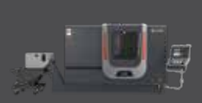
DENER®
MACHINE TOOLS

"The Future Is Here"

5 Axis
Milling Center

Double Column
Milling Center



CNC Vertical
Milling Machine

CNC
Lathe

NC Grinding
Machine

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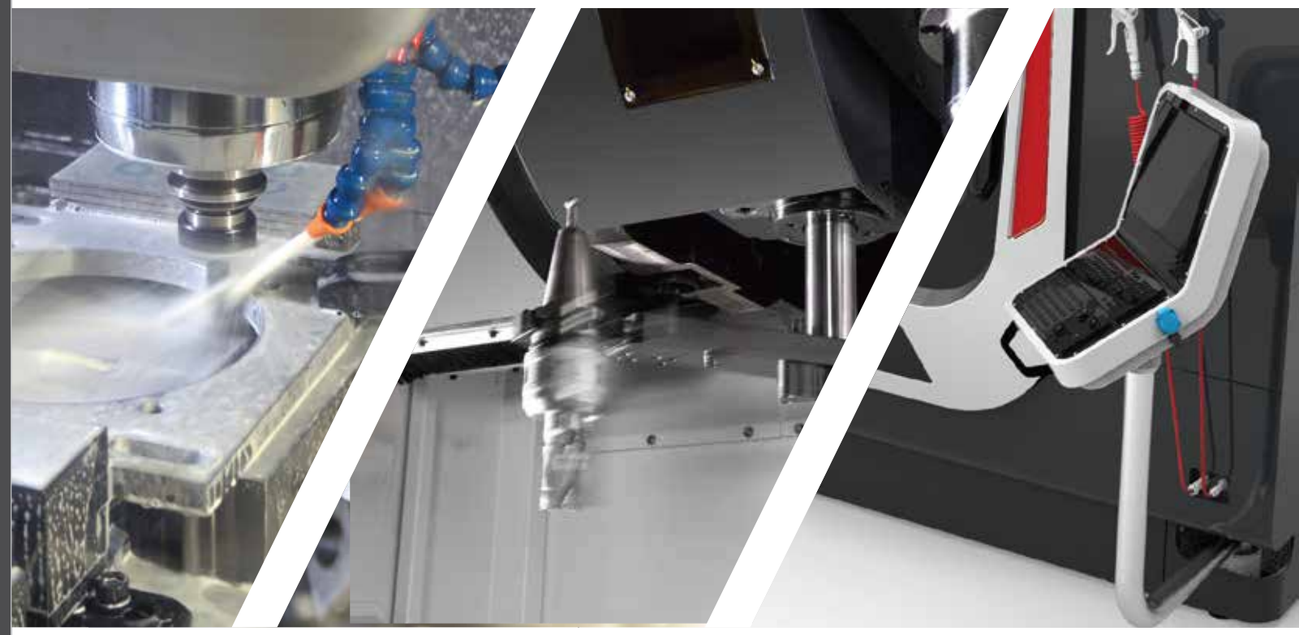

