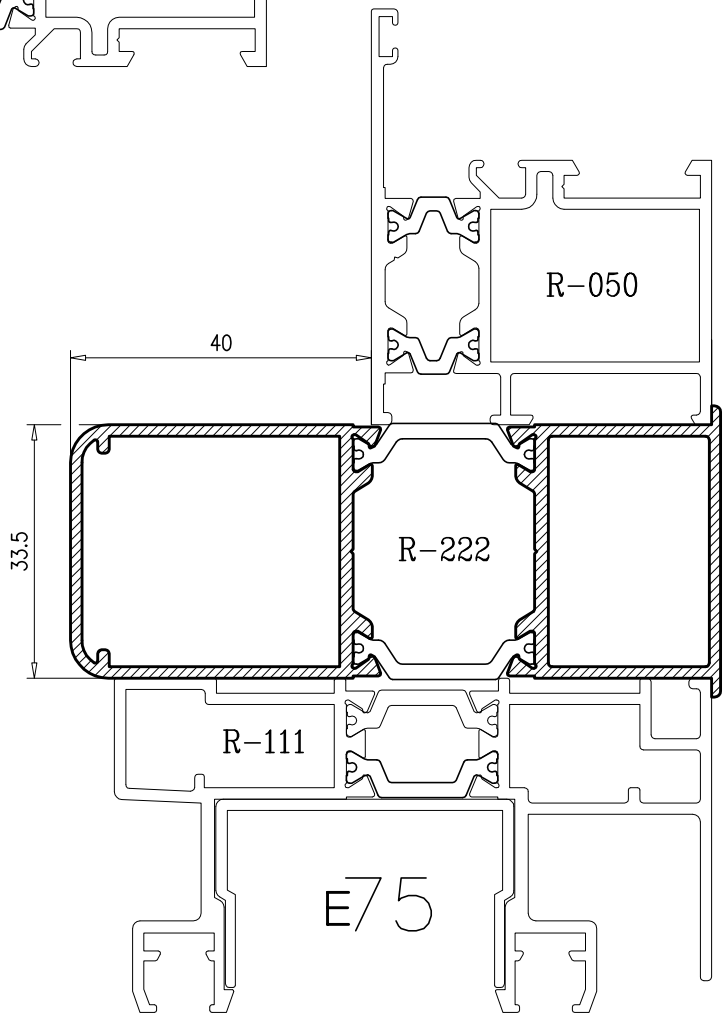



Utilizar pasta de sellado 04.Z.002 para fijar las tapas laterales al perfil vierteaguas y para asegurar la unión de este con la hoja
Distancia máxima entre tornillos de clipaje 04.AC.008: 300mm.

