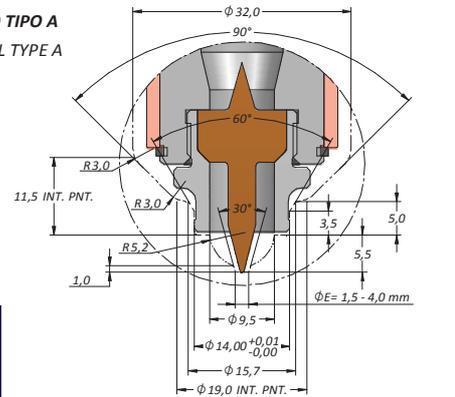
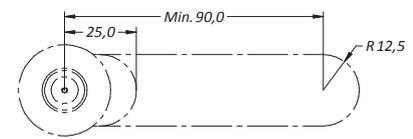


| REF. BOQUILLA REF. NOZZLE | ΦB | M | D |
|------------------------------|------|------|------|
| CSI.ZN08M | 8,0 | 46,0 | 68,0 |
| CSI.ZN10M | 9,5 | 46,0 | 68,0 |
| CSI.ZN12M | 12,0 | 49,0 | 71,0 |
| CSI.ZN14M | 14,0 | 52,0 | 74,0 |
| CSI.ZN16M | 16,0 | 52,0 | 74,0 |

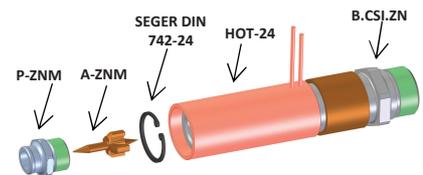
ALOJAMIENTO TIPO A
BORING DETAIL TYPE A



| SERIE CSI | NOZZLE | | | REF. HEATER | W | THERMAL EXPANSION | | | |
|-------------|---------|-------|--|------------------------------|--------------|-------------------|------|------|------|
| | A (20°) | X | | | | 200° | 250° | 300° | 330° |
| CSI.ZNM-080 | 84,45 | --- | | HOT-2460300 | 300 | 0,18 | 0,23 | 0,28 | 0,31 |
| CSI.ZNM-090 | 94,45 | 20,0 | | HOT-2460300 | 300 | 0,20 | 0,26 | 0,32 | 0,35 |
| CSI.ZNM-100 | 104,45 | 30,0 | | HOT-2460300 | 300 | 0,23 | 0,29 | 0,35 | 0,39 |
| CSI.ZNM-120 | 124,45 | 50,0 | | HOT-2460300 | 300 | 0,27 | 0,34 | 0,42 | 0,46 |
| CSI.ZNM-140 | 144,45 | 40,0 | | HOT-2490350 | 350 | 0,31 | 0,40 | 0,49 | 0,54 |
| CSI.ZNM-160 | 164,45 | 60,0 | | HOT-2490350 | 350 | 0,36 | 0,45 | 0,55 | 0,61 |
| CSI.ZNM-180 | 184,45 | 110,0 | | HOT-2460300 + HOT-2460300 | 300 + 300 | 0,40 | 0,51 | 0,62 | 0,69 |
| CSI.ZNM-200 | 204,45 | 130,0 | | HOT-2460300 + HOT-2460300 | 300 + 300 | 0,44 | 0,56 | 0,69 | 0,76 |



