HYDRA 90

Centring-facing machine

EXPLORING INNOVATION

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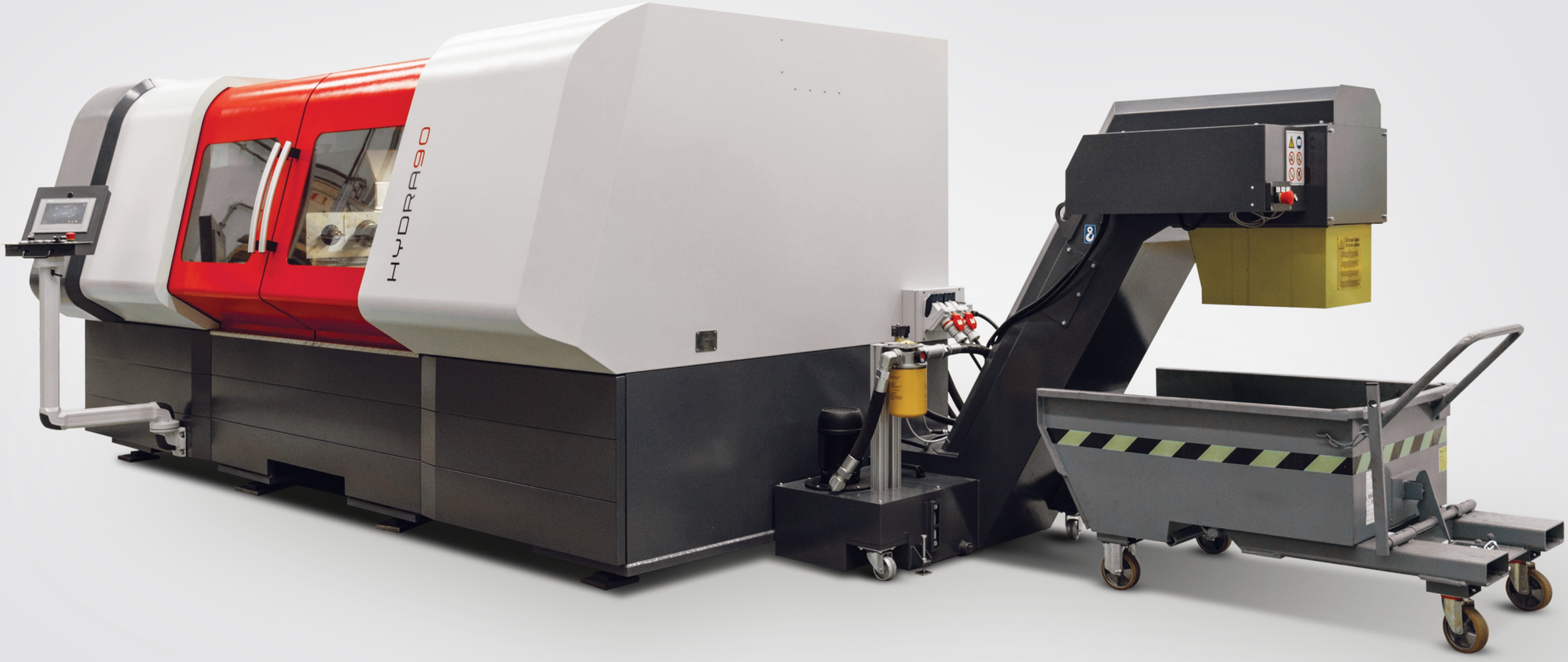

OVERVIEW

HYDRA 90

Centring-facing machine

MACHINING FLEXIBILITY, ACCURACY AND SIMPLIFICATION

HYDRA 90 centring-facing machine is designed to enhance the trimming, centering, drilling and tapping processes, in terms of flexibility, accuracy and simplification.

The standard model is a semi-automatic machine tool: the machining is automatic, but the operator intervention is requested for the loading/unloading of the workpiece. The machine is also designed for connection to robots or other types of automation used for workpiece loading/unloading.

STRUCTURE

OPERATOR PANEL
Easy programming touch screen operator panel.

VISES
N.2 self-centering vises independent and movable on Z axis, with oleodynamic controlled locking.

MACHINING OPERATIONS
N.2 opposite work units, each moved on n.2 axes Y,Z.

INTEGRATED CONVEYOR
The chips are conveyed by directional slides placed in the base.

BASE
Electro-welded and normalized steel structure.