CNC VERTICAL MACHINING CENTER

HIGH PRECISION > SUPERIOR SURFACE > PERFECT RESULT

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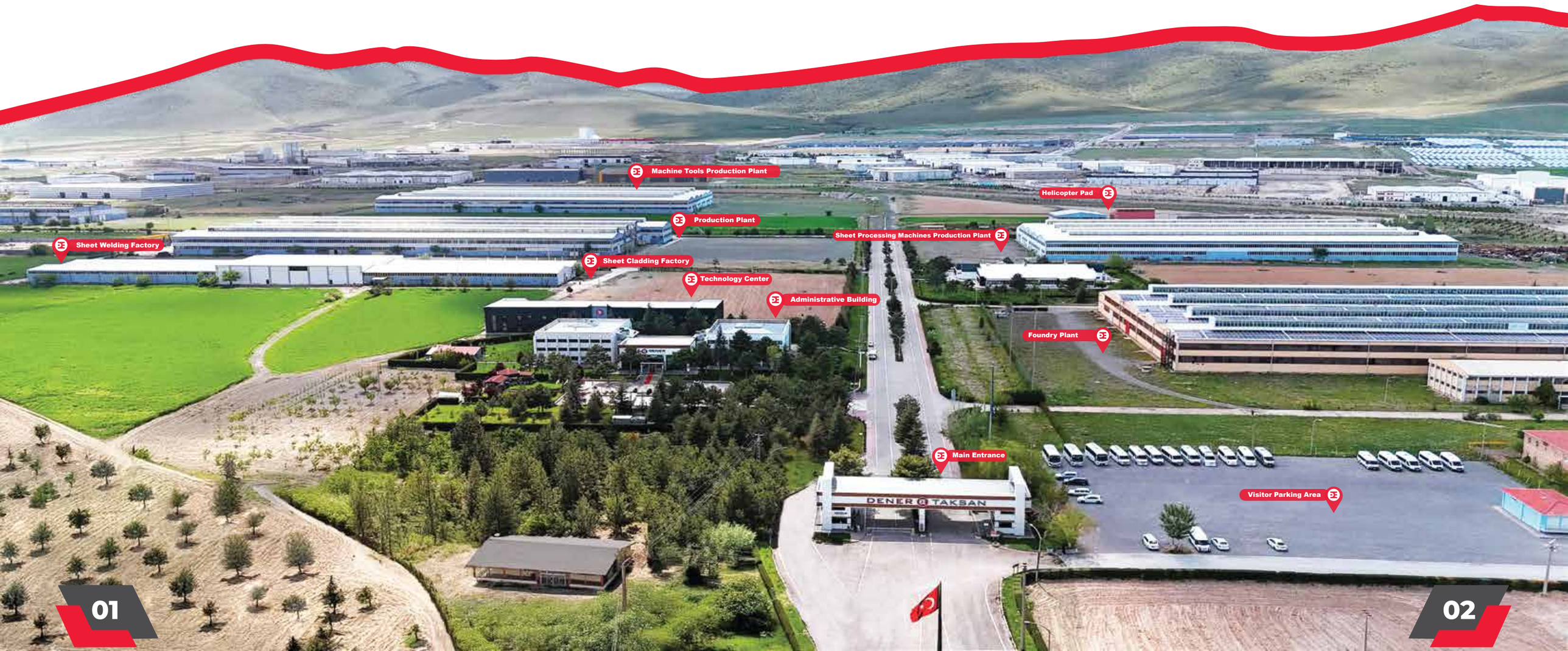
ABOUT

Dener Makina was established in 1974 in the Kayseri Old Industrial Zone. Since 2000, the company has focused on the production of CNC Sheet Metal Processing Machines, manufacturing a wide range of products including Guillotine Shears, Hydraulic Press Brakes, Ball Screw Press Brakes, Servo-Electric Press Brakes, Plasma Cutting Machines, and Fiber Laser Cutting Machines.

In 2016, the company made a major investment by expanding its facilities to include 155,000 m² of factory buildings and 27,000 m² of social facilities on a 1,300,000 m² site within the İncesu Organized Industrial Zone (O.S.B). In this new phase, Dener Makina began the production of CNC Metal Processing Machines such as Taksan Integrated Systems, Double Column Machining Centers, 5-Axis Simultaneous Machining Centers, Vertical Machining Centers, Lathes, and Grinding Machines.

With its extensive production range, over half a century of experience, skilled workforce, and multinational R&D center, Dener Makina holds a leading position globally by providing high-value industrial investment products in the fields of CNC Sheet Metal Processing and CNC Metal Processing Machines.



TMC - SERIES CNC VERTICAL MACHINING CENTERS

Overview

CNC Vertical Machining Centers assure to achieve optimal performance for all kinds of workpieces. Offering long-time industry experience to meet a wide range of operational needs from high-precision milling under all conditions to drilling, pocketing, boring, screw-cutting and tapping. Furthermore, the ergonomic LCD screen panel with CNC control simplifies manual programming and data entry for the machines.

- Custom made double nut screws with high precision and no backlash
- Fast and smooth automatic tool changer system
- Direct drive coupling spindles with high accuracy and rigidity
- High precision, economical and linear motion
- Effective and smooth motion on linear guide rails or box way rails
- Excellent accuracy of positioning and high-precision for repetitiveness
- Meehanite casting with annealed & stress relieved
- Ensuring quiet, stable and accurate cutting
- Free of charge for assembling machines and educational support domestically
- On-time service with spare parts and delivery