ALOJAMIENTO BOQUILLA BORING DETAIL NOZZLE



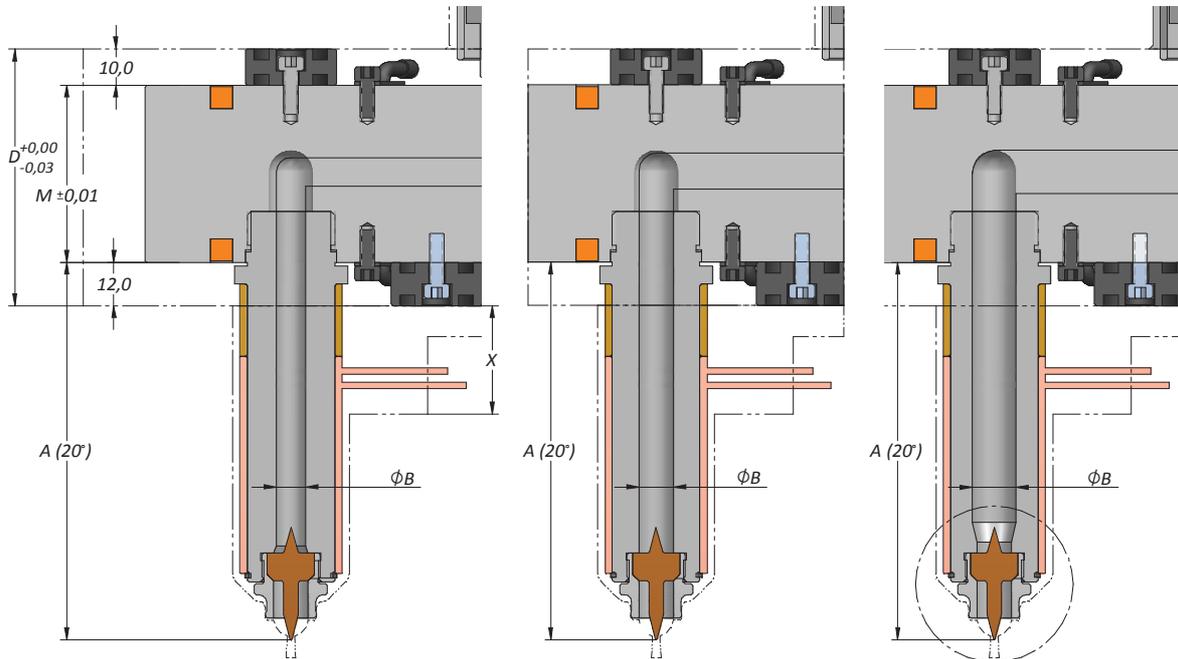
Llave puntera: 18 / Hexagon socket nozzle tip insert: 18

Par de apriete puntera (Nm): 60 / Torque nozzle tip insert (Nm): 60

Para más medidas de bloque consultar pág.69-70 / For more manifold measures see page 69-70

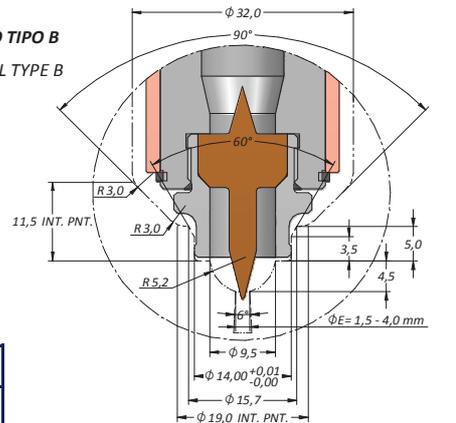
IMPORTANTE / IMPORTANT: Aplicar la dilatación térmica / Apply the thermal expansion

$$TE = L_{\text{nozzle}} \times \frac{(\text{Process temperature} - 20^{\circ}\text{C}) \times 12}{1000000}$$

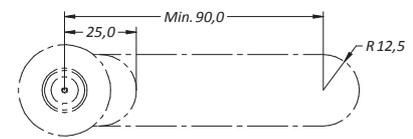


| REF. BOQUILLA REF. NOZZLE | ØB | M | D |
|------------------------------|------|------|------|
| CSI.ZN08M | 8,0 | 46,0 | 68,0 |
| CSI.ZN10M | 9,5 | 46,0 | 68,0 |
| CSI.ZN12M | 12,0 | 49,0 | 71,0 |
| CSI.ZN14M | 14,0 | 52,0 | 74,0 |
| CSI.ZN16M | 16,0 | 52,0 | 74,0 |

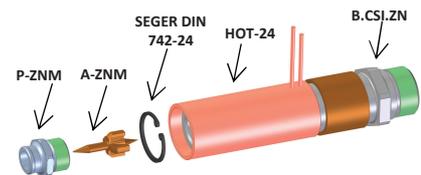
ALOJAMIENTO TIPO B
BORING DETAIL TYPE B



| SERIE CSI | NOZZLE | | | | THERMAL EXPANSION | | | |
|-------------|---------|-------|------------------------------|--------------|-------------------|------|------|------|
| | A (20°) | X | REF. HEATER | W | 200° | 250° | 300° | 330° |
| CSI.ZNM-080 | 84,45 | --- | HOT-2460300 | 300 | 0,18 | 0,23 | 0,28 | 0,31 |
| CSI.ZNM-090 | 94,45 | 20,0 | HOT-2460300 | 300 | 0,20 | 0,26 | 0,32 | 0,35 |
| CSI.ZNM-100 | 104,45 | 30,0 | HOT-2460300 | 300 | 0,23 | 0,29 | 0,35 | 0,39 |
| CSI.ZNM-120 | 124,45 | 50,0 | HOT-2460300 | 300 | 0,27 | 0,34 | 0,42 | 0,46 |
| CSI.ZNM-140 | 144,45 | 40,0 | HOT-2490350 | 350 | 0,31 | 0,40 | 0,49 | 0,54 |
| CSI.ZNM-160 | 164,45 | 60,0 | HOT-2490350 | 350 | 0,36 | 0,45 | 0,55 | 0,61 |
| CSI.ZNM-180 | 184,45 | 110,0 | HOT-2460300 + HOT-2460300 | 300 + 300 | 0,40 | 0,51 | 0,62 | 0,69 |
| CSI.ZNM-200 | 204,45 | 130,0 | HOT-2460300 + HOT-2460300 | 300 + 300 | 0,44 | 0,56 | 0,69 | 0,76 |



