

# Aerospace Solutions

Solutions Aérospatiales / Soluzioni Aerospaziale



"Perfect work requires passion, precision  
and well designed and reliable tools.

Madaula focus  
is to supply these tools to world-wide industry"



# Everything is possible

Customized products for innovative solutions: We match the tool to the part and the machine.

Des produits spécialement conçus pour des solutions innovantes et optimales.

Prodotti su misura con soluzioni innovative: Abbiniamo l'utensile al pezzo e alla macchina.



Josep Madaula on a B737-800 cockpit



Fuselage  
Fuselage  
Fusoliera



Wings  
Ailes  
Ali



Engines  
Moteurs  
Motori



Landing gear  
Train d'atterrissage  
Carrello



Empennage  
Empennage  
Impennaggio

## We fly

60 years of experience  
in the development of special products.

60 ans d'expérience dans le développement de produits spéciaux.  
60 anni di esperienza nello sviluppo di prodotti speciali.

Engineers and technicians  
working together.

Ingénieurs et techniciens qui travaillent ensemble.  
Ingenieri e tecnici che lavorano assieme.

Ingenuity and open mind  
to find the best solutions.

Ingéniosité et l'esprit ouvert pour trouver les meilleures solutions  
L'ingegno e la mente aperta per trovare le migliori soluzioni.

Successful technical experience  
and market knowledge.

Réussi savoir-faire technique et connaissance du marché.  
Esperienza tecnica e successo di mercato.

# NARROW SPACES



## Slim + Speeder

## Speeder

## Speeder + Internal Coolant

| Code                                                                                   | A.151                                                                   | A.163                | A.553                                 |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------|---------------------------------------|
| Application                                                                            | Drilling and milling                                                    | Drilling and reaming | Drilling and milling in narrow spaces |
| Materials                                                                              | Composites / Aluminium Alloy / Stainless Steel / Titanium / Superalloys |                      |                                       |
| Inputs                                                                                 | ISO-40/50 / BT-40/50 / HSK-63/100 / CAPTO C6/C8                         |                      | ISO-50 / BT-50 / HSK-100 / CAPTO C8   |
|  Ø  | Ø3                                                                      | ER-8M (Ø5)           | ER-8M (Ø5)                            |
| R.P.M Max                                                                              | 12.000                                                                  | 10.000               | 10.000                                |
|  KG | 3                                                                       | 6                    | 8                                     |
|     | 1:1.8                                                                   | 1:2                  | 1:2                                   |

# SPECIALIZED APPLICATIONS



## Offset Angle Head

## Long Reach

## CA with vibratory system

|                                                                                     |                                                                         |                      |          |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------|----------|
| <b>Code</b>                                                                         | A.112                                                                   | A.104                | A.153    |
| <b>Application</b>                                                                  | Drilling and milling in confined spaces                                 | Drilling and reaming | Drilling |
| <b>Materials</b>                                                                    | Composites / Aluminium Alloy / Stainless Steel / Titanium / Superalloys |                      |          |
| <b>Inputs</b>                                                                       | ISO-30/40/50 / BT-30/40/50 / HSK-50/63/100 / CAPTO C5/C6/C8             |                      |          |
|  | ER-8M (Ø5)                                                              | ER-11M               | ER-20A   |
| <b>R.P.M Max</b>                                                                    | 15.000                                                                  | 12.000               | 5.000    |
|  | 5                                                                       | 8                    | 6        |
|  | 1:4                                                                     | 1:1                  | 1:1      |