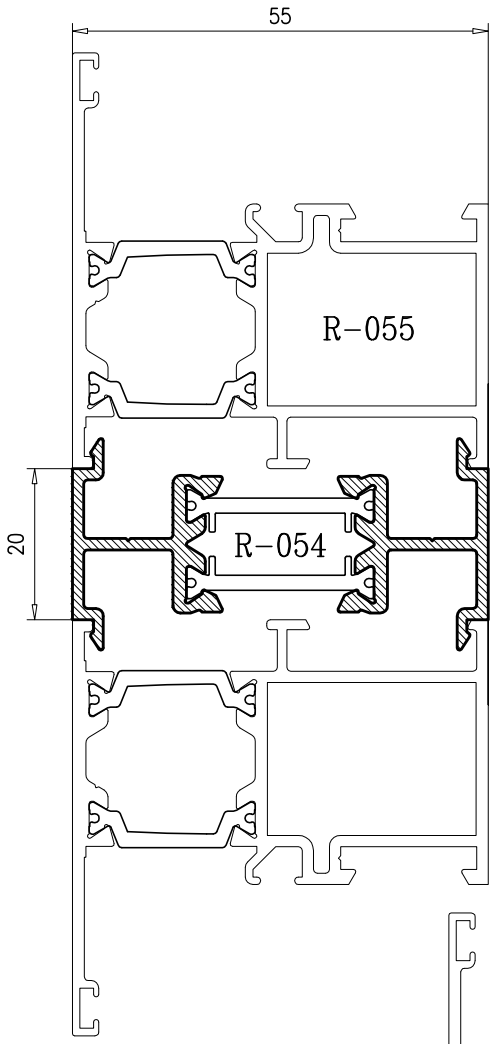
## UNIONES DE CARPINTERIAS

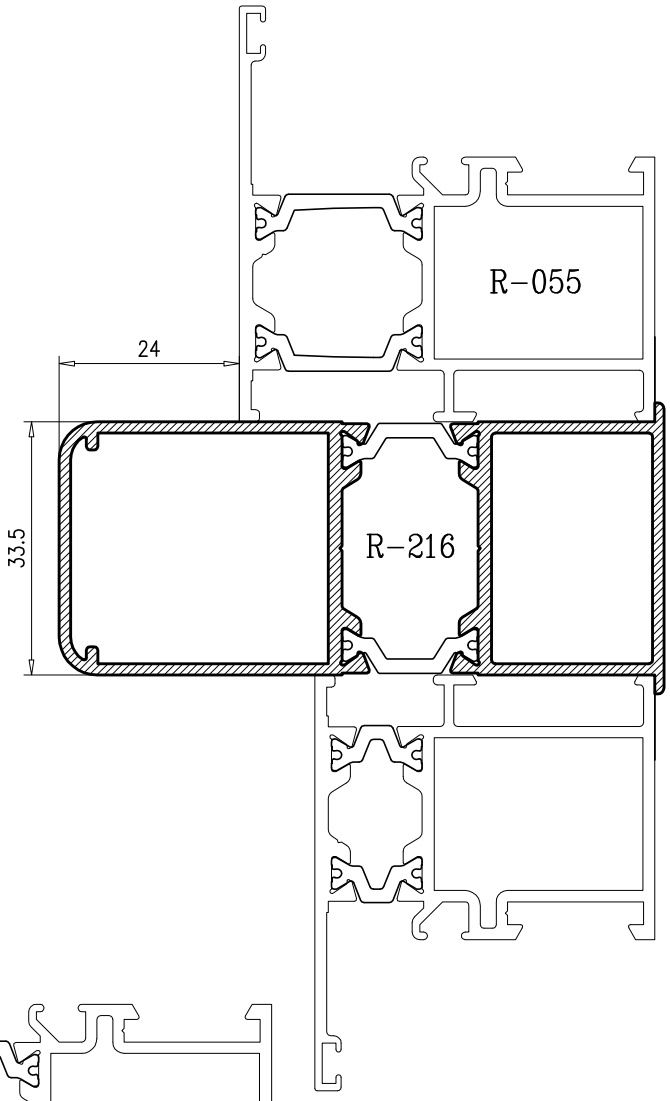


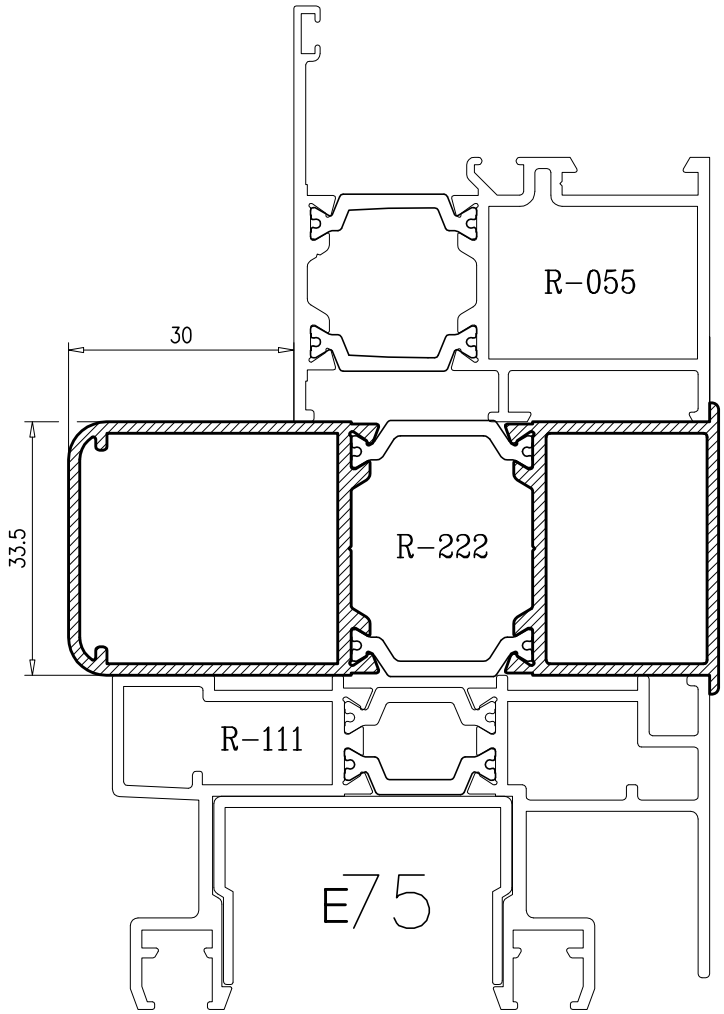



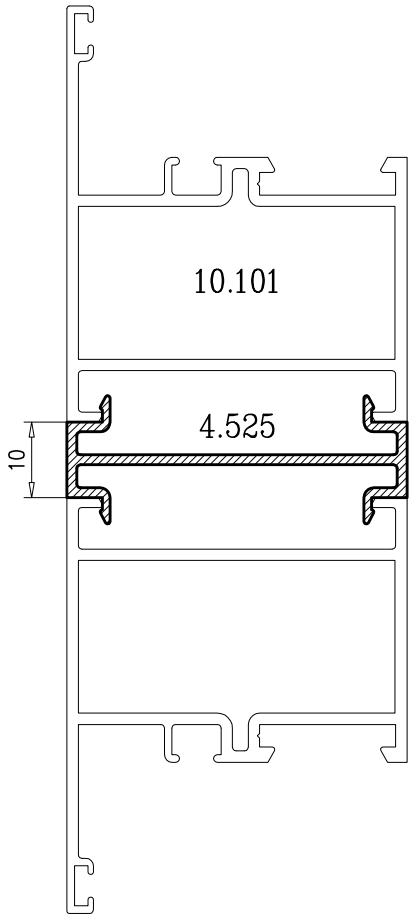
## UNIONES DE CARPINTERIAS

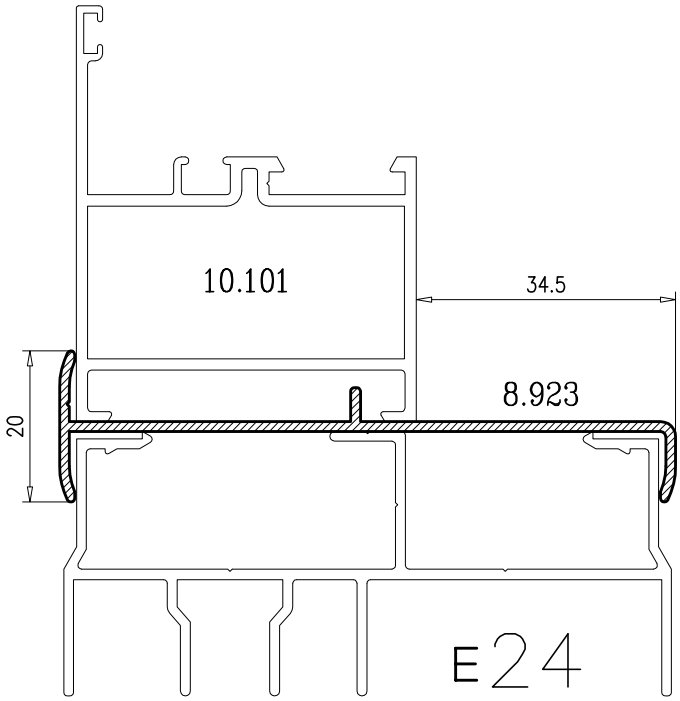


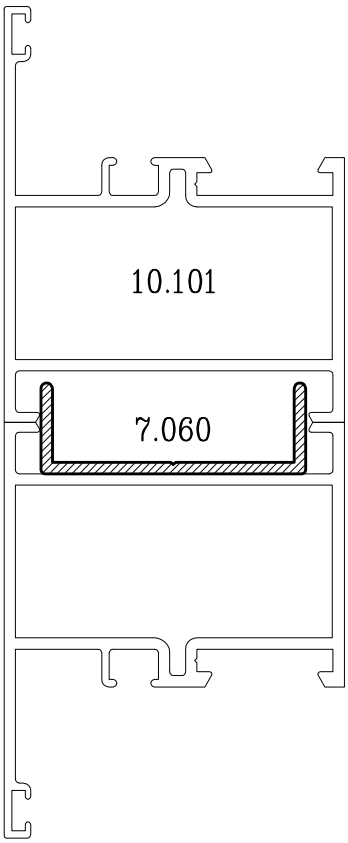



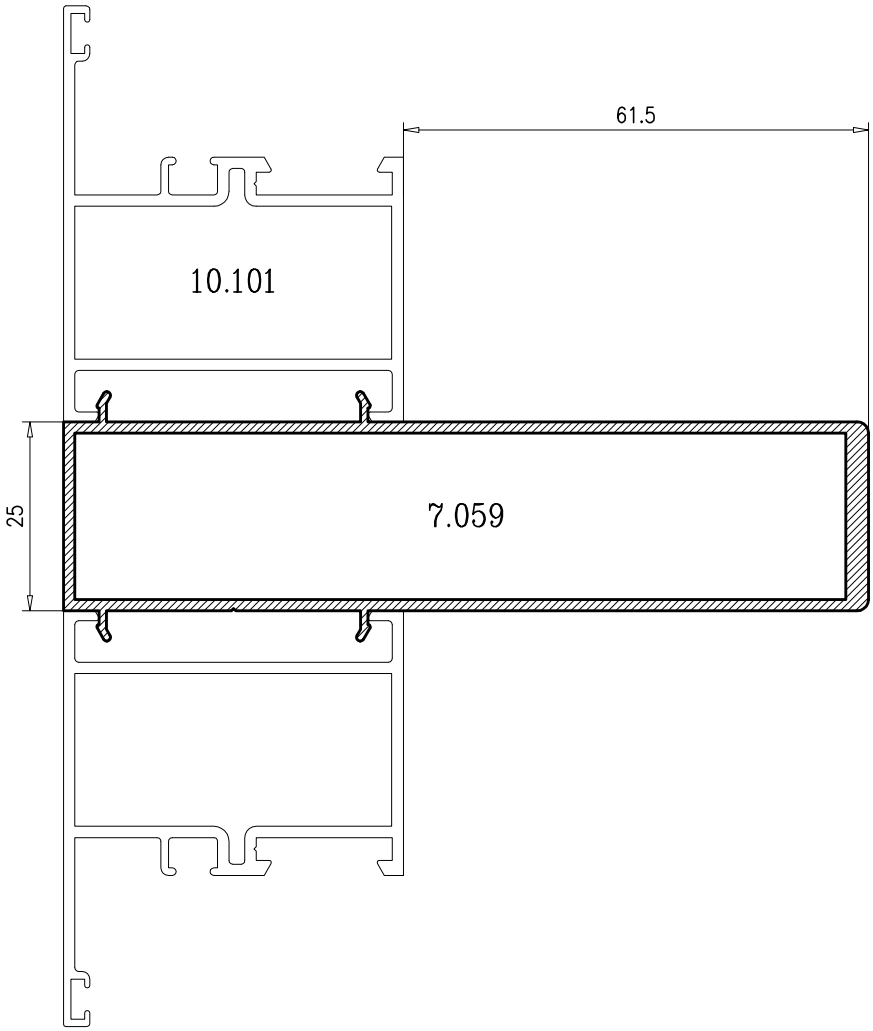