ALOJAMIENTO BOQUILLA BORING DETAIL NOZZLE



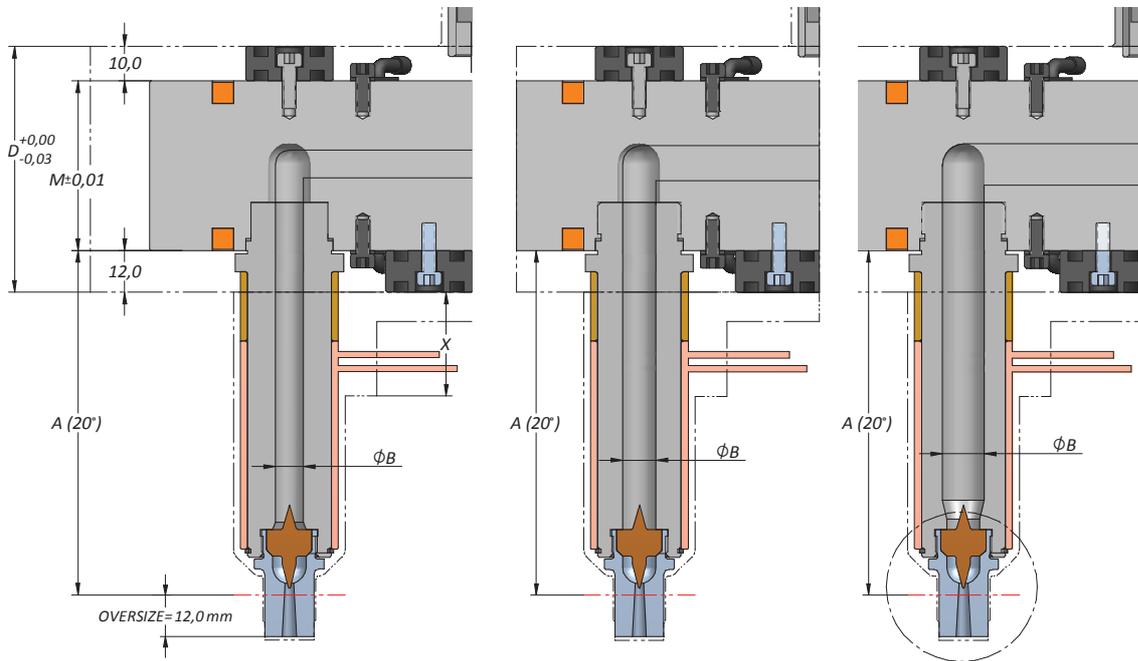
Llave puntera: 18 / Hexagon socket nozzle tip insert: 18

Par de apriete puntera (Nm): 60 / Torque nozzle tip insert (Nm): 60

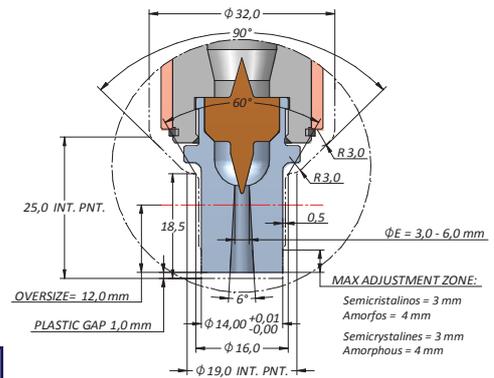
Para más medidas de bloque consultar pág.69-70 / For more manifold measures see page 69-70

IMPORTANTE / IMPORTANT: Aplicar la dilatación térmica / Apply the thermal expansion

