

taksan



2025



TMC 500 / TMC 700

CNC DİK İŞLEME MERKEZLERİ

CNC VERTICAL MACHINING CENTERS



- YÜKSEK HASSASİYET (TEKRARLAMA 2 μ /TAM STROK, POZİSYONLAMA 5 μ /TAM STROK)
- YÜKSEK RİJİDİTE
- YÜKSEK HIZ (30 m/dak.)
- SERİ KILAVUZ ÇEKME (ADAPTÖRSÜZ 40 delik/dak., HSS, M4, Ç1040)
- YÜKSEK DELİK DELME GÜCÜ (40 mm, HSS, Ç1040)
- YÜKSEK KESME GÜCÜ (140 cm³/dak. Ç1040)
- PROGRAMLAMA VE TEZGAH KULLANIMI İÇİN ÜCRETSİZ EĞİTİM
- SERVİS VE YEDEK PARÇA GÜVENCESİ

- HIGH ACCURACY (REPEATABILITY 2 μ /FULL STROK, POSITIONING 5 μ /FULL STROK)
- HIGH RIGIDITY
- HIGH SPEED (30 m/min)
- RAPID TAPPING (40 hole/min., HSS, M4, SAE 1040 WITHOUT ADAPTER)
- HIGH MILLING POWER (40 mm, HSS, SAE 1040)
- HIGH CUTTING POWER (140³ cm/dak. SAE 1040)
- FREE TRAINING PROGRAMING AND OPERATING MACHINE
- GUARANTEE OF SERVICE AND SPARE PARTS

TECHNICAL SPECIFICATIONS	TEKNİK ÖZELLİKLER	TMC 500 V/1	TMC 700V
MOVEMENTS	HAREKETLER		
X/Y/Z AXIS TRAVEL	X/Y/Z EKSEN HAREKETLERİ	500/410/400 mm	700/450/550 mm
SPINDLE NOSE TO TABLE	İŞ MİLİ BURNU TABLA ARASI MESAFE	100-500 mm	100-650 mm
SPINDLE CENTER TO COLUMN SURFACE	İŞ MİLİ EKSENİNDEN SÜTUNA OLAN MESAFE	465mm	490 mm
TABLE	TABLA		
TABLE OVERALL SIZE	TABLA EBADI	750x400 mm	1020x510mm
WORKING AREA	ÇALIŞMA ALANI	650x400 mm	900x450 mm
MAX. LOADING WEIGHT	TABLA YÜKÜ	400 kg	750 kg
T.SLOTS (WIDTH x NO x PITCH)	T-KANALI GENİŞLİK X ADET X ARALIK	18x3x100 mm	18x4x100 mm
DISTANCE (FLOOR TO TABLE SURFACE)	TABLA YÜZEYİNİN YERDEN YUKSEKLİĞİ	850mm	900mm
SPINDLE	İŞ MİLİ		
SPINDLE SPEED	DEVİR ARALIĞI	80-8000 rpm (dev./dak.)	80-8000 rpm (dev./dak.)
SPINDLE TAPER	İŞ MİLİ KONİĞİ	ISO 40	ISO 40
MAX. SPINDLE TORQUE	MAX.TÖRK	7.2 kqm	7.2 kqm
LUBRICATION SYSTEM	YAĞLAMA SİSTEMİ	GRES(SONSUZ ÖMÜR)	GRES(SONSUZ ÖMÜR)
		GREASE (FOR LIFE)	GREASE (FOR LIFE)
FEEDRATE	İLERLEMELER		
RAPID TRAVERSE X,Y,Z	HIZLI İLERLEME X,Y,Z	30 m/min. (m/dak.)	30 m/min. (m/dak.)
CUTTING FEEDRATE	KESME İLERLEMESİ	1-10.000 mm/min (mm/dak.)	1-10.000 mm/min (mm/dak.)
MANUAL FEEDRATE	ELLE İLERLEME	1-1260 mm/min (mm/dak.)	1-1260 mm/min (mm/dak.)
BALL SCREWS (X,Y,Z) (C3)	BİLYALI MILLER X,Y,Z (C3)	Ø40x10	Ø40x10
AUTOMATIC TOOL CHANGER	TAKIM MAGAZİN		
TYPE	TİPİ	TAMBUR(DRUM)	TAMBUR(DRUM)
CAPACITY	KAPASİTESİ	16	16
TOOL SELECTION-TOOL HOLDERS	TAKIM UCU TİPİ VE SEÇME YÖNTEMİ	MAS BT40, Random,Bi-Directional	MAS BT40, Random,Bi-Directional
TOOL DIAMETER/LENGHT/WEIGHT	MAX.TAKIM ÇAP/BOYU/AĞIRLIĞI	(MAS BT40, ÇİFT YÖNLÜ, SİRASIZ)	(MAS BT40, ÇİFT YÖNLÜ, SİRASIZ)
		80 mm/250mm/7kg	80 mm/250/7kg
ATC TIME, TOOL TO TOOL	TAKIM DEĞİŞTİRME ZAMANI (TAKIMDAN TAKIMA)	3 SEC (Saniye)	3 SEC (Saniye)
ATC TIME, CHIP TO CHIP	TAKIM DEĞİŞTİRME ZAMANI (TALAŞTAN TALAŞA)	6 SEC (Saniye)	6 SEC (Saniye)
MOTOR	MOTOR		
SPINDLE MOTOR (SIEMENS-FANUC)	İŞ MİLİ MOTORU (SIEMENS(S1/S2)-FANUC(S1/S2))	6,25/7,75kW - 7,5/9kW	6,25/7,75kW - 7,5/9kW
X & Y AXIS MOTOR (SIEMENS-FANUC)	X&Y EKSEN MOTORU (SIEMENS-FANUC)	1.4kW	1.4kW
Z AXIS MOTOR (SIEMENS-FANUC)	Z EKSEN MOTORU (SIEMENS-FANUC)	3.3 kW	3.3 kW
COOLANT PUMP	SOĞUTMA POMPASI	0.63kW	0.63kW
ATC MOTOR	ATC MOTORU	40 watt, 110V	40 watt, 110V
LUBRICATION MOTOR	YAĞLAMA MOTORU	4 watt, 220V	4 watt, 220V
ELECTRICTY AND AIR CONSUMPTION	ELEKTRİK VE HAVA İHTİYACI		
ELECTRICITY NEEDED	ELEKTRİK İHTİYACI	15kW	15kW
AIR NEEDED	HAVA İHTİYACI	6 atü	6atü
COOLING	SOĞUTMA DONANIMI		
TANK CAPACITY	TANK KAPASİTESİ	120 L	155 L
PUMP CAPACITY	POMPA KAPASİTESİ (LT/MİN-2M)(LT/DAK.-2M)	60	60
WEIGHT & FLOOR SPACE	AĞIRLIK VE BOYUTLAR		
WEIGHT	AĞIRLIK	3000 kg	3500 kg
FLOOR SPACE	ÇALIŞMA ALANI	2900x3400 mm	31 50x3570 mm
PACKING DIMENSIONS (OVERSEAS)	AMBALAJLAMA ÖLÇÜLERİ (DENİZ AŞIRI) (BxExY)	2950x2250x2880 mm	2950x2250x2880 mm