DENER MACHINE TOOLS

Standard Equipments

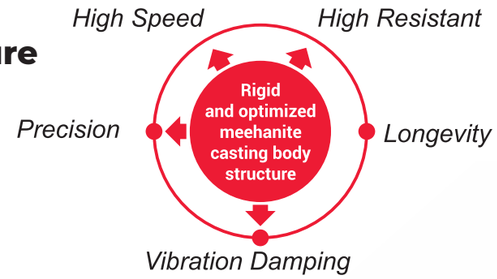
- Mitsubishi M80A-8A
- Simple programming function (Navi-Mill)
- BBT 40 / 10,000 rpm direct drive spindle
- BBT 40 arm type 24 tools ATC
- C3 class double nuts ball-screw
- Ball type or roller linear motion guide
- Fully enclosed splash guard
- Screw-Steelbelt type chip conveyor
- Automatic lubricating system
- Spindle air blowing coolant system
- Coolant nozzles around spindle
- Oil skimmer
- Rigid tapping
- Washing the chips system inside cabin
- Heat exchanger for the electrical cabinet
- Transformer 380/200V - 3 phase 50/60Hz
- LED work light / Program light
- Front door safety switch
- Air gun / Coolant gun
- Coolant equipment
- Remote handwheel
- 4th axis pre-wire (inner cable)
- Automatic power-off system
- Foundation bolt kit & Plates
- Toolbox & Tools
- Chip conveyor
- CE

Optional Equipments

- FANUC 0i MF
- BBT 40 / 12,000 rpm BBT 40 / 15,000 rpm direct drive spindle
- Coolant through spindle center (30 bar)
- Air conditioner for electrical cabinet
- 4th axis with CNC rotary table
- Tool length measurement
- Workpiece measurement
- Automatic door
- Oil mist collector unit
- Linear encoder
- Chip bucket

TMC - SERIES CNC VERTICAL MACHINING CENTERS

Body Structure



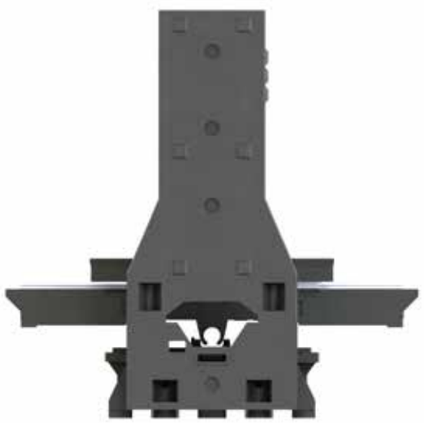
Working Field

Stroke	X	Y	Z	
TMC 850	850	510	560	mm
TMC 1000	1020	510	560	mm
TMC 1200	1200	600	600	mm
TMC 1300	1300	700	700	mm
TMC 1600	1600	700	700	mm

Rapid Axis Speeds	X	Y	Z	
TMC 850	36	36	36	m/min
TMC 1000	36	36	36	m/min
TMC 1200	36	36	36	m/min
TMC 1300	36	36	36	m/min
TMC 1600	36	36	36	m/min

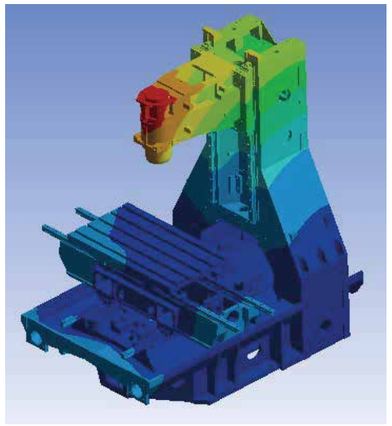
Rigid Structure

Based on the combination of deltoid column and main body provides excellent vibration damping and cutting pressure distribution.



Finite Element Method

By using the finite element method, optimum body structure is obtained.



DENER MACHINE TOOLS

Work Piece Loading Capacity

Loading Capacity	m	
TMC 850	500	kg
TMC 1000	500	kg
TMC 1200	1000	kg
TMC 1300	1200	kg
TMC 1600	1200	kg