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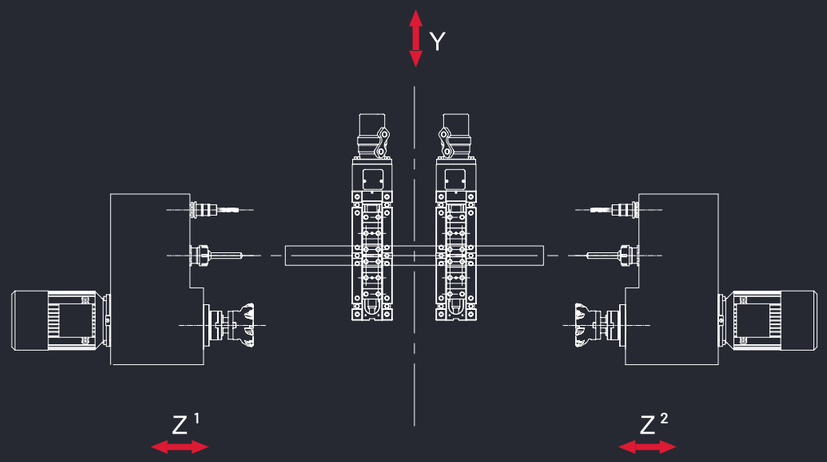
COMPARISON

Conventional machine

N.3 automatic axes machining process: Y axis vise positioning, Z1, Z2 axes processing heads positioning.



COMPARISON

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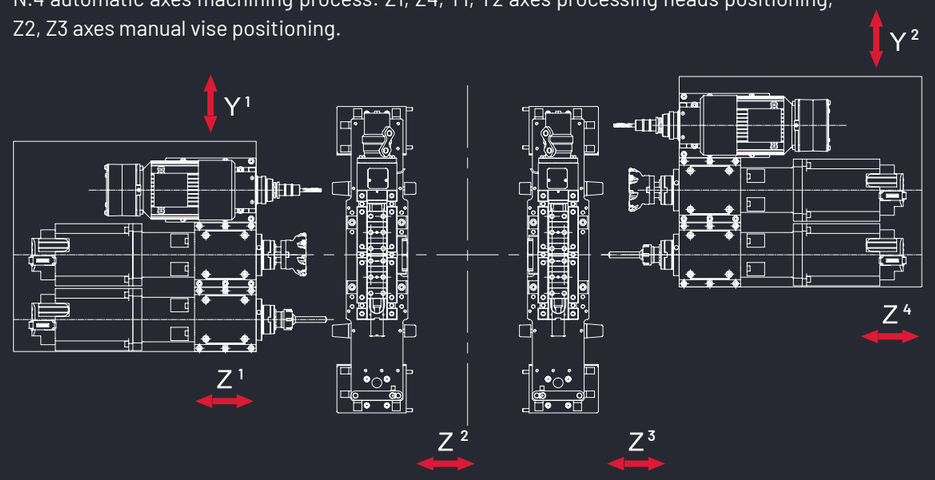
N.4 automatic axes machining process: Z1, Z4, Y1, Y2 axes processing heads positioning, Z2, Z3 axes manual vise positioning.



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ADVANTAGES

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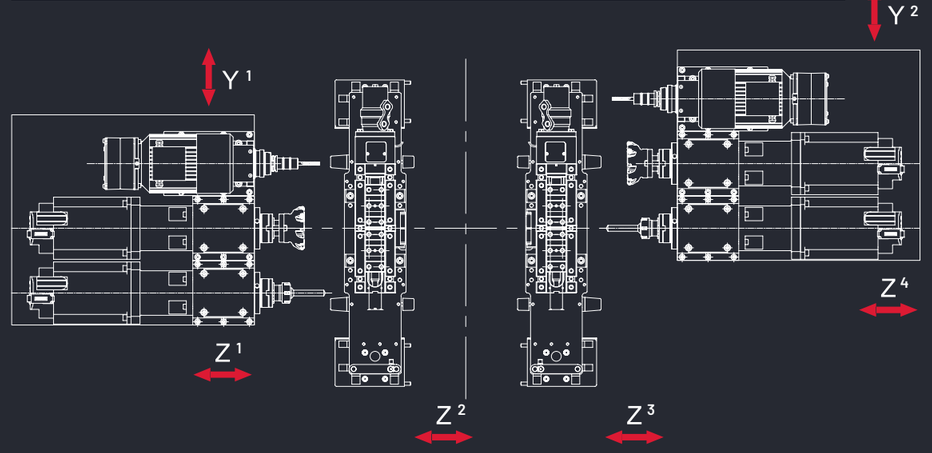

4 axes process advantages

1) **MANUAL VISE POSITIONING ON Z2 AND Z3 AXES**
Their distance can be adapted to the workpiece during set-up. This function allows to reduce the solicitation on the clamps and increase the machining precision.