## UNIONES DE CARPINTERIAS

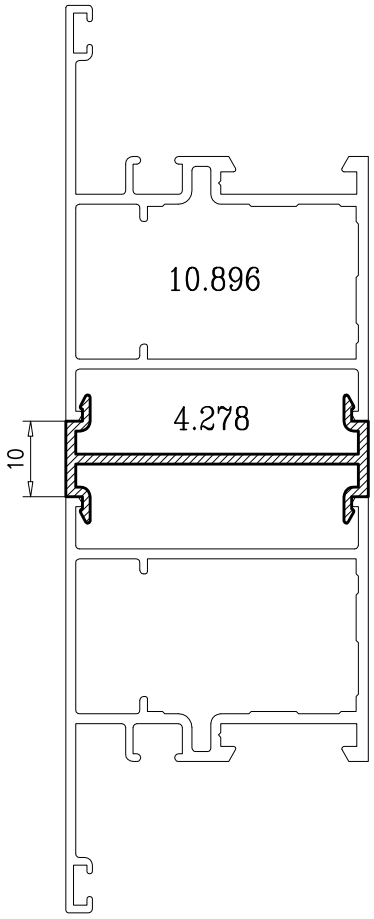


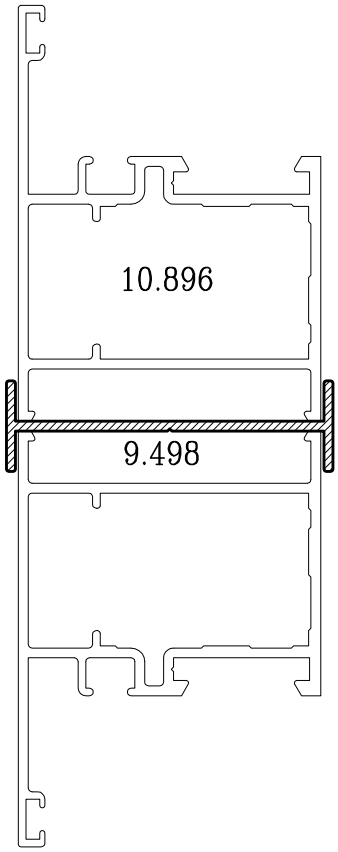



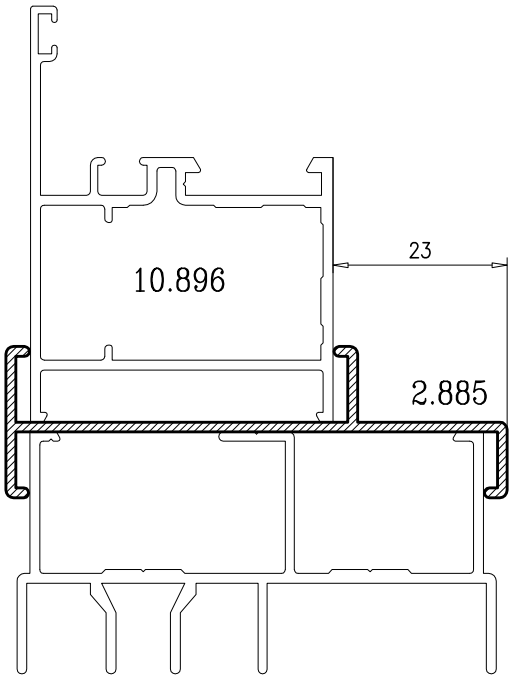



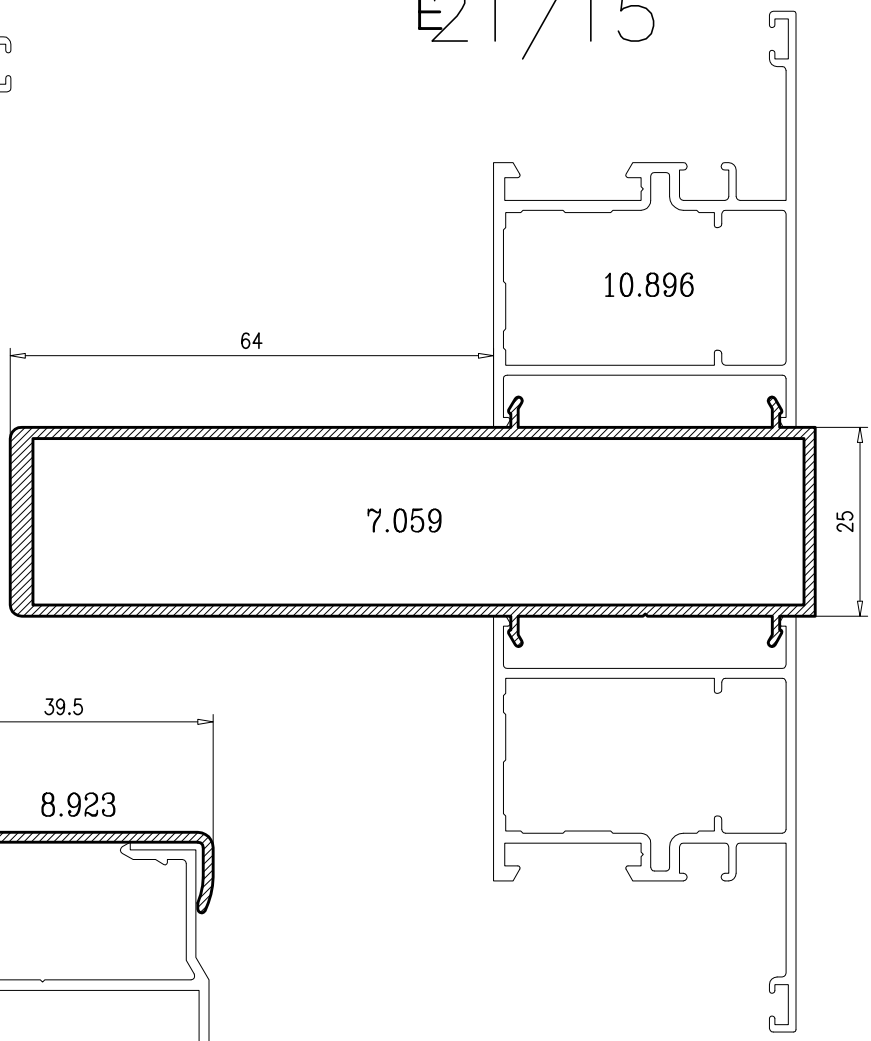
## UNIONES DE CARPINTERIAS

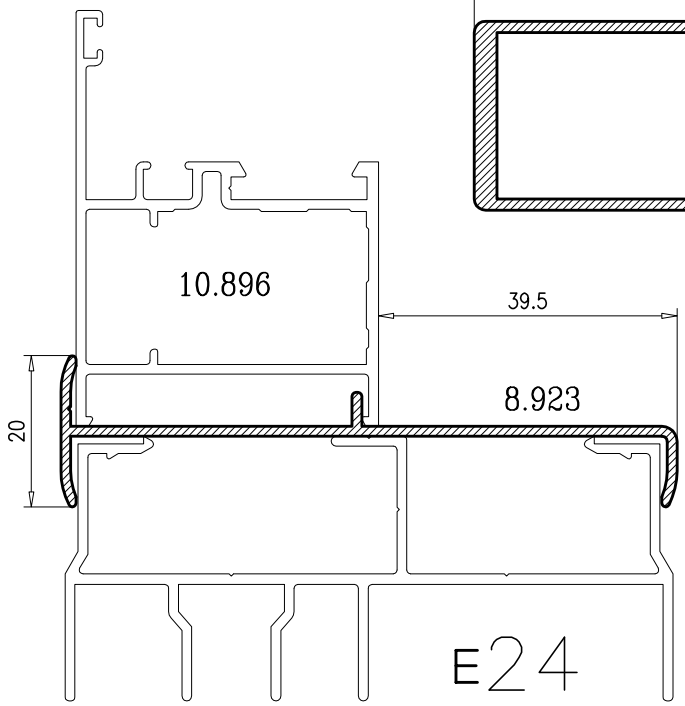



E21/15

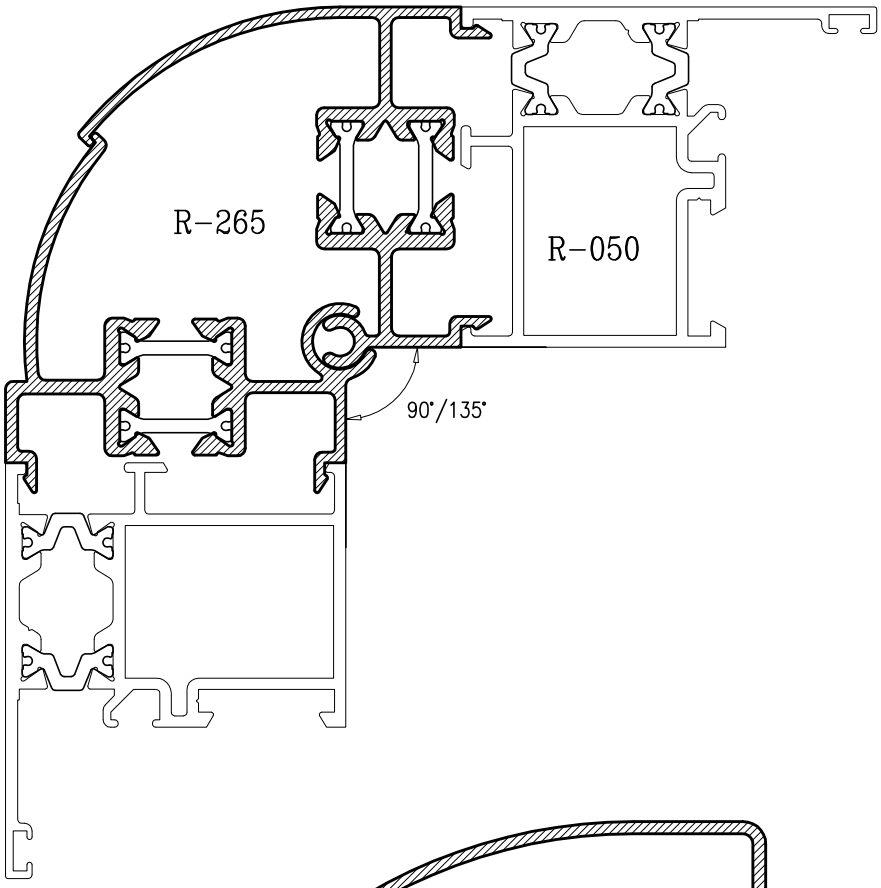


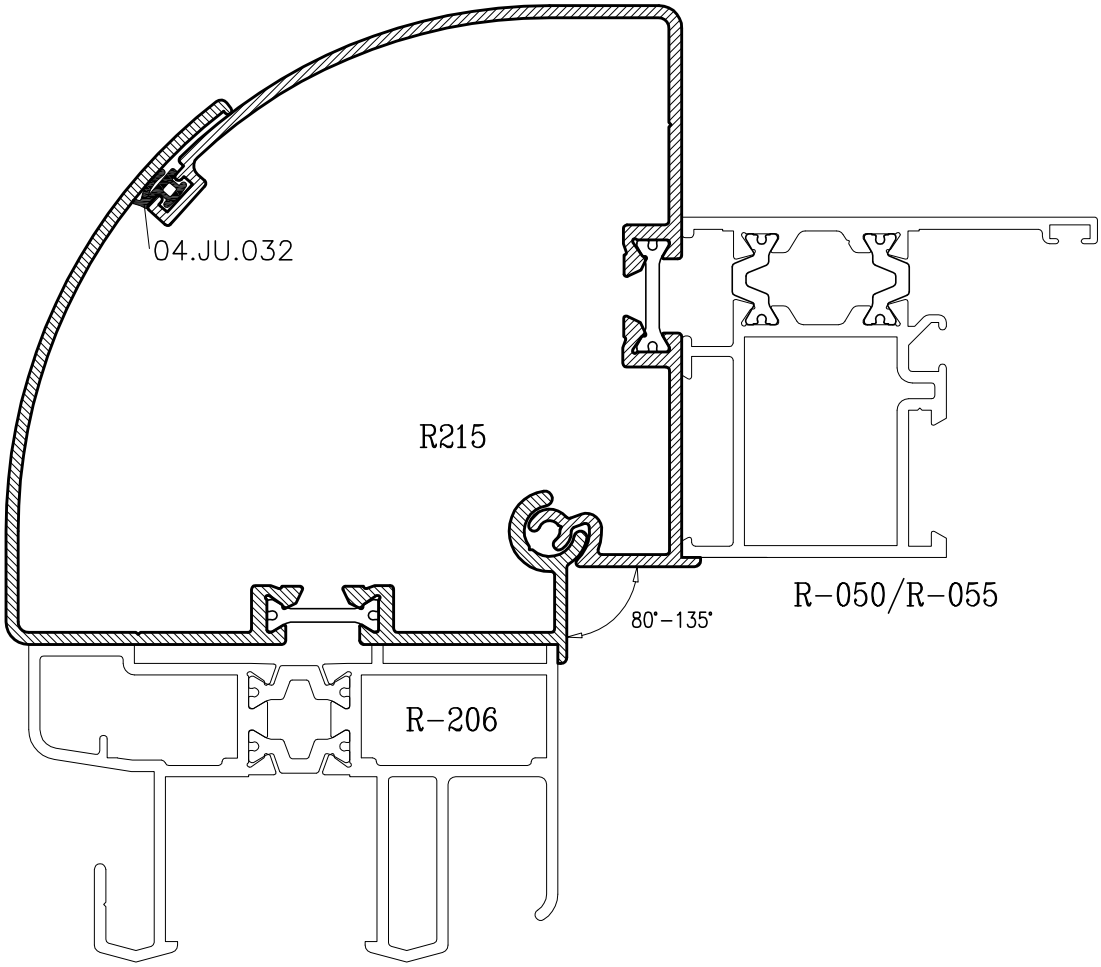