# SPECIALIZED APPLICATIONS



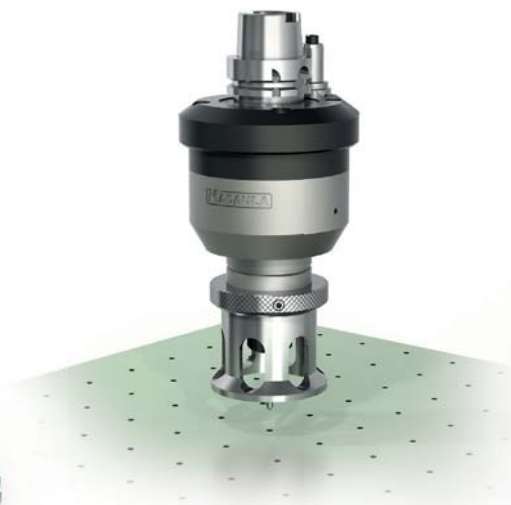
**Axial with Vacumm system**

**Offset with Vacumm system**

**Offset Angle head**

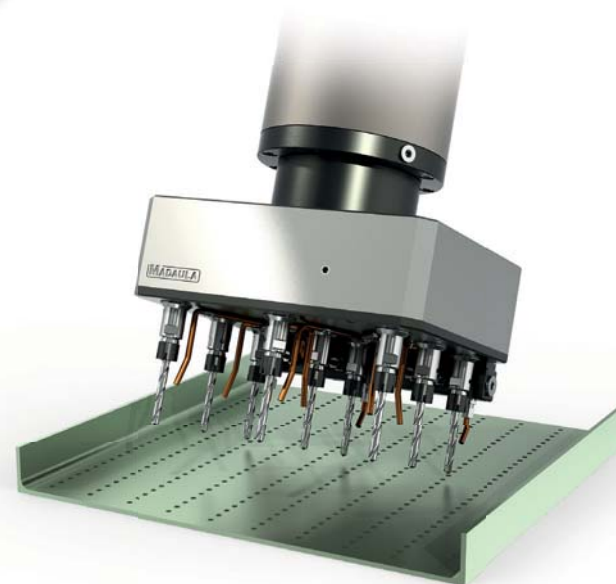
| Code                                                                                | A.111                                                                   | A.161                | A.162                |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------|----------------------|
| Application                                                                         | Drilling and reaming                                                    | Drilling and tapping | Drilling and milling |
| Materials                                                                           | Composites / Aluminium Alloy / Stainless Steel / Titanium / Superalloys |                      |                      |
| Inputs                                                                              | ISO-40/50 / BT-40/50 / HSK-63/100 / CAPTO C6/C8                         |                      |                      |
|  | ER-11A                                                                  | ER-11A               | ER-16A               |
| R.P.M Max                                                                           | 6.000                                                                   | 6.000                | 8.000                |
|  | 7                                                                       | 12                   | 5                    |
|  | 1:1                                                                     | 1:1                  | 1:1                  |

# SPECIALIZED APPLICATIONS



|                                                                                     | Fixed Angle Head                                                        | Countersinking Head                     | Offset + Reversed                   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------|-------------------------------------|
| <b>Code</b>                                                                         | A.141                                                                   | A.113                                   | A.070                               |
| <b>Application</b>                                                                  | Drilling, milling and tapping                                           | Drilling and countersinking on surfaces | Drilling and tapping                |
| <b>Materials</b>                                                                    | Composites / Aluminium Alloy / Stainless Steel / Titanium / Superalloys |                                         |                                     |
| <b>Inputs</b>                                                                       | ISO-30/40/50 / BT-30/40/50 / HSK-50/63/100 / CAPTO C5/C6/C8             |                                         | ISO-50 / BT-50 / HSK-100 / CAPTO C8 |
|  | ER-16A                                                                  | ER-20                                   | ER-40                               |
| <b>R.P.M Max</b>                                                                    | 8.000                                                                   | 10.000                                  | 5.000                               |
|  | 3.5                                                                     | 4.5                                     | 15                                  |
|  | 1:1                                                                     | 1:1                                     | 1:1                                 |

# SPECIALIZED HEADS



## Programmable Tilting Head $\pm 115^\circ$

## High Productivity Multispindle Head

|                                                                                     |                                                                          |                      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------|
| <b>Code</b>                                                                         | G.123                                                                    | M.050                |
| <b>Application</b>                                                                  | Drilling, boring and milling                                             | Drilling and milling |
| <b>Materials</b>                                                                    | Composites / Alluminium Alloy / Stainless Steel / Titanium / Superalloys |                      |
| <b>Inputs</b>                                                                       | Flange / ISO-50 / BT-50 / HSK-100 / CAPTO C8                             |                      |
|  | HSK-63A                                                                  | ER-16 (x9)           |
| <b>R.P.M Max</b>                                                                    | 6.000                                                                    | 8.000                |
|  | 400                                                                      | 18                   |
|  | 1:1                                                                      | 1:1                  |

# Wide range of solutions



CA-1 Angle Head  
L=190mm



CAP-0



Very narrow room



Extended CA-0C  
with Ratio 1:2



For composites  
with vacuum system



CAP Angle Head  
with vibratory system



Offset for composites  
with vacuum system



Offset Angle Head



Tilting Head



Special CAP  
for Aerostar/Aeromill