2) **AUTOMATIC RIGHT AND LEFT CARRIAGE POSITIONING ON Y1,Y2 AND Z1,Z4 AXES**
Their position can be adjusted to allow two different simultaneous machining operations. Each head is independent and self-driven

DESIGN

HYDRA 90

Ergonomics and safety for better performances and quality levels

HYDRA 90 design, originates from a long study and contamination with the world of Machinering Design. Its soft and clean lines ensure ergonomics, precious added value for the operators that work with the machine tool.

The painting is customizable upon customer's request.

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CORRECT TIGHTENING OF THE VISES:
it is possible to position the vises manually on the Z axis, ensuring the correct hold close to the ends of the workpiece.

FLEXIBILITY:
the heads are removable and replaceable with special heads. Maximum flexibility.

CONSTANT TORQUE:
brushless motors ensure constant torque and shear force.

SPECIAL MACHINING:
it is possible to perform different and simultaneous machining on the two workpiece sides (e.g. milling on one side and drilling on the other). The two heads can also work off-centre from the workpiece axis (e.g. two simultaneous offset drilling).

CONTINUITY OF PRODUCTION:
the heads work independently. In case of engine failure you can choose the head to work.

MONITORING SPINDLE PARAMETERS DURING MACHINING:
brushless motor encoder for rpm, and operation feedback for machining torque.

RAILS PROTECTION:
all rails are protected by metal telescopic covers for machine tools.

CONTINUOUS SUPPORT:
engine parameter detection allows you to send data via modem, to perform remote assistance anywhere in the world.

WORKING WITH OVERHANGING TOOLS:
thanks to the possibility of retreat the heads on the moving carriage, it is possible to use overhanging tools without penalizing the strokes.

ENERGY USE OPTIMIZATION:
only working motors run. Not-working spindles and transmissions are off.

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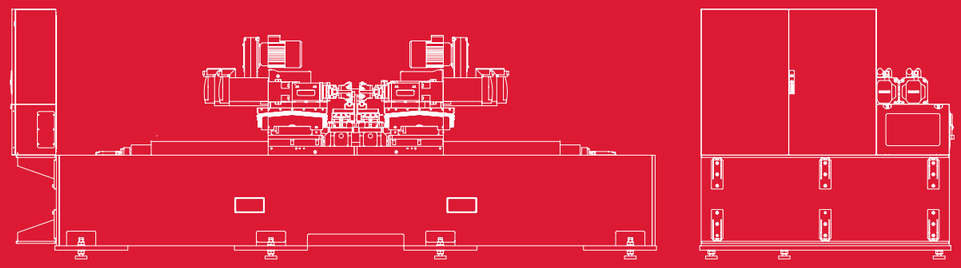