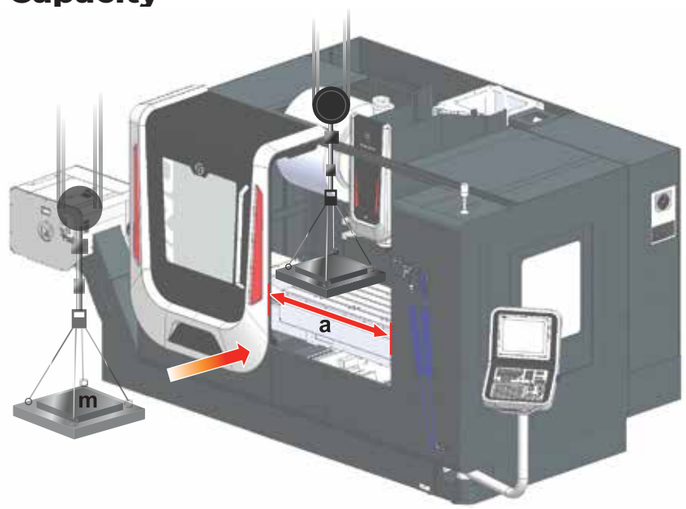
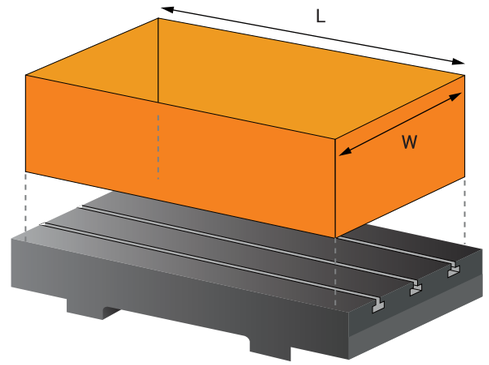


Table Measurement

Loading Capacity	L	W	
TMC 850	1000	500	mm
TMC 1000	1200	500	mm
TMC 1200	1300	600	mm
TMC 1300	1450	700	mm
TMC 1600	1750	700	mm



Extremely Precise Linear Equipment

Precise positioning, repeatability, minimum friction, rigid linear way and extremely precise, grinded, front loading and without back-lash ball-screw and linear way tools in order to operate with less noise.

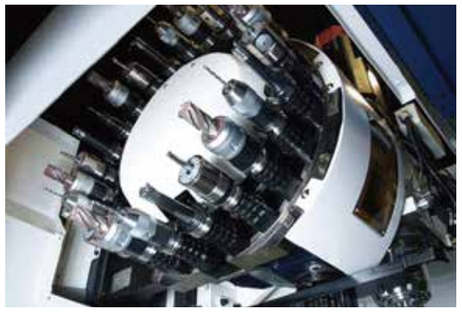
Direct Drive Servo Motors

Direct drive connection between motor and ball-screw shaft without back-lash with precise motion performance.

TMC - SERIES CNC VERTICAL MACHINING CENTERS

Tool Changer System

Rigid Tapping with 24 Tool storage capacity ATC (Automatic Tool Changer)



Direct-Drive Spindle

Powerful working ability with high heat distribution performance, low vibration, less noise and easy maintenance.

Speed	BT-40	BBT-40	CTS
10.000 rpm	○	○	○
12.000 rpm	○	●	●
15.000 rpm	○	○	○

std : ●
opt : ○

Spindle Cooling System

Automatic controlled cooling system to prevent thermal deformation and to increase longevity of the spindle.

Cooling through Spindle (Opt.)

Excellent cutting ability and longevity of spindle with cooling through spindle.

Chip Conveyor

Very flexible, it allows easy transportation of (metal, fiber, teflon, delrin (POM) etc.) chips.

Coolant Tank

350/400 lt. capacity, self-filtered and functional tank design provides optimum cooling and easy maintenance.

Chip Bucket (Opt.)

Convertible and braking features provides easy storage and discharge of any kinds of chips.

Control Unit

User Friendly interface with latest technology and ergonomic design.