E24

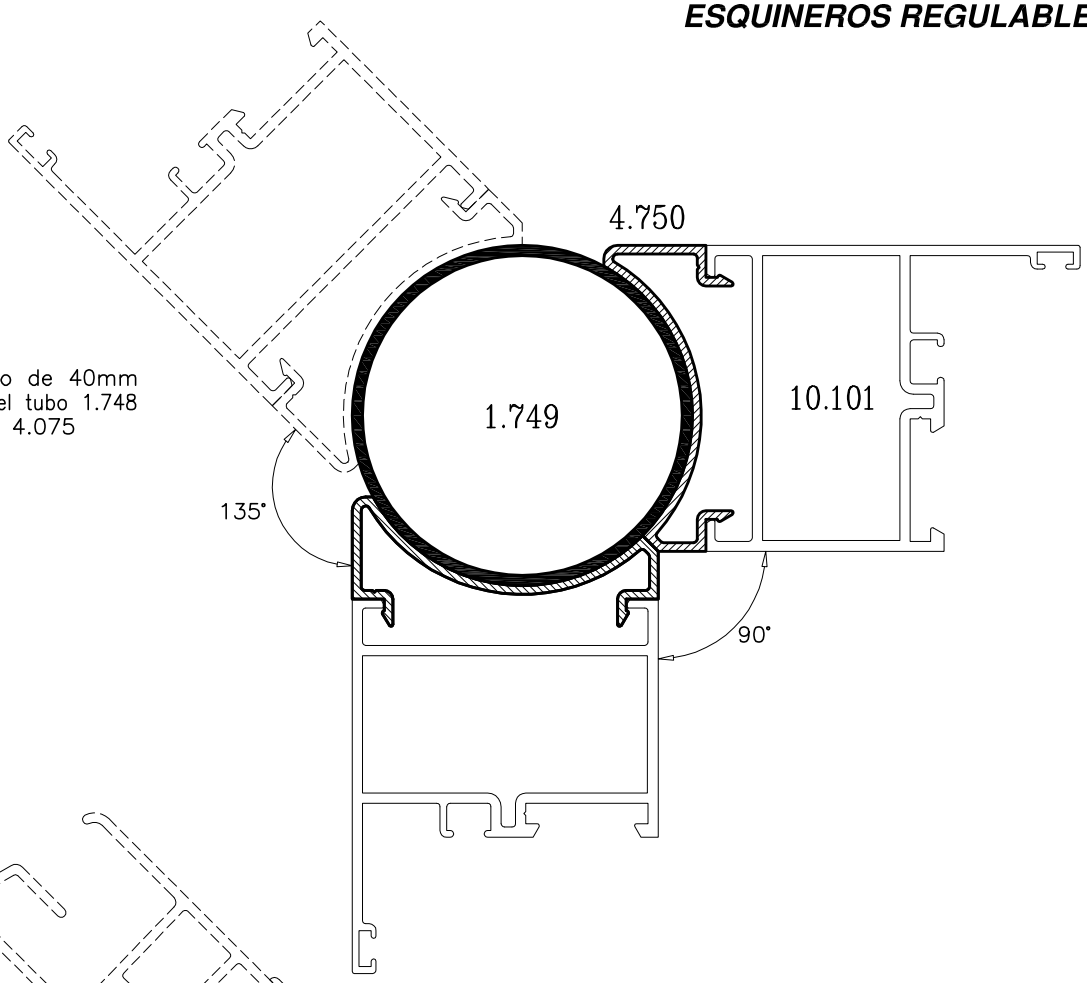
# E16RPT 45mm/55mm

***ESQUINEROS REGULABLES***

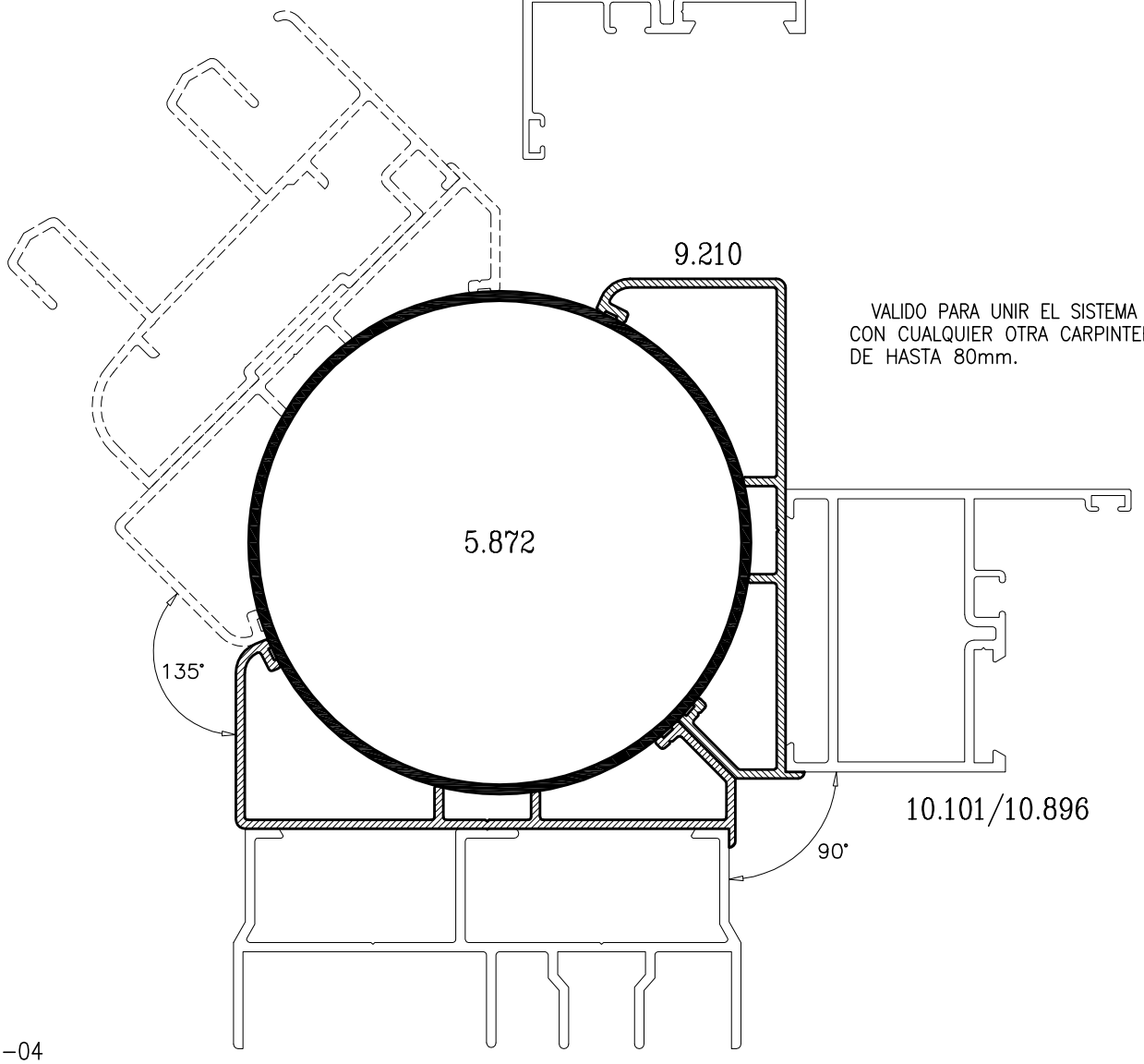


## ESQUINEROS REGULABLES



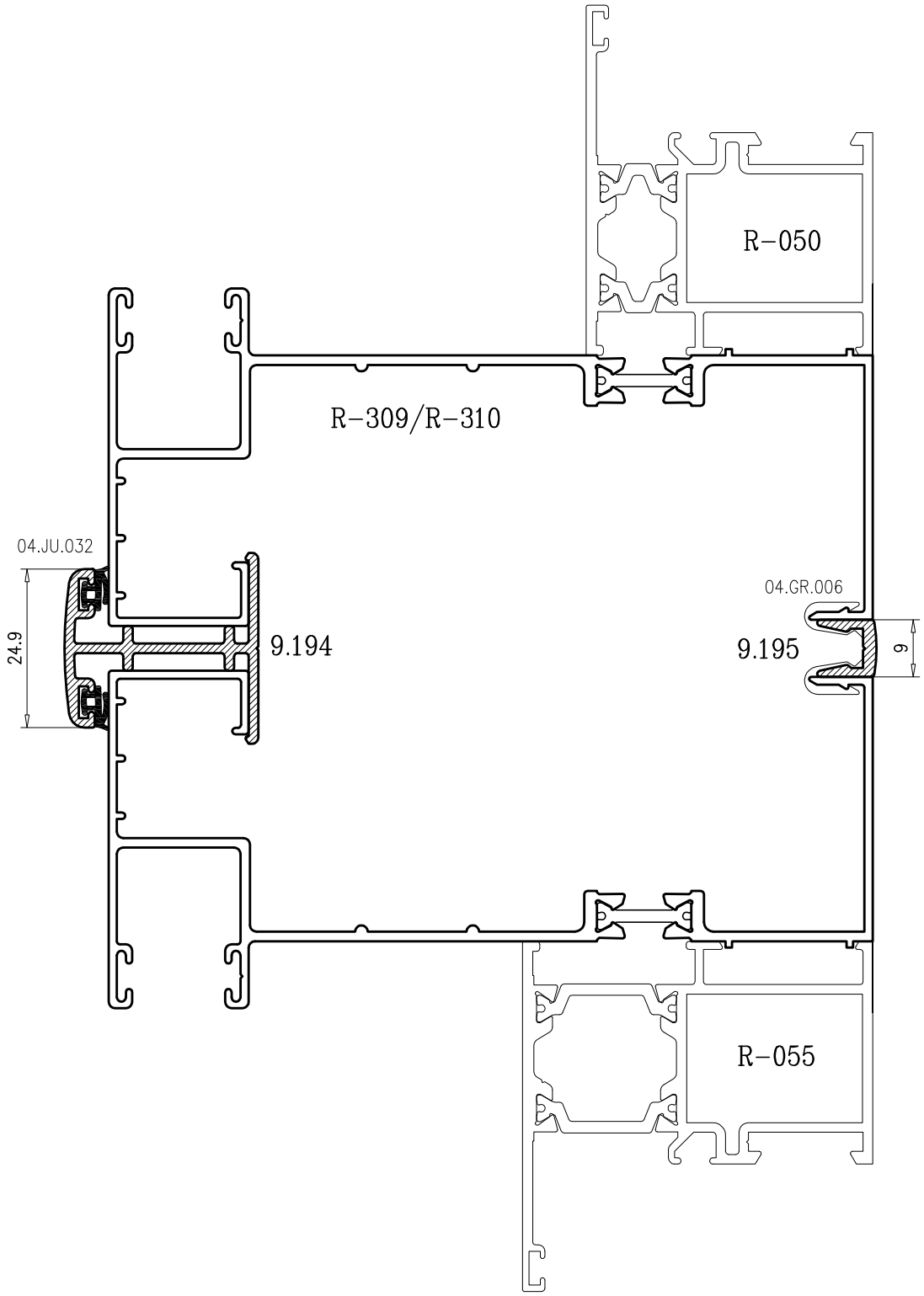

Para el marco de 40mm 10.896, utilizar el tubo 1.748 y el esquinero 4.075




VALIDO PARA UNIR EL SISTEMA 16 CON CUALQUIER OTRA CARPINTERIA DE HASTA 80mm.