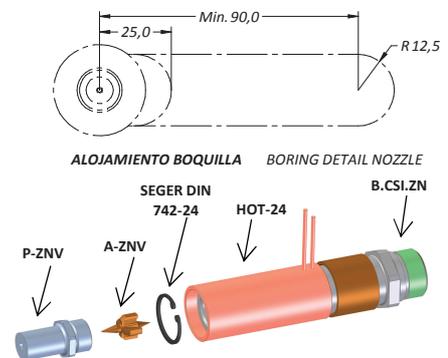
$$TE = L_{\text{nozzle}} \times \frac{(\text{Process temperature} - 20^{\circ}\text{C}) \times 12}{1000000}$$



| REF. BOQUILLA REF. NOZZLE | ØB | M | D |
|------------------------------|------|------|------|
| CSI.ZN08V | 8,0 | 46,0 | 68,0 |
| CSI.ZN10V | 9,5 | 46,0 | 68,0 |
| CSI.ZN12V | 12,0 | 49,0 | 71,0 |
| CSI.ZN14V | 14,0 | 52,0 | 74,0 |
| CSI.ZN16V | 16,0 | 52,0 | 74,0 |



| NOZZLE | | | | | THERMAL EXPANSION | | | |
|-------------|---------|-------|------------------------------|--------------|-------------------|------|------|------|
| SERIE CSI | A (20°) | X | REF. HEATER | W | 200° | 250° | 300° | 330° |
| CSI.ZNV-080 | 79,45 | --- | HOT-2460300 | 300 | 0,17 | 0,22 | 0,27 | 0,30 |
| CSI.ZNV-090 | 89,45 | 20,0 | HOT-2460300 | 300 | 0,19 | 0,25 | 0,30 | 0,33 |
| CSI.ZNV-100 | 99,45 | 30,0 | HOT-2460300 | 300 | 0,21 | 0,27 | 0,33 | 0,37 |
| CSI.ZNV-120 | 119,45 | 50,0 | HOT-2460300 | 300 | 0,26 | 0,33 | 0,40 | 0,44 |
| CSI.ZNV-140 | 139,45 | 40,0 | HOT-2490350 | 350 | 0,30 | 0,38 | 0,47 | 0,52 |
| CSI.ZNV-160 | 159,45 | 60,0 | HOT-2490350 | 350 | 0,34 | 0,44 | 0,54 | 0,59 |
| CSI.ZNV-180 | 179,45 | 110,0 | HOT-2460300 + HOT-2460300 | 300 + 300 | 0,39 | 0,50 | 0,60 | 0,67 |
| CSI.ZNV-200 | 199,45 | 130,0 | HOT-2460300 + HOT-2460300 | 300 + 300 | 0,43 | 0,55 | 0,67 | 0,74 |



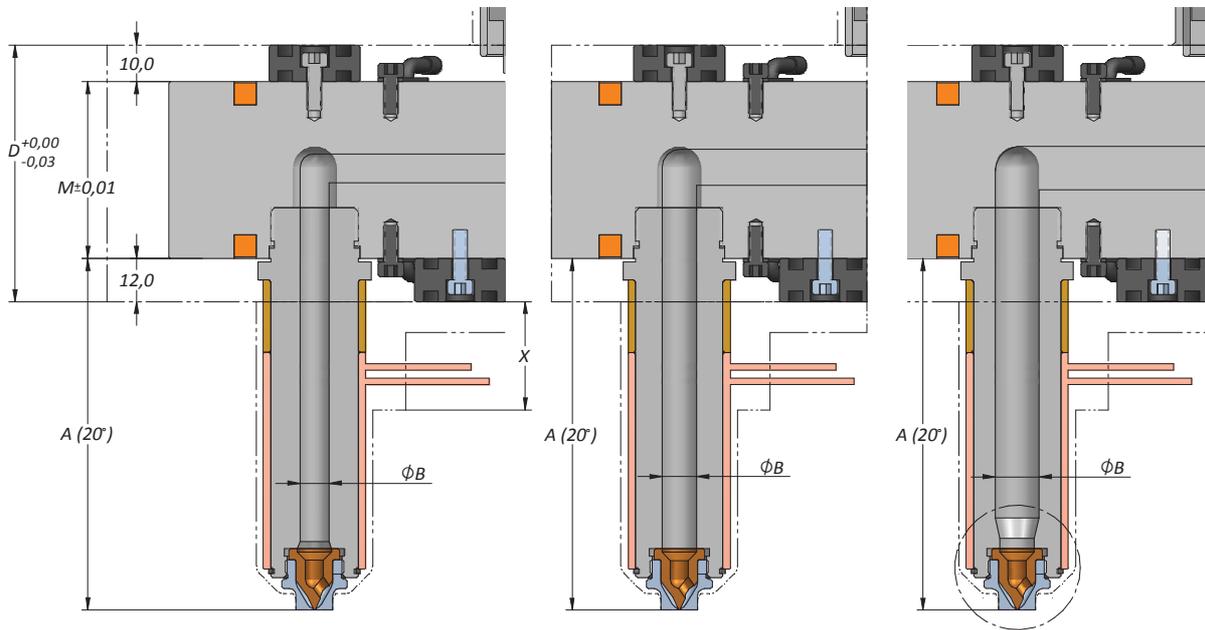
Llave puntera: 18 / Hexagon socket nozzle tip insert: 18