TMC - SERIES CNC VERTICAL MACHINING CENTERS

				TMC 850	TMC 1000	TMC 1200	TMC 1300	TMC 1600
Travel	X-Axis Travel	mm		850	1.020	1.200	1.300	1.600
	Y-Axis Travel	mm		510	510	600	700	700
	Z-Axis Travel	mm		560	560	600	700	700
	Ball-screw Type			C3	C3	C3	C3	C3
	Distance from spindle nose to table top	mm		150~710	150~710	150~750	130~830	130~830
	Guideway Type			Roller Type	Roller Type	Roller Type	Roller Type	Roller Type
	Guideways X/Y/Z	mm		30/35/35	30/35/35	35/45/45	35/45/45	35/45/45
Working Table	Table Size (X Direction)	mm		1.000	1.200	1.300	1.450	1.750
	Table Size (Y Direction)	mm		500	500	600	700	700
	T-Slot Size	mm		18	18	18	18	18
	T-Slot Quantity	piece		5	5	5	5	5
	T-Slot Distance	mm		100	100	100	125	125
	Table Load Capacity	kg		500	500	1.000	1.200	1.200
Spindle	Spindle Taper ([X], 7/24 Taper)			BBT40	BBT40	BBT40	BBT40	BBT40
	Spindle Driven System			Direct	Direct	Direct	Direct	Direct
Feed Rate	X/Y Axis Rapid Feedrate	m/min		36	36	36	36	36
	Z Axis Rapid Feedrate	m/min		36	36	36	36	36
	Cutting Feedrate	m/min		1~15	1~15	1~15	1~15	1~15
Tool Magazine	Tool Magazine Capacity	piece		24	24	24	24	24
	Method of Tool Exchange			Arm Type	Arm Type	Arm Type	Arm Type	Arm Type
	Type of Tool Shank			BBT	BBT	BBT	BBT	BBT
	Tool Change Time (Tool to tool)	s		1,3	1,3	1,3	1,3	1,3
	Tool Change Time (Chip-to-Chip)	s		3,1	3,1	3,7	3,7	3,7
	Pull Stud Angle			45	45	45	45	45
	Max. Tool Diameter	mm		Ø100/Ø150	Ø100/Ø150	Ø100/Ø150	Ø100/Ø150	Ø100/Ø150
	Max Tool Length	mm		300	300	300	300	300
	Max Tool Weight	kg		7	7	7	7	7
Accuracy	Positioning Accuracy	mm		±0,004/300	±0,004/300	±0,004/300	±0,004/300	±0,004/300
	Repeatability	mm		±0,002/300	±0,002/300	±0,002/300	±0,002/300	±0,002/300
Coolant Capacity Motor & Pressure & Volume	Coolant Pump	kW-(bar)		0,55 - (3)	0,55 - (3)	0,55 - (3)	0,55 - (3)	0,55 - (3)
	Coolant Pump for Coolant Gun	kW-(bar)		0,37-(2)	0,37-(2)	0,37-(2)	0,37-(2)	0,37-(2)
	Coolant Pump for Chip Clean	kW-(bar)		1,10-(2,5)	1,10-(2,5)	1,10-(2,5)	1,10-(2,5)	1,10-(2,5)
	Coolant Tank Capacity	liter		350	350	400	400	400
Machine Size (Machine Working Area)	Length	mm		3965	4300	4685	4945	5690
	Width	mm		2200	2200	2400	2370	2400
	Height	mm		3185	3185	3145	3280	3280
	Weight	~kg		6500	7500	8000	9500	10.000

MITSUBISHI CONTROL UNIT (Std.)

				TMC 850 (M)	TMC 1000 (M)	TMC 1200 (M)	TMC 1300 (M)	TMC 1600 (M)
Spindle Motor	Control Unit - M80 (FCA80H-[X])			4A	4A	8A	8A	8A
	Screen Size			10,4"/15"	10,4"/15"	15"	15"	15"
	Spindle Motor Type			SJ-DG11/100-03T	SJ-DG11/100-03T	SJ-DG11/120-03T-S	SJ-DG15/120-02T-K-S	SJ-DG15/120-02T-K-S
	Rotation Speed	Rpm		10000	10000	12000	12000	12000
	CTS Preparation			*-	*-	+	+	+
	Torque (con./max.)	N-m		47,7/115	47,7/115	47,7/115	77,8/191	77,8/191
	Power (con./max.)	kW		7,5/18	7,5/18	7,5/18	11/30	11/30
Axis Motor	X/Y Axis Motor Type			HG224S-D48	HG224S-D48	HG354S-D48	HG354S-D48	HG354S-D48
	X/Y Axis Motor Torque (con./max.)	N-m		7/46,5	7/46,5	11,1/75	11,1/75	14,3/122
	X/Y Axis Motor Power	kW		2,2	2,2	3,5	3,5	3,5
	Z Axis Motor Type			HG354BS-D48	HG354BS-D48	HG354BS-D48	HG453BS-D48	HG453BS-D48
	Z Axis Motor Torque (con./max.)	N-m		11,1/75	11,1/75	11,1/75	14,3/122	14,3/122
	Z Axis Motor Power	kW		3,5	3,5	3,5	4,5	4,5
Air & Power Supply	Air Pressure	bar		5,0/6,0	5,0/6,0	5,0/6,0	5,0/6,0	5,0/6,0
	Connection Power Requirement	kVA		32	32	32	43	43

* CTS = SJ-DG11/120-03T-S (12.000 rpm)

FANUC KONTROL ÜNİTESİ (Ops.)