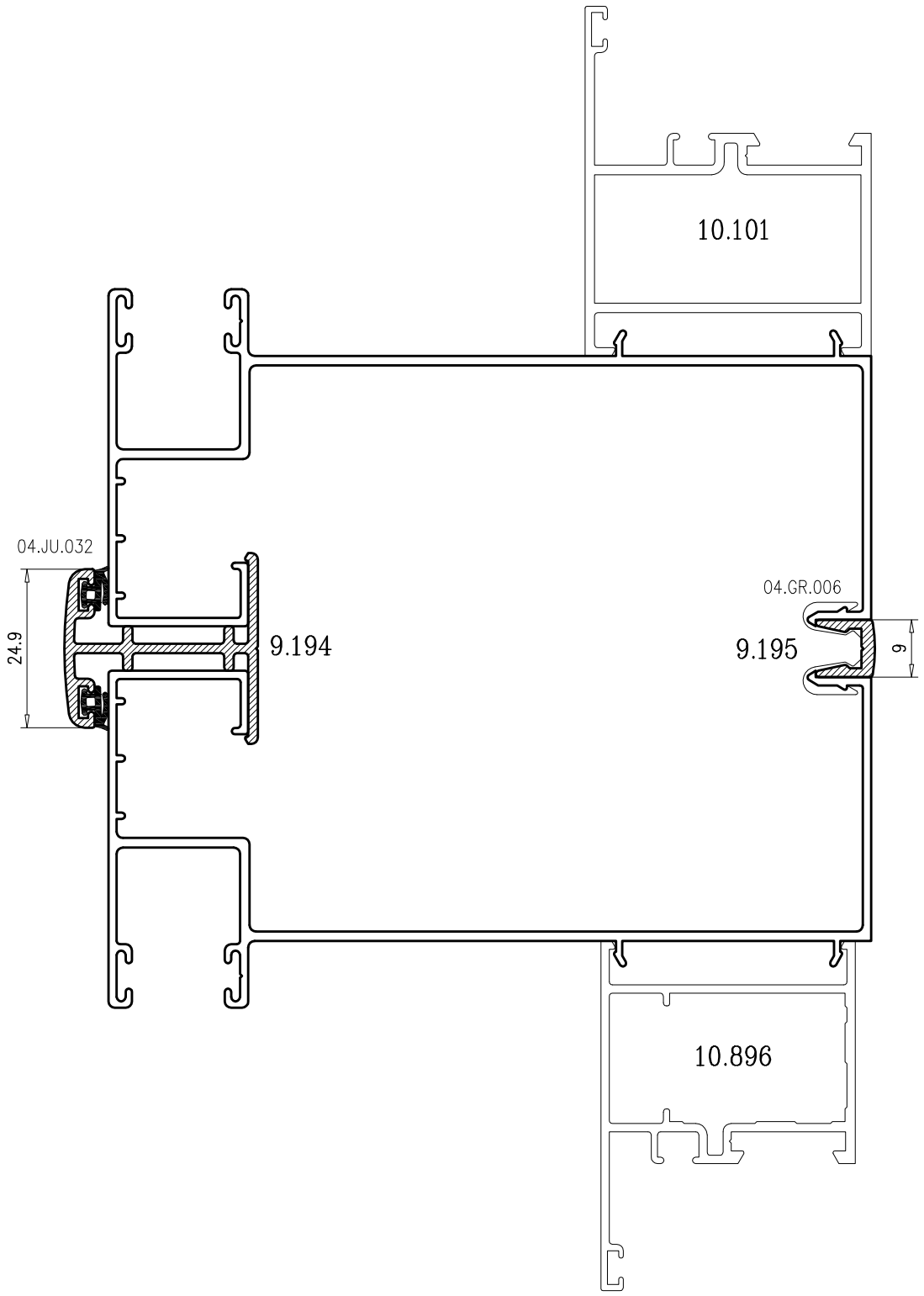
# E16RPT 45mm/55mm

***UNION DE COMPACTOS***



# E16 45mm/40mm

***UNION DE COMPACTOS DE 120, 134 Y 150mm***

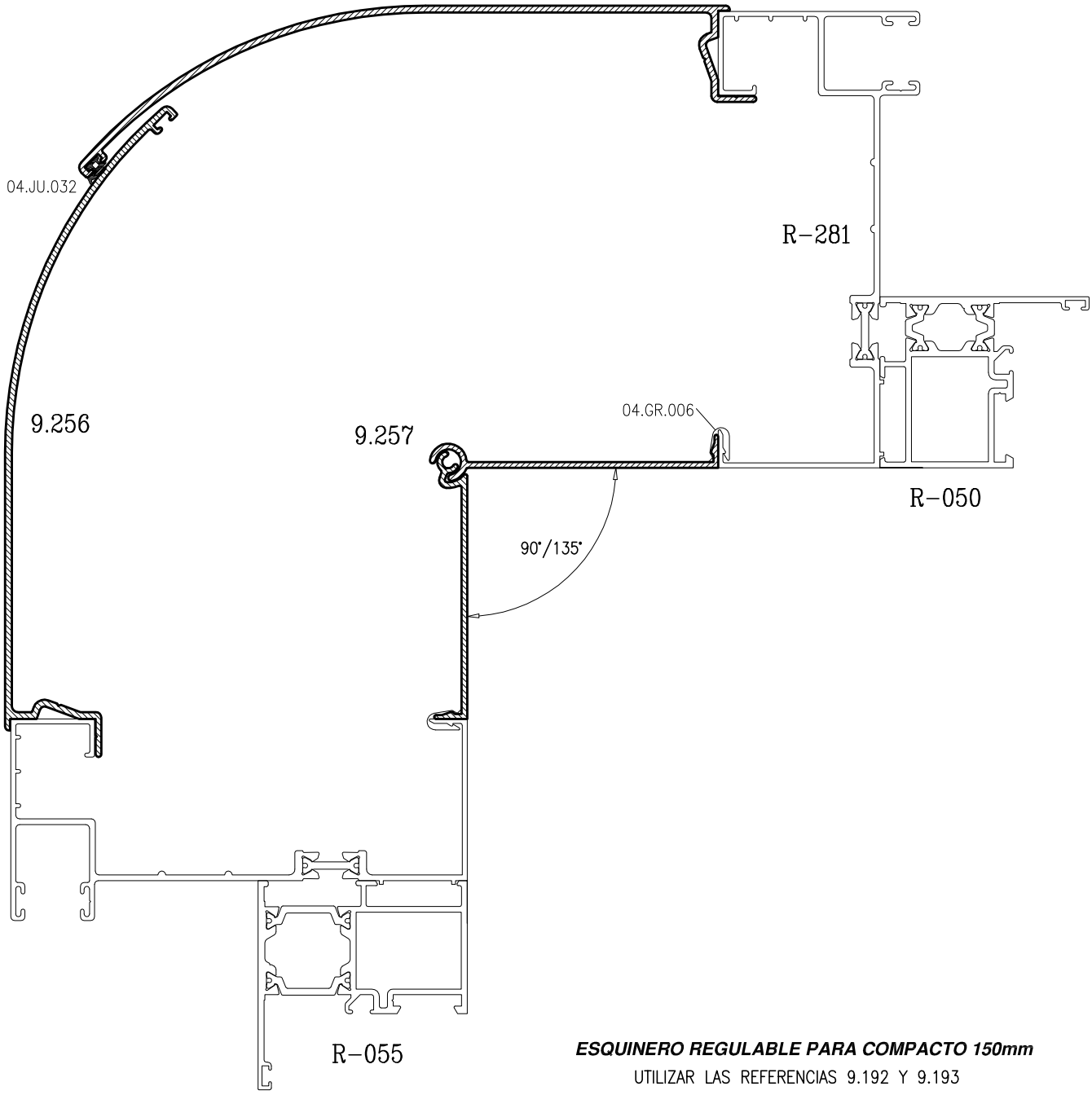


# E16RPT 45mm/55mm

## *ESQUINERO REGULABLE PARA COMPACTO 120mm*

ANCHO MAXIMO DE CAJON UTILIZABLE

| ANCHO GUIA | ANGULO | ANCHO CAJON |
|---|---|---|
| 120mm | 90°/105° | 185mm |
| 120mm | 105°/135° | 200mm |




## *ESQUINERO REGULABLE PARA COMPACTO 150mm*

UTILIZAR LAS REFERENCIAS 9.192 Y 9.193

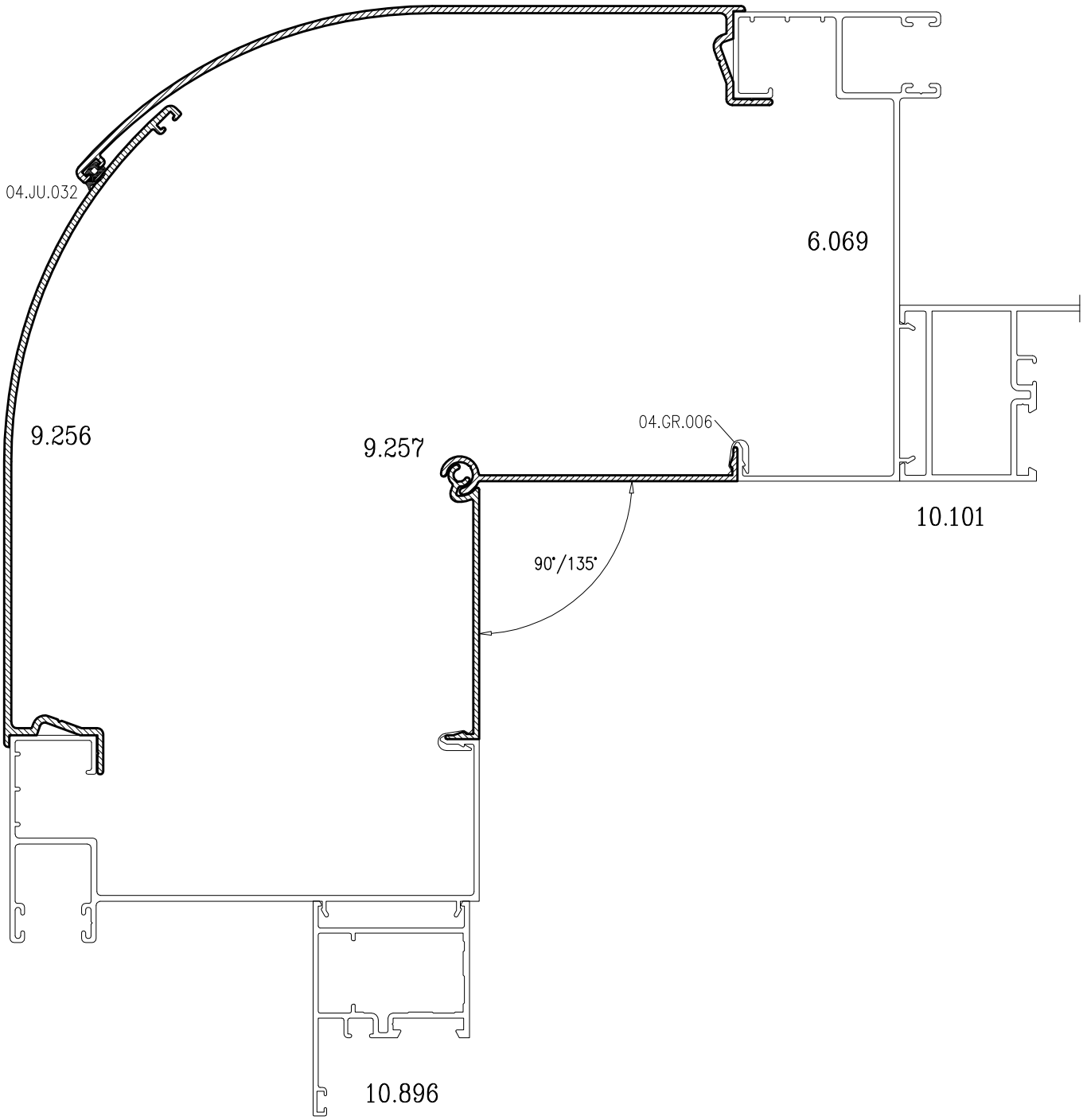
ANCHO MAXIMO DE CAJON UTILIZABLE

| ANCHO GUIA | ANGULO | ANCHO CAJON |
|---|---|---|
| 150mm | 85°/105° | 185mm |
| 150mm | 105°/135° | 200mm |

## *ESQUINERO REGULABLE PARA COMPACTO 120/134mm*

ANCHO MAXIMO DE CAJON UTILIZABLE

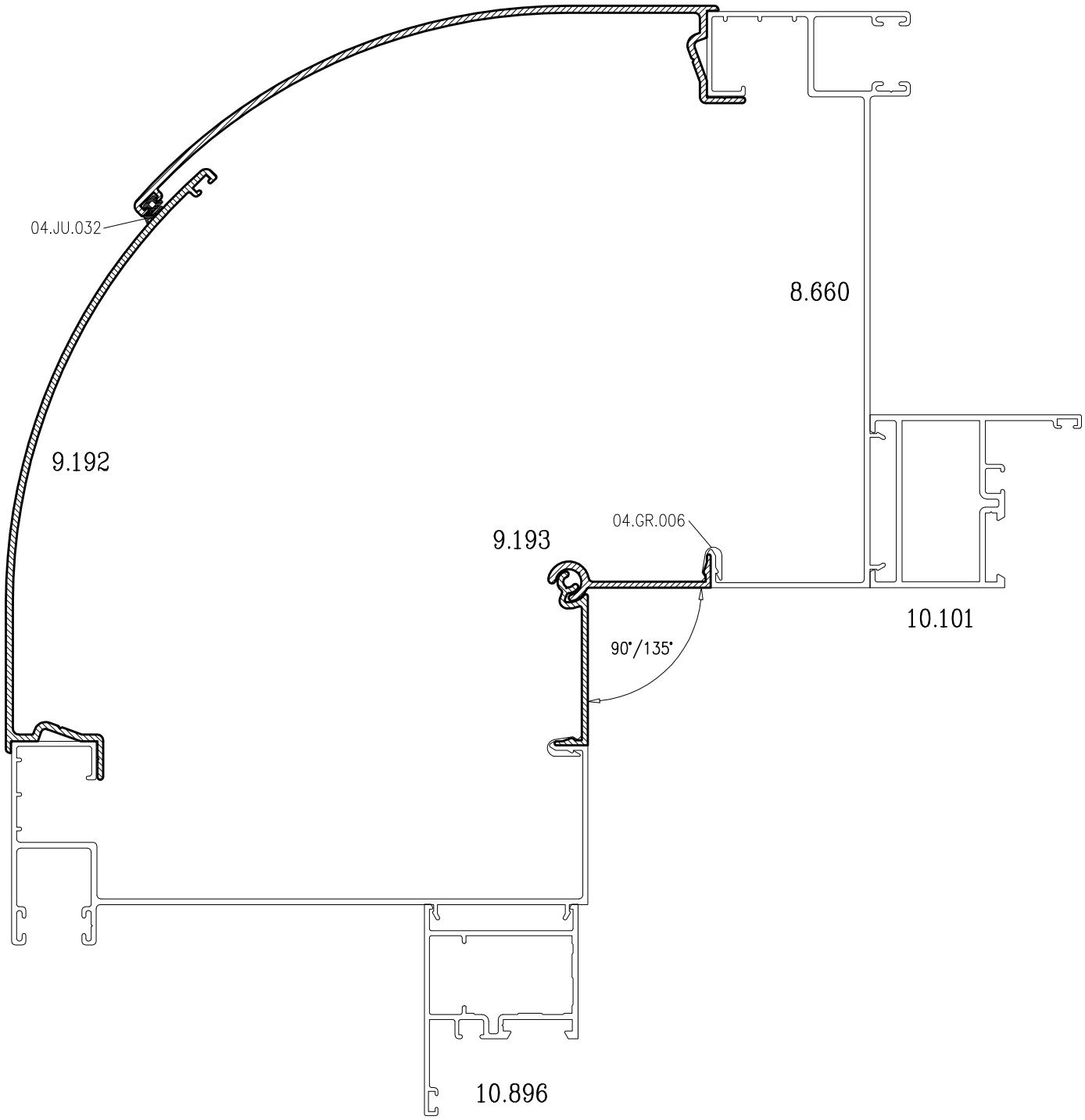
| ANCHO GUIA | ANGULO | ANCHO CAJON |
|---|---|---|
| 120mm | 90°/105° | 185mm |
| 120mm | 105°/135° | 200mm |
| 134mm | 90°/140° | 200mm |