Par de apriete puntera (Nm): 60 / Torque nozzle tip insert (Nm): 60

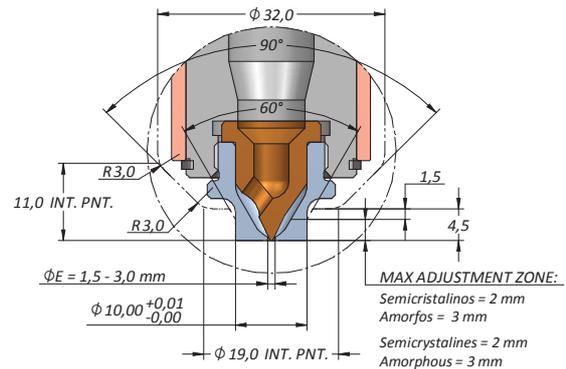
Para más medidas de bloque consultar pág.69-70 / For more manifold measures see page 69-70

IMPORTANTE / IMPORTANT: Aplicar la dilatación térmica / Apply the thermal expansion

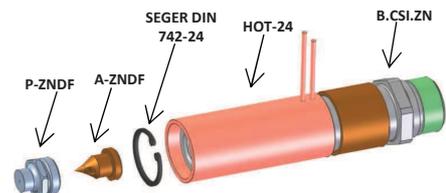
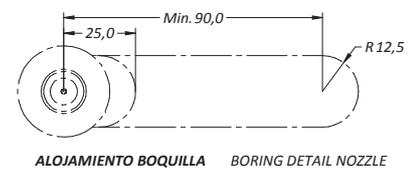
$$TE = L_{\text{nozzle}} \times \frac{(\text{Process temperature} - 20^{\circ}\text{C}) \times 12}{1000000}$$



| REF. BOQUILLA REF. NOZZLE | ΦB | M | D |
|------------------------------|------|------|------|
| CSI.ZN08DF | 8,0 | 46,0 | 68,0 |
| CSI.ZN10DF | 9,5 | 46,0 | 68,0 |
| CSI.ZN12DF | 12,0 | 49,0 | 71,0 |
| CSI.ZN14DF | 14,0 | 52,0 | 74,0 |
| CSI.ZN16DF | 16,0 | 52,0 | 74,0 |



| NOZZLE | | | | THERMAL EXPANSION | | | | |
|--------------|---------|-------|------------------------------|-------------------|------|------|------|------|
| SERIE CSI | A (20°) | X | REF. HEATER | W | 200° | 250° | 300° | 330° |
| CSI.ZNDF-080 | 77,45 | --- | HOT-2460300 | 300 | 0,17 | 0,21 | 0,26 | 0,29 |
| CSI.ZNDF-090 | 87,45 | 20,0 | HOT-2460300 | 300 | 0,19 | 0,24 | 0,29 | 0,33 |
| CSI.ZNDF-100 | 97,45 | 30,0 | HOT-2460300 | 300 | 0,21 | 0,27 | 0,33 | 0,36 |
| CSI.ZNDF-120 | 117,45 | 50,0 | HOT-2460300 | 300 | 0,25 | 0,32 | 0,39 | 0,44 |
| CSI.ZNDF-140 | 137,45 | 40,0 | HOT-2490350 | 350 | 0,30 | 0,38 | 0,46 | 0,51 |
| CSI.ZNDF-160 | 157,45 | 60,0 | HOT-2490350 | 350 | 0,34 | 0,43 | 0,53 | 0,59 |
| CSI.ZNDF-180 | 177,45 | 110,0 | HOT-2460300 + HOT-2460300 | 300 + 300 | 0,38 | 0,49 | 0,60 | 0,66 |
| CSI.ZNDF-200 | 197,45 | 130,0 | HOT-2460300 + HOT-2460300 | 300 + 300 | 0,43 | 0,54 | 0,66 | 0,73 |