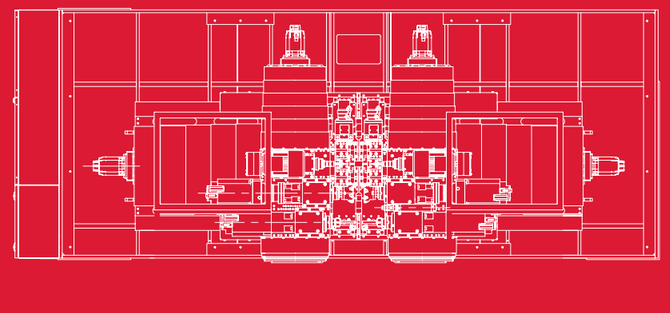

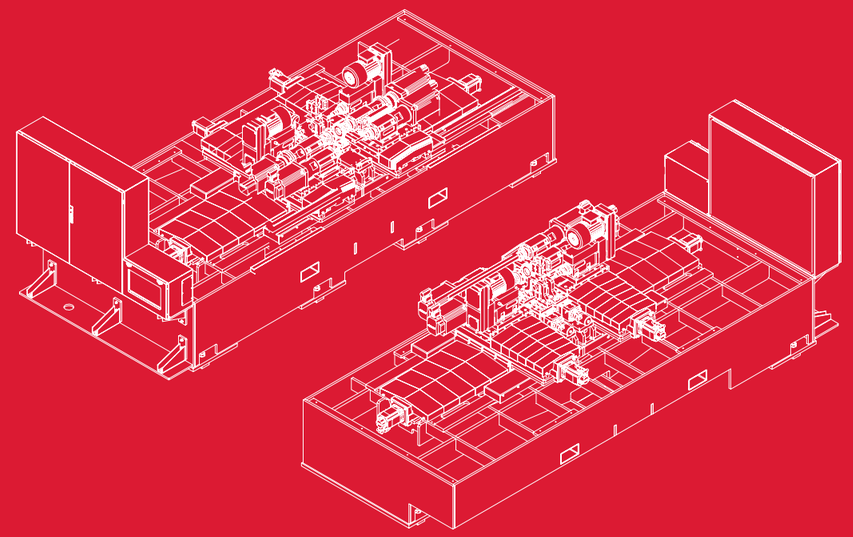

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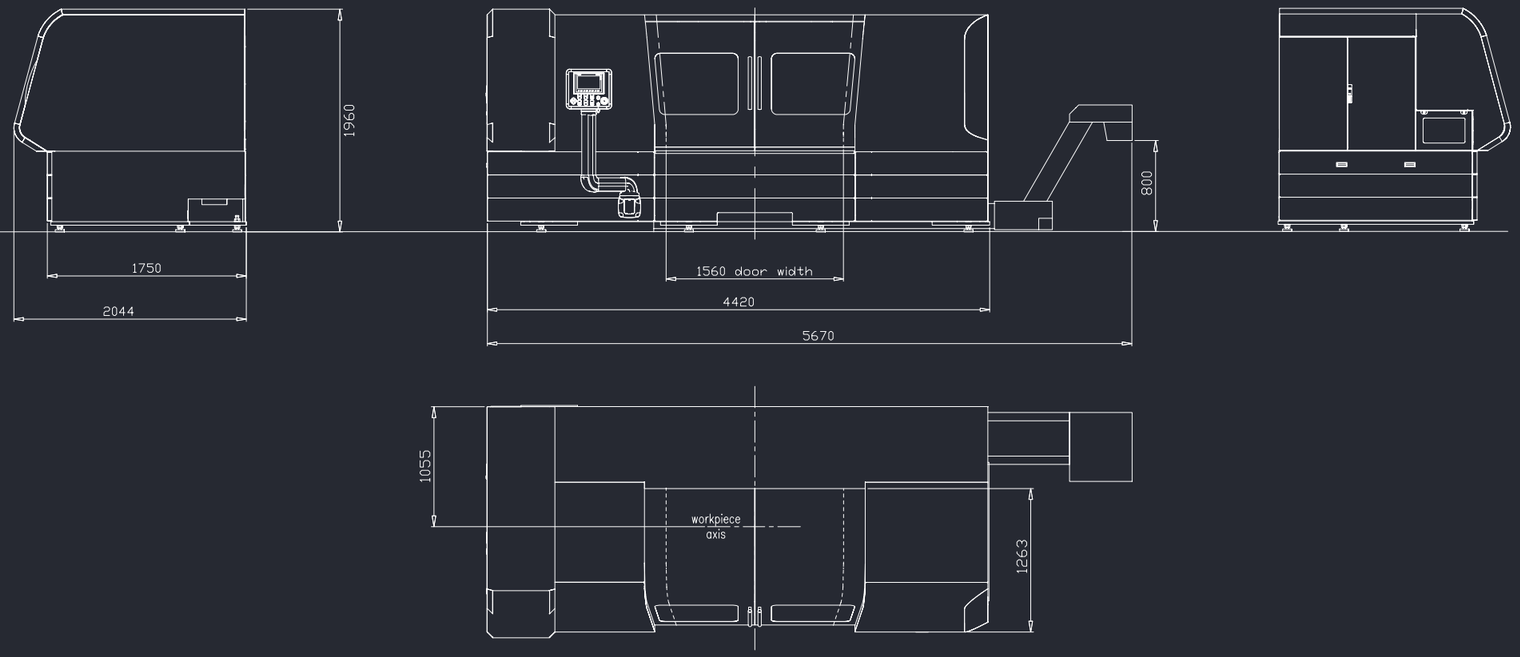
