

# **make you real...**



## Boring machine MAKE mod. HYDRA 130/160

with T upright, double column and central head  
(box in box system)



**MAKE** was born from the deep knowledge of our design technicians, increasing the experiences made in a lot of years of work, as well as from the technological/mechanical development of prestigious know-how in the field of the construction of high precisions machine tools to mill and bore metals.

#### Sede Operativa:

#### **MAKE s.r.l.**

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#### Gestione Commerciale:

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Our staff is composed by really qualify person, employed in different functions, working in a single structure.

Power point of MAKE's staff is the high specialization, comes from a lot of design, realization and assembling experiences of machine tools.

The result is the realization of **totally Italian** machines with **double upright system and central spindle** that, with the new technologies come from the market, represent the progress desire and the suggestion of new and effective technical solutions.

MAKE's range of product are:

boring machine with T upright **HYDRA 110/130/160**

boring machine with T upright **HYDRA RAM 130/160**

boring machine with mobile upright **ALTAIR 130/160**

milling machine with mobile upright **ALTAIR HEAD**

The design of the machines proposes to the customers innovative products thanks to the attention given to the development and to the industrialization given by superior technologies respect to the actual standard which permit even more advanced services.

We are able to satisfy the different market requests with different and personalized solutions.



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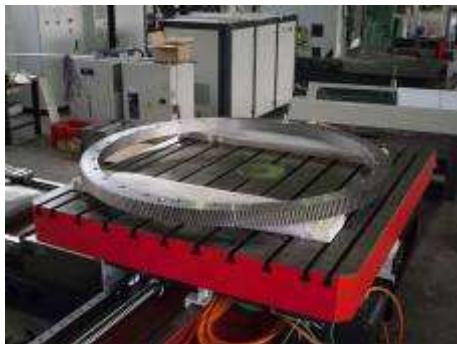
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		HYDRA 110	HYDRA 130
<b>SPINDLE</b>			
diam.	mm	110	130
tools connection	ISO	50-7388/1	50-7388/1
	DIN	69871.A50	69871.A50
speed spindle rotation	rpm	4000	3000
<b>WORK FIELD</b>			
X transversal table axis	mm	2100-2600-3100	3100-3600-4100-5100
Y vertical axis	mm	1600-2000	2000-2500-3000
Z axis T upright	mm	1600-2000	1600-2000
V spindle axis	mm	600	800
<b>FEED SPEED</b>			
max X Y Z W axis feed	mm/1'	20.000	20.000
max axis drive	daN	2000	2000
table rotation	rpm	2,7	2,7
<b>ROTARY TABLE</b>			
dimensions	mm	1250x1600	from 1800x2200 to 2500x3000
loading capacity	ton	10/15	15/40
<b>POWER</b>			
spindle motor	Kw in S1	22-30	30-37
spindle pair	Nm	1700	2400



Dimensioned under table with table sliding by turcite with **forced lubrication** differed in base of the loading capacity.



X axis: mobile ball screw diam. 80 mm, **vertical axis controlled by two motor-reducers with double screw and double optical line.**

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Continuous tables **double moto-pinion** system with loading capacity from 10 to 30 ton.



Bi-rotative automatic milling head in the two axis with completely automatic couple in the posterior part trough 4 irreversible locks applied in the frontal part of the head.



Stiffening spindle for the quill that has the final part reported and interchangeable.



The couple's relationship is assured by an effective system of power transmission to the spindle through a water-cooled SIEMENS motor, a manual gearbox and a gear box, so we have a double refrigerator for cooling water and the other for cooling oil.

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