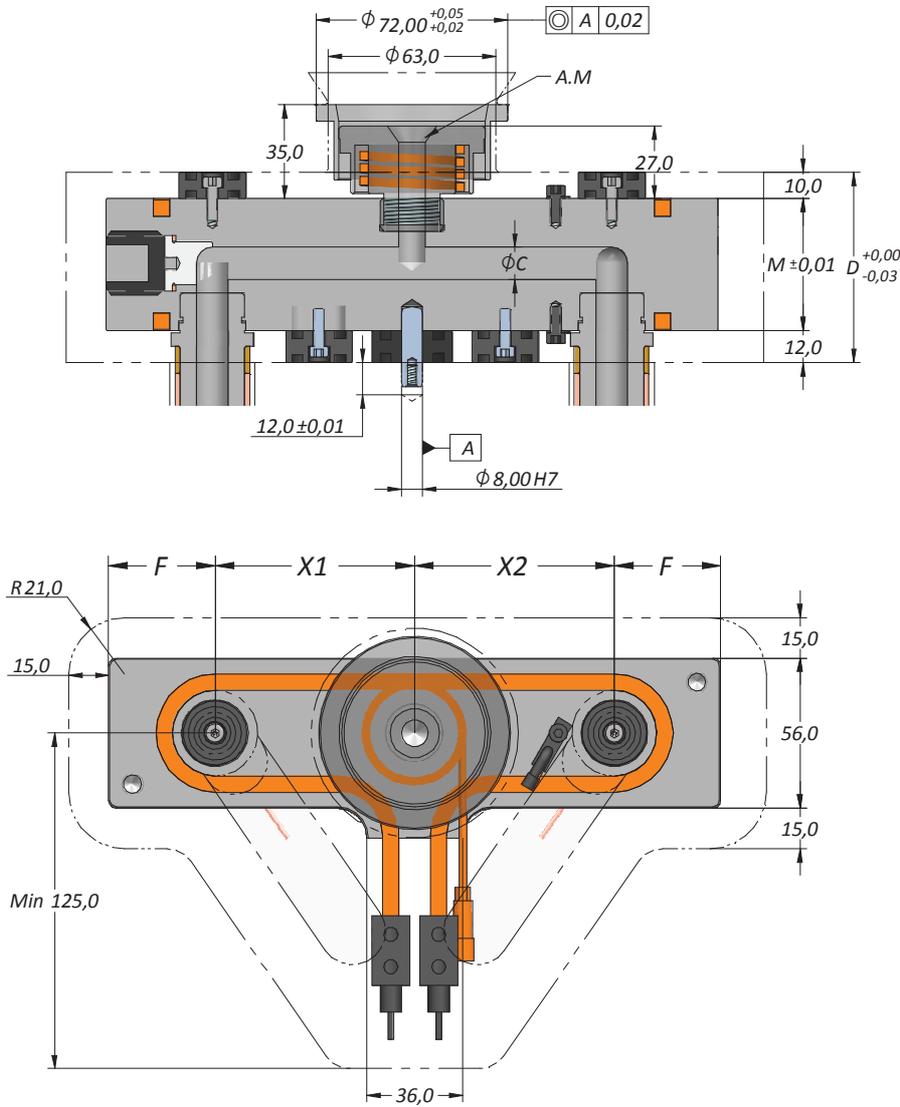
Llave puntera: 16 / Hexagon socket nozzle tip insert: 16

Par de apriete puntera (Nm): 60 / Torque nozzle tip insert (Nm): 60

Para más medidas de bloque consultar pág.69-70 / For more manifold measures see page 69-70

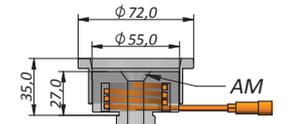
IMPORTANTE / IMPORTANT: Aplicar la dilatación térmica / Apply the thermal expansion

$$TE = L_{\text{nozzle}} \times \frac{(\text{Process temperature} - 20^{\circ}\text{C}) \times 12}{1000000}$$

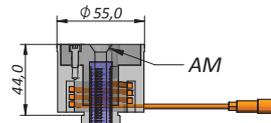


BOQUILLAS DE ACCESO

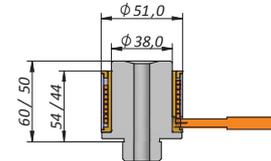
MACHINE NOZZLE



B55



B55 / F



B38

| AJUSTE BOQUILLA DE MÁQUINA (AM) | | | | |
|---------------------------------|------|------|--------|--------------|
| MACHINE RADIUS (AM) | | | | |
| 70° | R 40 | R 25 | R 15,5 | Otro Another |

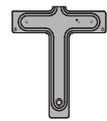
| ϕC | M | D | F |
|-----------|----|----|------|
| $\phi 6$ | 46 | 68 | 32,0 |
| $\phi 8$ | 46 | 68 | 32,0 |
| $\phi 10$ | 46 | 68 | 40,0 |
| $\phi 12$ | 49 | 71 | 40,0 |
| $\phi 14$ | 52 | 74 | 40,0 |
| $\phi 16$ | 52 | 74 | 40,0 |