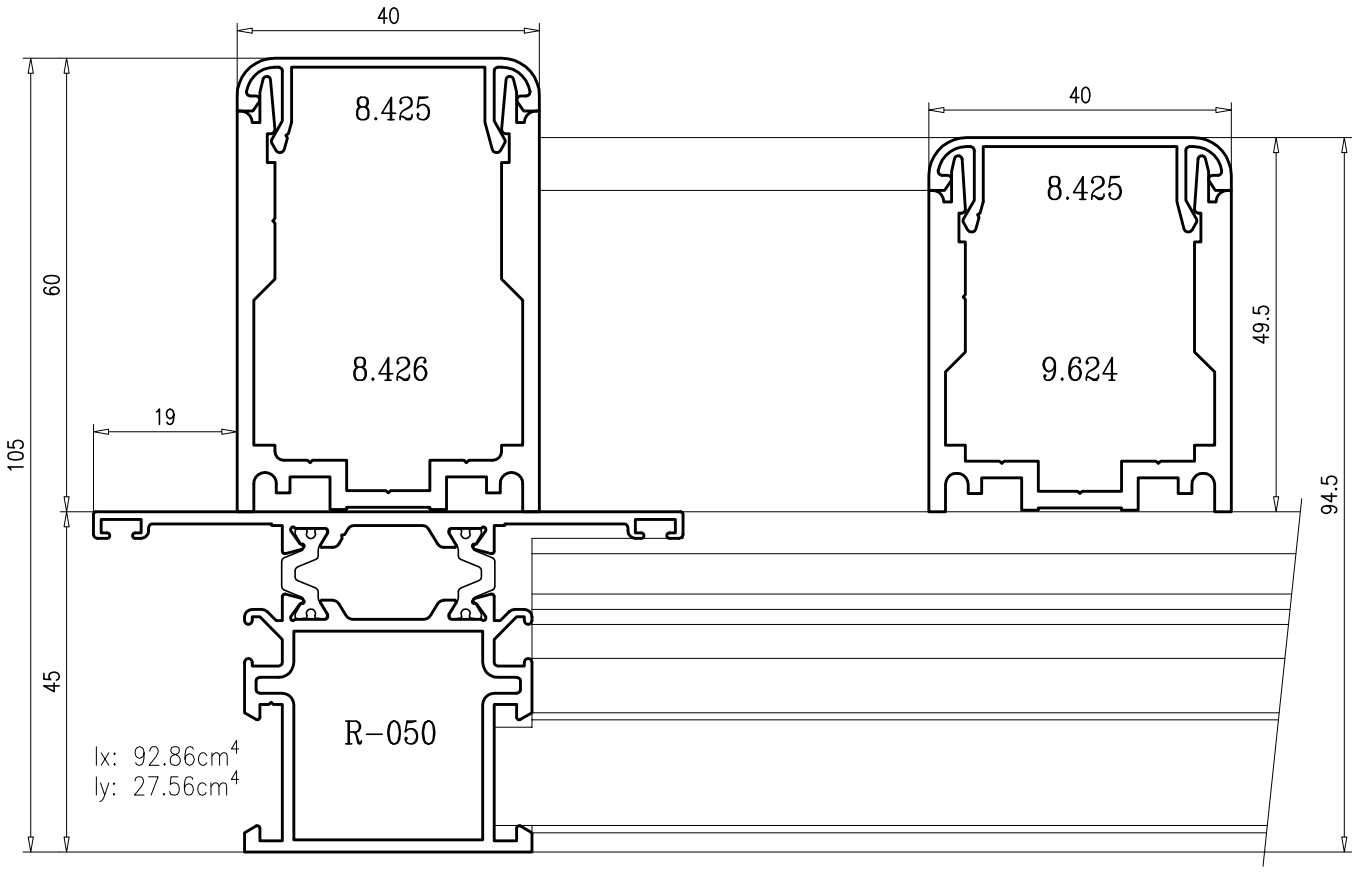
## *ESQUINERO REGULABLE PARA COMPACTO 134/150mm*

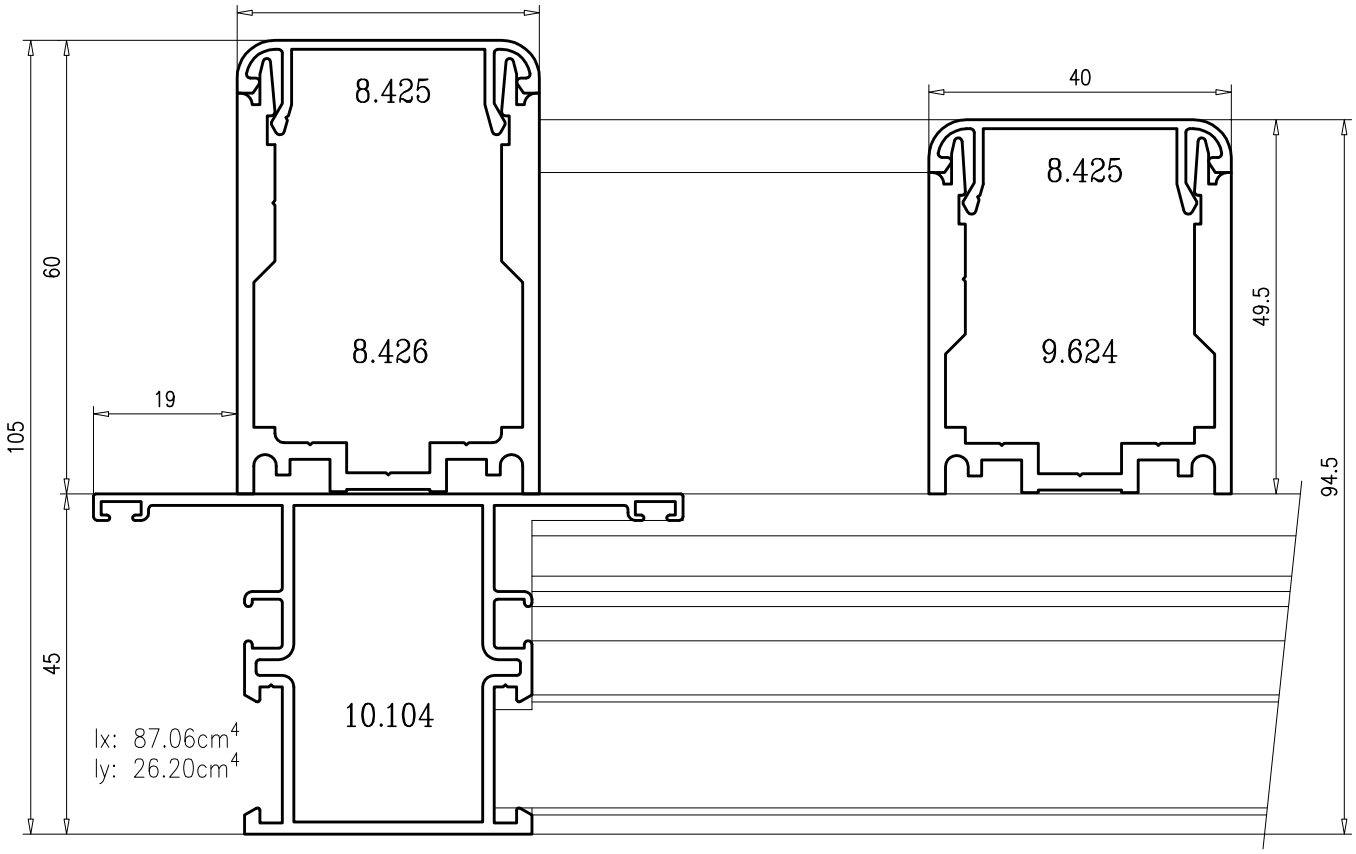
ANCHO MAXIMO DE CAJON UTILIZABLE

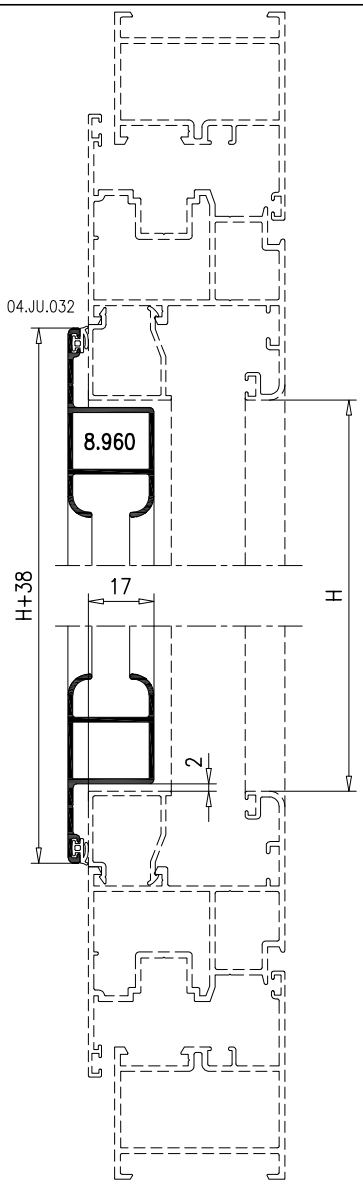
| ANCHO GUIA | ANGULO | ANCHO CAJON |
|---|---|---|
| 134mm | 85°/105° | 170mm |
| 134mm | 105°/140° | 185mm |
| 150mm | 85°/105° | 185mm |
| 150mm | 105°/140° | 200mm |