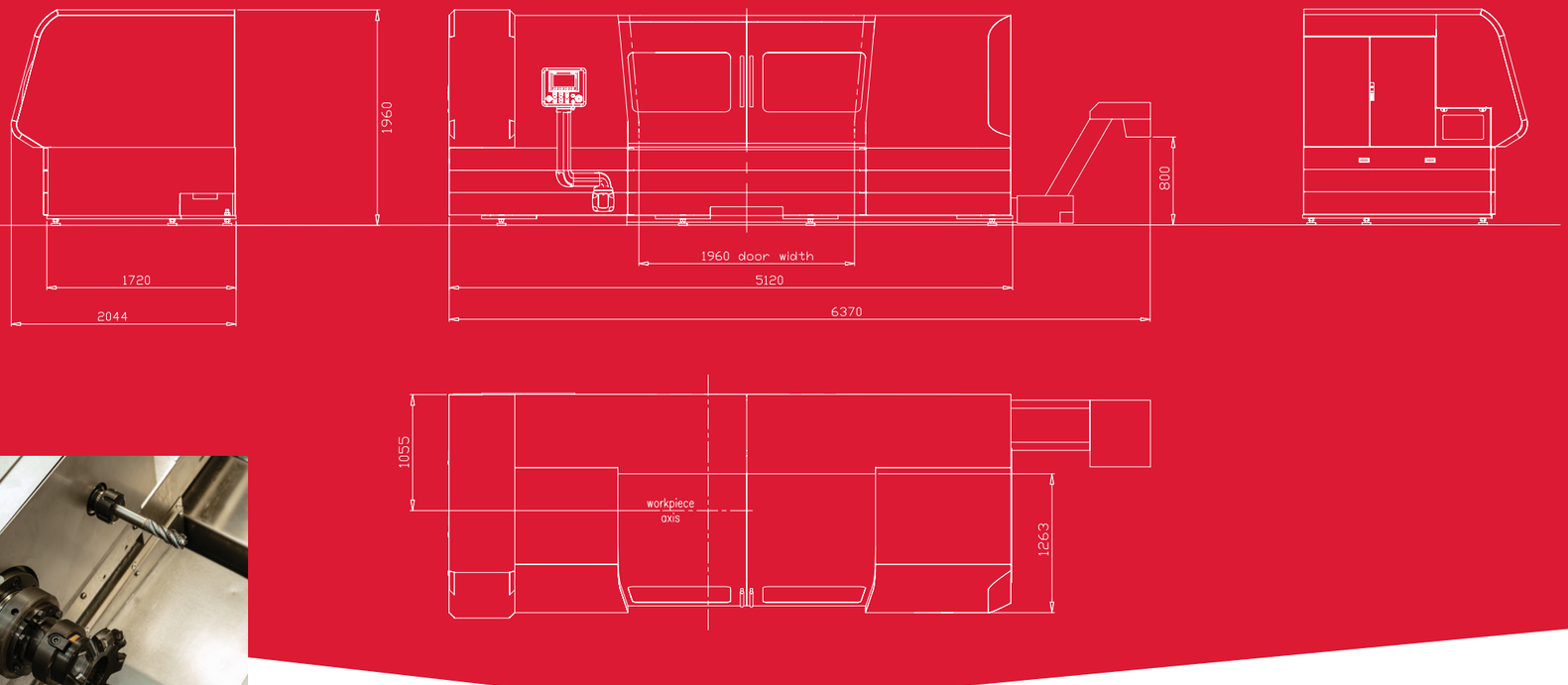
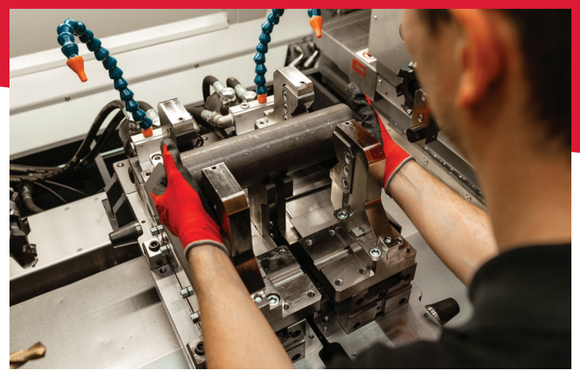
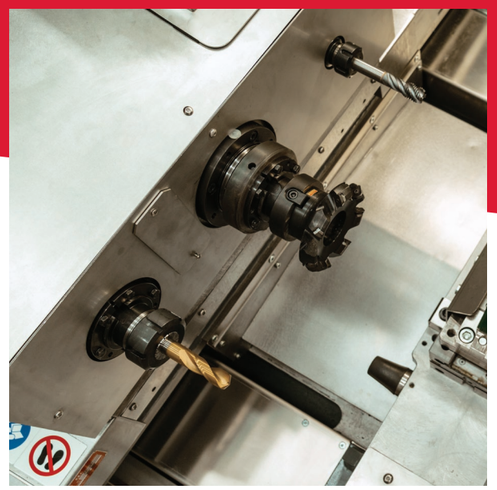
HYDRA 90M