GEOMETRÍAS DE BLOQUES

MANIFOLDS GEOMETRIES



2PL



2PT



3PY



4PH

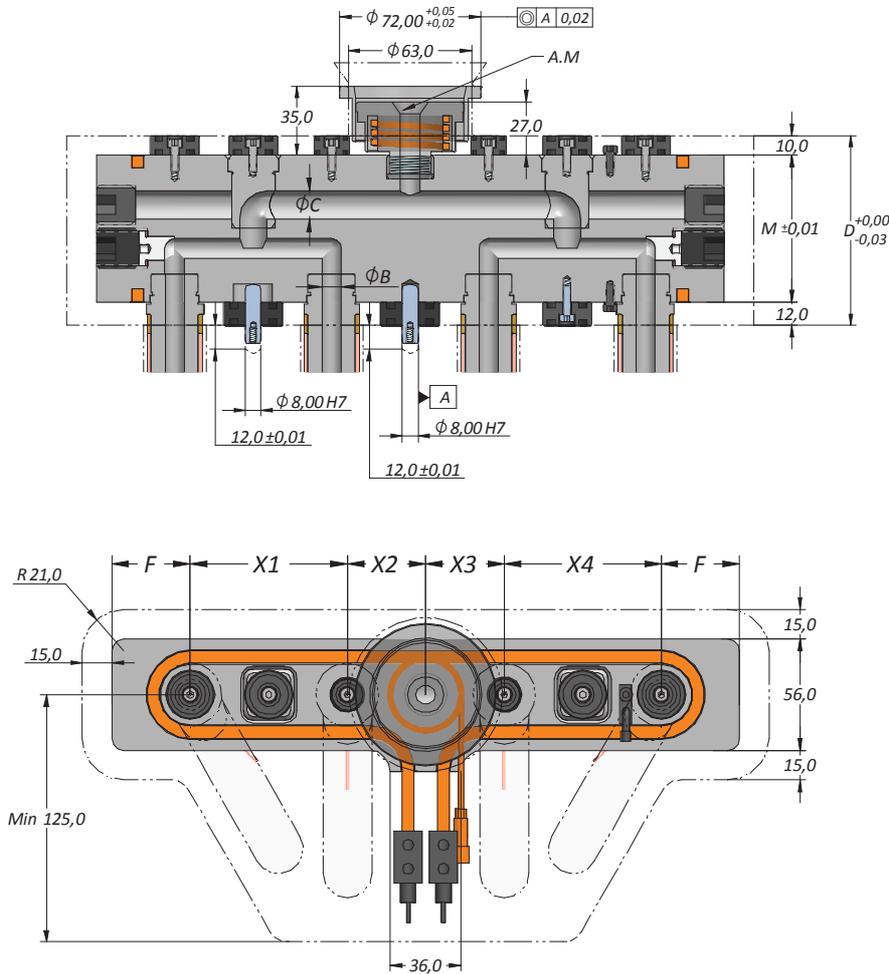


4PX



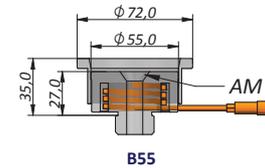
ESPECIAL

ATENCIÓN / ATENTION: El número de resistencias puede variar en función de la distancia entre centros. / The number of heaters could change based on the distance between.

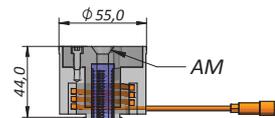


BOQUILLAS DE ACCESO

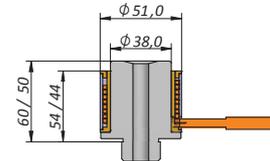
MACHINE NOZZLE



B55



B55 / F



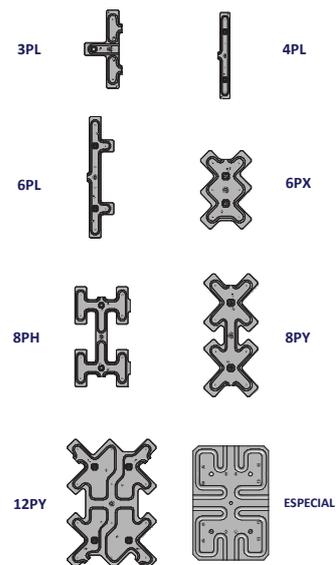
B38

| AJUSTE BOQUILLA DE MÁQUINA (AM) | | | | |
|---------------------------------|------|------|--------|--------------|
| MACHINE RADIUS (AM) | | | | |
| 70° | R 40 | R 25 | R 15,5 | Otro Another |