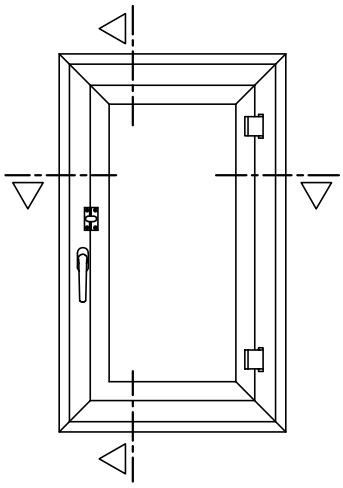
## REFUERZO PILASTRAS



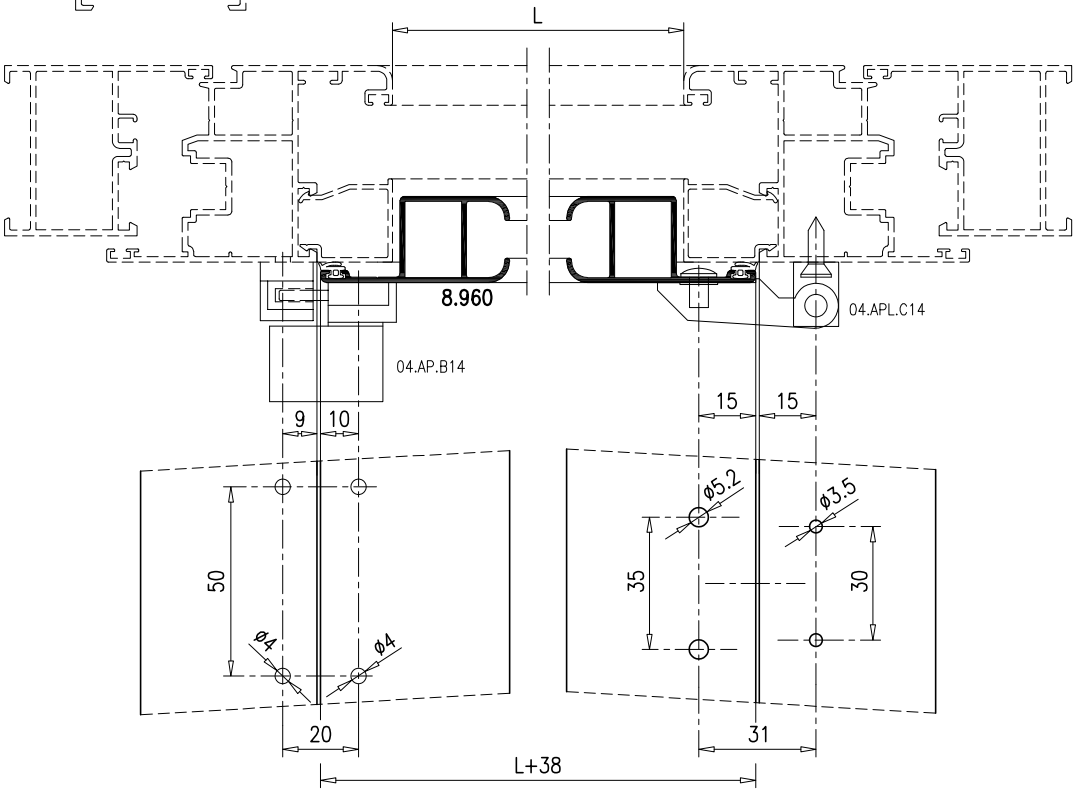






## CONTRAVENTANA



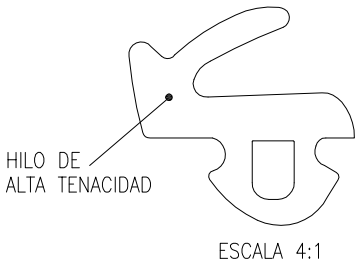
| ACCESORIOS | | |
|---|---|---|
| REFERENCIA | DENOMINACION | UNIDADES |
| 04.AP.B14 | Bisagra Contraventana | 2 |
| 04.APL.C14 | Cierre Contraventana | 1 |
| 04.ES.019 | Escuadra Contraventana | 4 |
| 04.JU.032 | Junta 2mm | |



## JUNTAS DE ACRISTALAMIENTO PERIMETRALES

JUNTA EXTERIOR: Fabricada en EPDM peróxido, incorpora en su interior un hilo resistente de alta tenacidad que permite ser montada de forma perimetral. (sin cortes en los ángulos).

| REFERENCIA | | ANCHO |
|---|---|---|
| **04.JA.001** | | 2.5 mm |

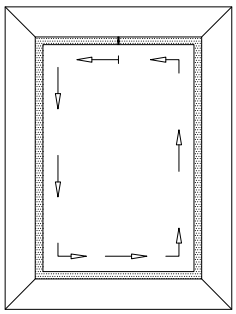



| CARACTERISTICAS | CONSECUENCIAS |
|---|---|
| EPDM blando<br>Dureza 50°ShA | 1. Duración prolongada en perfecto estado.<br>2. No transmite al vidrio las dilataciones del aluminio.<br>3. Rebaja notablemente la transmisión acústica.<br>4. Muy buen comportamiento a los rayos ultravioleta. |
| JUNTA PERIMETRAL | 5. Estanqueidad perfecta.<br>6. Sencilla colocación: –Un solo corte recto.<br>–Se monta por clipado.<br>–Permite su sustitución.<br>–Ahorro de materia y tiempo.<br>7. Mejora la estética. |
| HILO INTERIOR | 8. Facilita la colocación.<br>9. Elimina los estiramientos y su posterior encogimiento. |

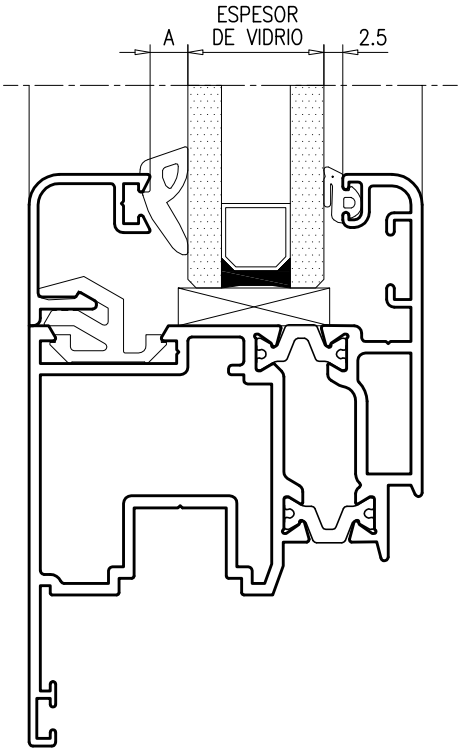
CUÑAS INTERIORES: Fabricadas en EPDM flexible con geometría basada en una parte superior con cámara y una inferior precortada que permite su colocación perimetral. (sin cortes en los ángulos).

| REFERENCIA | | A (mm) |
|---|---|---|
| **04.JA.002** | | 2.0/3.0 |
| **04.JA.003** | | 2.5/4.0 |
| **04.JA.004** | | 3.5/5.5 |
| **04.JA.005** | | 5.0/7.0 |
| **04.JA.006** | | 6.0/8.0 |
| **04.JA.007** | | 7.0/10.0 |

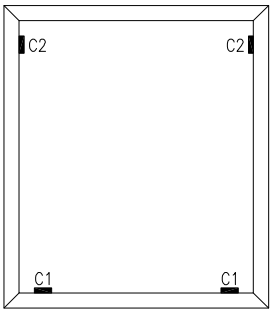
| CARACTERISTICAS | CONSECUENCIAS |
|---|---|
| EPDM | 1. Duración prolongada en perfecto estado.<br>2. No transmite al vidrio las dilataciones del aluminio.<br>3. Rebaja notablemente la transmisión acústica. |
| CÁMARA SUPERIOR | 4. Perfecto acoplamiento al vidrio<br>5. Independencia vidrio–carpinteria |
| PRE – CORTADA | 6. Un solo corte recto. |
| PERIMETRAL | 7. Perfecta estanqueidad.<br>8. Ahorro de materia y tiempo.<br>9. Mejora la estética. |



Tanto la junta exterior como la interior se colocan comenzando por la mitad del travesaño superior, rodeando el marco sin cortarlas en las esquinas para terminar pegando con cyanoacrilato el <u>único</u> corte que llevan las juntas en la parte superior.

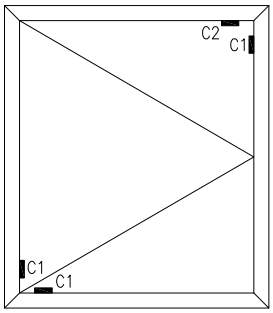


## POSICIONAMIENTO DE LOS CALZOS DE APOYO DE VIDRIO



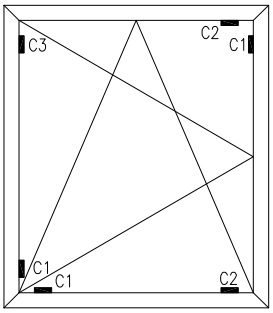

FIJO

C1: Calzo de apoyo
C2: Calzo perimetral



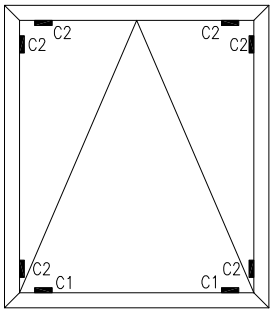

PRACTICABLE

C1: Calzo de apoyo
C2: Calzo perimetral



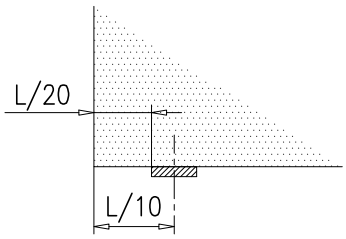

OSCILOBATIENTE

C1: Calzo de apoyo
C2: Calzo perimetral
C3: Calzo de seguridad




ABATIBLE

C1: Calzo de apoyo
C2: Calzo perimetral




Los calzos deben colocarse necesariamente como se indica en los croquis, sin añadir otros calzos en otras situaciones.

La distancia entre el eje de los calzos de apoyo y el borde del vidrio, será aproximadamente igual a 1/10 de la longitud del vidrio.

La distancia entre el borde exterior del calzo y el borde del vidrio será aproximadamente igual a 1/20 de la longitud del vidrio.