				TMC 850 (F)	TMC 1000 (F)	TMC 1200 (F)	TMC 1300 (F)	TMC 1600 (F)
Spindle Motor	Control Unit - FANUC [X]			0i-MFP	0i-MFP	0i-MFP	0i-MFP	0i-MFP
	Screen Size			10,4"	10,4"	15"	15"	15"
	Spindle Motor Type			βil 8/12000-B	βil 8/12000-B	βiIT 12/10000-B	βiIT 12/10000-B	βiIT 12/10000-B
	Rotation Speed	Rpm		12000	12000	10000	10000	10000
	CTS Preparatipn			**-	**-	+	+	+
	Torque (con./max.)	N-m		35,8/105	35,8/105	52,5/130	52,5/130	52,5/130
	Power (con./max.)	kW		7,5/16,5	7,5/16,5	11/20,4	11/20,4	11/20,4
Axis Motor	X/Y Axis Motor Type			βiS 22/3000-B	βiS 22/3000-B	βiS 22/3000-B	βiS 22/3000-B	βiS 22/3000-B
	X/Y Axis Motor Torque (con./max.)	N-m		20/45	20/45	20/45	20/45	20/45
	X/Y Axis Motor Power	kW		3	3	3	3	3
	Z Axis Motor Type			βiS 22/3000-B	βiS 22/3000-B	βiS 22/3000-B	βiS 40/2000-B	βiS 40/2000-B
	Z Axis Motor Torque (con./max.)	N-m		20/45	20/45	20/45	36/90	36/90
	Z Axis Motor Power	kW		3	3	3	3	3
Air & Power Supply	Air Pressure	bar		5,0/6,0	5,0/6,0	5,0/6,0	5,0/6,0	5,0/6,0
	Connection Power Requirement	kVA		32	32	32	32	32

* * CTS = βiIT 12/10000-B (10.000 rpm)

*** The values in the table may change in case of a machine update.**

After Sales Services

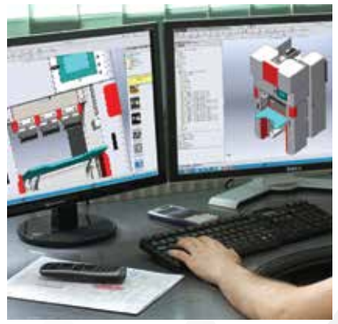
Fast Service and Spare Part Delivery

Dener Makina responds to service requests as quickly as possible to ensure production continuity. All service and parts needs received from our customers are systematically evaluated and processed by our experienced customer representatives. From the moment a malfunction is reported, the response process is meticulously managed.
Our field teams are quickly deployed, minimizing production interruptions.
Our spare parts inventory management is fully aligned with our machinery. By constantly maintaining critical parts in stock, we offer our customers fast and reliable parts supply. This prevents time loss during service interventions and ensures the uninterrupted operation of your machines.

R&D Service Backup

Dener Makina's R&D center actively works to develop service solutions tailored to customer needs. Based on feedback from field experience, existing machines are updated with software and hardware, and new functions are integrated. This allows the machines to easily adapt to changing production needs.

Technical requirements, particularly those encountered in production for specific processes and sectors, are analyzed by our engineering departments and solution-focused projects are developed.
This allows user-specific machines to be optimized for high efficiency. This R&D-supported approach is key to Dener's success.



Remote and Digital Support

Thanks to our remote access system integrated into our digital infrastructure, our machines can be accessed from anywhere in the world. This system allows software updates, error analysis, and setting checks to be performed instantly. In cases where urgent technical support is required, rapid solutions are provided before physical intervention, resulting in time and cost savings.
Our remote access support service is designed to be compatible with all our machine models. Being available to our customers whenever they need it is the cornerstone of our service approach. This digital support system increases efficiency, minimizes downtime, and ensures uninterrupted production."

DENER MACHINE TOOLS

Our Product

Sheet Metal Machines

Hydraulic Press Brake

Hybrid Press Brake

Servo Electrical Press Brake

Ball - Screw Press Brake

Panel Bender

CNC Hydraulic Shear

NC Hydraulic Shear

Gantry Fiber Laser Cutting Machine

Tube Profile Fiber Laser Cutting Machine

Milling Machines

5 Axis Milling Center

Double Column Milling Center

CNC Vertical Milling Machine

CNC Lathe

NC Grinding Machine

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