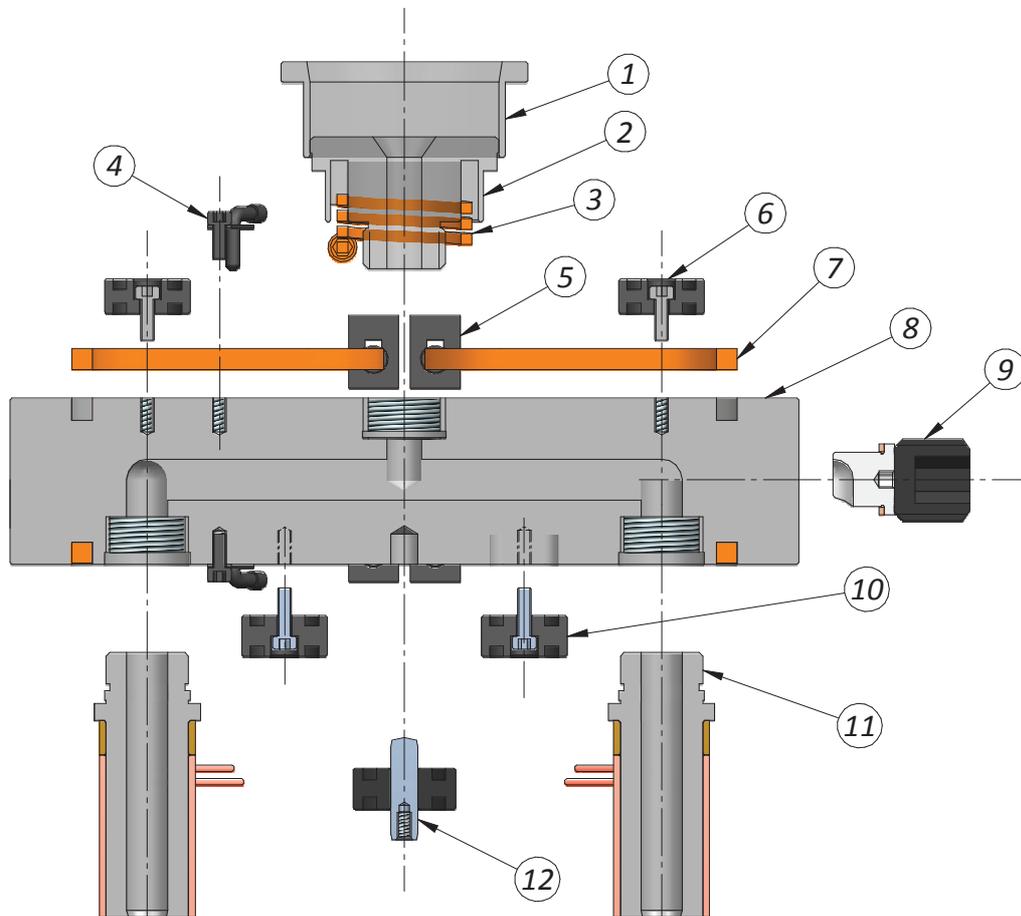
| ØB | ØC | M | D | F |
|-----|-----|------|-------|------|
| Ø6 | Ø10 | 64,0 | 86,0 | 32,0 |
| Ø8 | Ø12 | 69,0 | 91,0 | 32,0 |
| Ø10 | Ø14 | 74,0 | 96,0 | 40,0 |
| Ø12 | Ø16 | 76,0 | 98,0 | 40,0 |
| Ø14 | Ø16 | 78,0 | 100,0 | 40,0 |
| Ø16 | Ø16 | 78,0 | 100,0 | 40,0 |

GEOMETRÍAS DE BLOQUES

MANIFOLDS GEOMETRIES



ATENCIÓN / ATTENTION: El número de resistencias puede variar en función de la distancia entre centros. / The number of heaters could change based on the distance between.



| Nº Elem. | Nombre Elemento / Name Element |
|----------|---|
| 1 | Boq_Acces_CASQ_28 |
| 2 | Boquilla acceso_B55 / Nozzle machine_B55 |
| 3 | C-RST2 |
| 4 | Termopar martillo_131ICBKIN + M4_L010 / Thermocouple |
| 5 | Conector cerámico / Ceramic connector |
| 6 | Tope_inf_25x10 + M4_L012 / Support pad 25x10 |
| 7 | Resistencia de bloque / Manifold heater |
| 8 | Bloque / Manifold |
| 9 | Tapón de cierre / Plug |
| 10 | Tope_inf_25x12 + M4_L012 / Support pad 25x12 |
| 11 | Boquilla CSI / CSI Nozzle |
| 12 | Tope_inf_30x12 + PAS-DIN7979-D08-L030 / Support pad 30x12 |