EXTRUAL sistemas

# Pesos y Perimetros

# E16/16RPT

| REFERENCIA | DENOMINACION | Peso Teórico Kg/m | Perimetro m²/m | |
|---|---|---|---|---|
| | | | Total | Exterior |
| 1.748 | Tubo ø40 | 0.491 | 0.24 | 0.13 |
| 1.749 | Tubo ø50 | 0.617 | 0.31 | 0.16 |
| 2.882 | Esquinero 45° 40mm | 0.613 | 0.35 | 0.22 |
| 2.797 | Premarco de Obra 36mm | 0.313 | 0.19 | 0.11 |
| 2.885 | Unión Practicable 40-Corredere 60 | 0.383 | 0.22 | |
| 2.887 | Esquinero 90° 40mm | 0.640 | 0.36 | 0.21 |
| 3.358 | Junquillo Recto 31mm | 0.284 | 0.18 | |
| 3.360 | Junquillo Recto 22mm | 0.238 | 0.15 | |
| 3.494 | Solape clipado 40mm | 0.324 | 0.19 | |
| 4.075 | Esquinero Regulable 40mm | 0.286 | 0.15 | |
| 4.278 | Unión de marcos 40mm | 0.262 | 0.16 | |
| 4.525 | Unión de marcos 45mm | 0.316 | 0.19 | |
| 4.750 | Esquinero Regulable 45mm | 0.308 | 0.18 | |
| 5.070 | Junquillo Curvo grapa 28mm | 0.213 | 0.13 | |
| 5.071 | Junquillo Curvo grapa 16mm | 0.173 | 0.11 | |
| 5.612 | Junquillo Redondo grapa 28mm | 0.203 | 0.12 | |
| 5.613 | Junquillo Redondo grapa 16mm | 0.162 | 0.10 | |
| 6.064 | Solape Grapa 30mm | 0.157 | 0.10 | |
| 6.069 | Guia Compacto 120mm | 1.121 | 0.60 | |
| 6.070 | Solape clipado 30mm | 0.297 | 0.18 | |
| 6.179 | Junquillo Curvo clip 28mm | 0.262 | 0.16 | |
| 6.180 | Junquillo Curvo clip 16mm | 0.216 | 0.13 | |
| 6.181 | Junquillo Redondo clip 28mm | 0.246 | 0.15 | |
| 6.182 | Junquillo Redondo clip 16mm | 0.200 | 0.13 | |
| 6.470 | Solape Grapa 50mm | 0.262 | 0.15 | |
| 6.471 | Solape clipado 50mm | 0.192 | 0.11 | |
| 6.487 | Junquillo Registro | 0.402 | 0.24 | |
| 6.755 | Forro Registro 40mm | 0.394 | 0.22 | |
| 6.756 | Forro Registro 60mm | 0.464 | 0.26 | |
| 6.757 | Forro Registro 85mm | 0.575 | 0.33 | |
| 7.057 | Esquinero 45° | 0.559 | 0.27 | 0.16 |
| 7.058 | Esquinero 90° | 0.764 | 0.38 | 0.21 |
| 7.059 | Unión de marcos reforzada | 1.172 | 0.54 | 0.29 |
| 7.060 | Unión de marcos | 0.224 | 0.11 | |
| 7.175 | Vierteaguas marco | 0.478 | 0.24 | |
| 7.223 | Jamba 85mm | 0.435 | 0.22 | |
| 7.224 | Jamba 70mm | 0.373 | 0.19 | |
| 7.225 | Jamba 60mm | 0.278 | 0.14 | |
| 8.029 | Solape clipado 30mm RPT | 0.248 | 0.15 | |
| 8.425 | Tapeta refuerzo pilastra | 0.254 | 0.15 | |
| 8.491 | Solape 25mm | 0.167 | 0.10 | |
| 8.525 | Solape Grapa 40mm recto | 0.203 | 0.12 | |
| 8.525 | Solape clipado 40mm recto RPT | 0.284 | 0.27 | |

| REFERENCIA | DENOMINACION | Peso Teórico Kg/m | Perimetro m²/m | |
|---|---|---|---|---|
| | | | Total | Exterior |
| 8.660 | Guia Compacto 150mm | 1.242 | 0.66 | |
| 8.960 | Hoja Contraventana | 0.454 | 0.26 | |
| 9.007 | Junquillo Curvo grapa 22mm | 0.194 | 0.12 | 0.19 |
| 9.008 | Junquillo Curvo clip 22mm | 0.235 | 0.15 | |
| 9.009 | Junquillo Redondo grapa 22mm | 0.178 | 0.11 | |
| 9.010 | Junquillo Redondo clip 22mm | 0.219 | 0.14 | |
| 9.025 | Junquillo Recto 28mm | 0.270 | 0.17 | |
| 9.026 | Junquillo Recto 16mm | 0.221 | 0.14 | |
| 9.027 | Junquillo Curvo grapa 10mm | 0.157 | 0.10 | |
| 9.028 | Junquillo Curvo clip 10mm | 0.213 | 0.13 | |
| 9.192 | Esq. Regulable Ext. Compacto 150mm | 0.994 | 0.42 | |
| 9.193 | Esq. Regulable Int. Compacto 150mm | 0.532 | 0.25 | |
| 9.194 | Unión Exterior Compactos | 0.427 | 0.21 | |
| 9.195 | Unión Interior Compactos | 0.103 | 0.10 | |
| 9.197 | Vierteaguas 106mm | 0.405 | 0.22 | |
| 9.210 | Esquinero Regulable | 0.562 | 0.30 | |
| 9.213 | Premarco Obra 36mm | 0.329 | 0.20 | |
| 9.214 | Premarco Obra 122mm | 0.821 | 0.47 | |
| 9.215 | Premarco Obra 136mm | 0.878 | 0.50 | |
| 9.216 | Premarco Obra 152mm | 0.942 | 0.53 | |
| 9.225 | Vierteaguas 122.5mm | 0.500 | 0.25 | |
| 9.230 | Guia Compacto 134mm | 1.177 | 0.63 | |
| 9.256 | Esq. Regulable Ext. Compacto 120mm | 1.040 | 0.44 | |
| 9.257 | Esq. Regulable Int. Compacto 120mm | 0.729 | 0.37 | |
| 9.284 | Inversor de marco | 0.481 | 0.27 | |
| 9.484 | Panelado 8.5mm | 0.605 | 0.33 | 0.17 |
| 9.498 | Unión de marcos 40mm | 0.221 | 0.13 | |
| 9.619 | Vierteaguas Hoja | 0.157 | 0.10 | |
| 9.622 | Marco Bajo Puerta | 0.289 | 0.14 | |
| 9.623 | Vierteaguas Hoja Puerta | 0.321 | 0.17 | |
| 9.624 | Refuerzo Pilastra 50 | 1.142 | 0.30 | |
| 9.660 | Premarco Obra 30mm | 0.340 | 0.17 | 0.10 |
| 9.708 | Junquillo resalte chaflan 23mm | 0.235 | 0.13 | |
| 9.709 | Junquillo resalte chaflan 17mm | 0.219 | 0.12 | |
| 9.710 | Solape clipado 40mm chaflan | 0.362 | 0.22 | |
| 9.711 | Solape clipado 40mm chaflan RPT | 0.305 | 0.19 | |
| 9.712 | Solape Grapa 40mm chaflan | 0.219 | 0.13 | |
| 9.713 | Junquillo resalte madera 23mm | 0.230 | 0.13 | |
| 9.714 | Junquillo resalte madera 17mm | 0.213 | 0.12 | |
| 9.715 | Solape grapa 40mm madera | 0.362 | 0.21 | |
| 9.716 | Solape grapa 40mm madera RPT | 0.308 | 0.18 | |
| 9.717 | Solape grapa 40mm madera | 0.219 | 0.13 | |
| 9.771 | Solape clipado 40mm recto | 0.343 | 0.21 | |

EXTRUAL sistemas

## Pesos y Perimetros

# E16/16RPT

| REFERENCIA | DENOMINACION | Peso Teórico Kg/m | Perimetro m²/m | |
|---|---|---|---|---|
| | | | Total | Exterior |
| 10.101 | Marco Ventana 45mm | 0.813 | 0.41 | 0.28 |
| 10.103 | Inversor 45mm | 0.902 | 0.46 | 0.29 |
| 10.104 | Pilastra 45mm | 0.977 | 0.50 | 0.35 |
| 10.115 | Junquillo Redondo grapa 12.5mm | 0.143 | 0.10 | |
| 10.116 | Junquillo Redondo clip 12.5mm | 0.203 | 0.13 | |
| 10.252 | Junquillo Recto 12.5mm | 0.224 | 0.14 | |
| 10.289 | Vierteaguas 89mm | 0.378 | 0.20 | |
| 10.290 | Vierteaguas 119mm | 0.525 | 0.26 | |
| 10.423 | Hoja Puerta 45mm | 1.304 | 0.63 | 0.42 |
| 10.424 | Hoja Puerta Ap.Ext. 45mm | 1.307 | 0.63 | 0.40 |
| 10.817 | Junquillo Curvo grapa 31mm | 0.270 | 0.15 | |
| 10.896 | Marco Ventana 40mm | 0.694 | 0.39 | 0.26 |
| 10.897 | Hoja Ventana 40mm | 1.007 | 0.57 | 0.36 |
| 10.898 | Inversor 40mm | 0.761 | 0.44 | 0.28 |
| 10.899 | Pilastra 40mm | 0.854 | 0.48 | 0.34 |
| 10.959 | Solape Grapa 70mm | 0.308 | 0.18 | |
| 10.690 | Solape Clipado 70mm | 0.478 | 0.27 | |
| 11.038 | Marco 40mm Solape 25mm | 0.810 | 0.46 | 0.33 |
| 11.139 | Junquillo Recto 10mm | 0.219 | 0.14 | |
| 12.010 | Hoja Ventana 45mm | 1.161 | 0.59 | 0.38 |
| 11.654 | Solape Grapa 40mm Curvo | 0.248 | 0.14 | |
| 12.168 | Forro Registro Recto 40mm | 0.386 | 0.22 | |
| 12.169 | Forro Registro Recto 60mm | 0.481 | 0.28 | |
| 12.170 | Forro Registro Recto 85mm | 0.567 | 0.33 | |
| 12.207 | Junquillo Recto C-31 | 0.181 | 0.14 | |
| 16.563 | Forro Registro Recto 25mm | 0.329 | 0.19 | |
| 17.181 | Vierteaguas Hoja Puerta | 0.278 | 0.14 | |
| 17.182 | Parteluces 100mm 40mm | 1.123 | 0.57 | 0.38 |

| REFERENCIA | DENOMINACION | Peso Teórico Kg/m | Perimetro m²/m | |
|---|---|---|---|---|
| | | | Total | Exterior |
| R046 | Solera canal herraje 55mm | | | |
| R047 | Marco 55mm Solape 25mm | | | |
| R048 | Marco 55mm Solape 25mm | | | |
| R049 | Hoja Puerta 45mm | | | |
| R050 | Marco Ventana 45mm | | | |
| R051 | Hoja Ventana 45mm | | | |
| R052 | Inversor 45mm | | | |
| R053 | Pilastra Ventana 45mm | | | |
| R054 | Unión de marcos 55mm clip | | | |
| R055 | Marco Ventana 55mm | | | |
| R056 | Hoja Ventana 55mm | | | |
| R057 | Inversor 55mm | | | |
| R058 | Pilastra Ventana 55mm | | | |
| R059 | Hoja Puerta 55mm | | | |
| R064 | Marco con Registro 45mm | | | |
| R068 | Marco Puerta 45mm | | | |
| R069 | Hoja Puerta Ap. Ext. 45mm | | | |
| R070 | Hoja Osciloparalela 45mm | | | |
| R071 | Vierteaguas Hoja Puerta 45mm | | | |
| R072 | Marco Puerta 55mm | | | |
| R073 | Hoja Puerta Ap. Ext. 55mm | | | |
| R074 | Hoja Osciloparalela 55mm | | | |
| R075 | Vierteaguas Hoja Puerta 55mm | | | |
| R079 | Marco con Registro 55mm | | | |
| R098 | Pilastra Puerta 45mm | | | |
| R099 | Pilastra Puerta 55mm | | | |
| R213 | Esquinero 90° | | | |
| R214 | Esquinero 45° | | | |
| R215 | Esquinero regulable | | | |
| R216 | Unión de marcos 80mm | | | |
| R222 | Unión de marcos 86mm | | | |
| R261 | Solera lisa 55mm | | | |
| R262 | Unión de marcos 45mm clip | | | |
| R263 | Esquinero 90° 45mm clip | | | |
| R295 | Esquinero Regulable 45mm clip | | | |
| R309 | Guia compacto 120mm | | | |
| R310 | Guia compacto 150mm | | | |