HYDRA 90L







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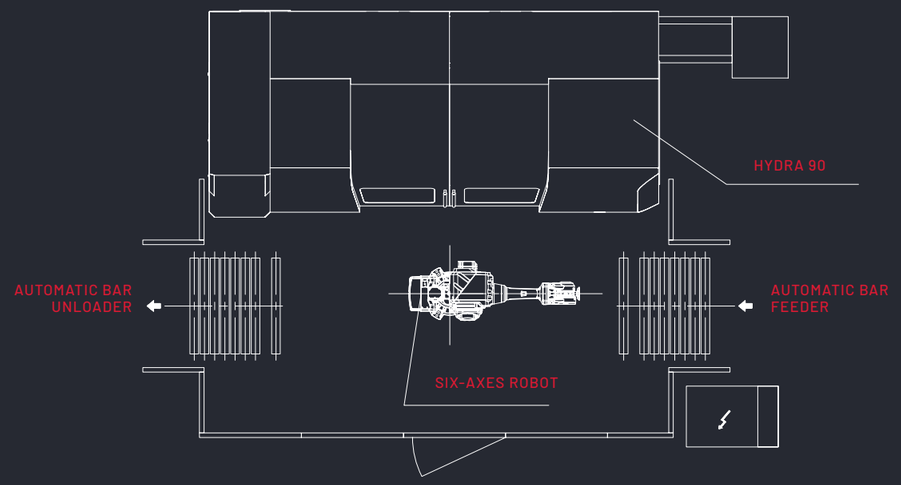
Spindle connection	Spindle connection	BT	40
	Spindle connection	HSK	63
	Spindle connection	HSK	50
Clamp unit	Three-point special clamp		
	Automatic clamps positioning		
Single/double tapping	Max tapping	M	20
	Max tapping stroke	mm	100
	Tapping motor power	Kw	1,5
Lubrication	Internal lubrication of the tool		
Doors	Automatic opening doors		
Support	Remote assistance		
Industry 4.0	4.0 data collection		

LOADING\UNLOADING ROBOT



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TECHNICAL FEATURES

HYDRA 90

			HYDRA M	HYDRA L
Machine capacity	Min workpiece diameter	mm	20	20
	Max workpiece diameter	mm	90	90
	Min lenght	mm	150	850
	Max lenght	mm	950	1650
Clamp unit	Closing force	Kn	30	30
	Total closing stroke	mm	130	130
	Positioning stroke	mm	1000	1000
Tool cooling	Cooling pump flow	L/min	293	293
	Pump motor	Kw	1,4	1,4
	Tank capacity	L	180	180
	Filtering	µm	60	60
Hydraulic control unit	Control unit motor power	Kw	8	8
	Pump discharge	L/min	80	80
	Tank capacity	L	100	100
Hinged belt conveyor	Belt type		Draining	Draining
	Motor	Kw	0,37	0,37
	Discharge chute height	mm	900	900
Machine size	Lenght (excluding conveyor)	mm	4420	5120
	Width	mm	2044	2044
	Height	mm	1960	1960
	Weight	Kg	6500	8000
	Color	Ral	7024/7035/3020	7024/7035/3020

RIGHT AND LEFT CARRIAGE

			HYDRA M	HYDRA L
Spindle steep taper	Spindle steep taper	ISO	40	40
	Spindle type	DIN	69871	69871
Milling	Max mill diameter	mm	100	100
	Mill clamping dameter	mm	32	32
	Motor power	Kw	8,2	8,2
	Spindle gear ratios	i	4	4
	Max milling speed	rpm	750	750
Drilling	Max drill diameter	mm	20	20
	Max drilling speed	rpm	3000	3000
	Bit holder	tipo	ER32	ER32
	Motor power	Kw	8,2	8,2
X, Y axes	Carriage working stroke	mm	400	400
	Total stroke	mm	600	600
	Z axis motors	Kw	2,3	2,3
	Y axis motors	Kw	2,3	2,3
	Linear guideway type		Roller type	Roller type
	Max axes speed	mm/1'	15000	15000

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ZAKI

E X P L O R I N G I N N O V A T I O N

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