STANDARD ACCESSORIES / STANDART AKSESUARLAR

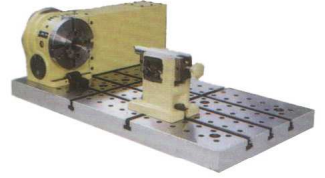
- COOLANT EQUIPMENT / SOĞUTMA DONANIMI
- LUBRICATION EQUIPMENT / YAĞLAMA DONANIMI
- LIHGTING SYSTEM / AYDINLATMA DONANIMI
- OPERATOR CALLING LAMP / OPERATÖR ÇAĞIRMA LAMBASI
- TELESCOPIC SLIDEWAYS / TELESKOPIK KAPAKLAR
- FULL ENCLOSED MACHINE CABINET / KOMPLE KAPALI KAPORTA
- AUTOMATIC TOOL CHANGER(16 TOOL POT) / OTOMATİK TAKIM DEĞİŞTİRİCİ (16)
- RAPID TAPPING / ADAPTÖRSÜZ SERİ KILAVUZ ÇEKME
- CHIP PAN / TALAŞ TEKNESİ
- TOOLS AND TOOL BOX / TAKIM VE AVADANLIKLAR
- OPERATION AND MAINTENANCE MANUAL / TEZGAH BAKIM VE KULLANMA KİTABI
- MACRO PROGRAMMING / MAKRO PROGRAMLAMA
- GRAPHIC DISPLAY / GRAFİK EKRAN
- METRIC-INCH TRAVERSE / METRİK - İNÇ DÖNÜŞÜMÜ
- LOADMETER-SPEEDMETER / YÜK METRE-HIZ METRE
- RS-232 C FOR DNC AND CAD-CAM CONNECTION / DNC VE CAD-CAM İÇİN RS-232 C

OPTIONAL ACCESSORIES / ÖZEL AKSESUARLAR (*)

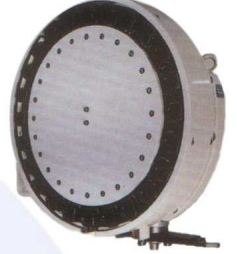
- ADDITIONAL TABLE / İLAVE TABLA
- FOURTH AXIS AND ROTARY TABLE / DÖRDÜNCÜ EKSEN VE DÖNER TABLA
- TOOL ADJUSTMENT DEVICE / TAKIM AYARLAMA CİHAZI
- CHIP CONVEYOR / TALAŞ KONVEYÖRÜ

VERSION / VERSİYON (**)

- AUTOMATIC TOOL CHANGER (24 TOOL-FOR ONLY TMC 700 SIEMENS)
- OTOMATİK TAKIM DEĞİŞTİRİCİ (24 TAKIM-SADECE TMC 700 SIEMENS İÇİN)
- AUTOMATIC TOOL CHANGER (20 TOOL-FOR ONLY TMC 700 FANUC)
- OTOMATİK TAKIM DEĞİŞTİRİCİ (20 TAKIM-SADECE TMC 700 FANUC İÇİN)



DÖNER VE İLAVE TABLA
ROTARY AND ADDITIONAL TABLE



OTOMATİK TAKIM DEĞİŞTİRİCİ (ATC)
24 TAKIM (1,6 / 1,3 sn.)
AUTOMATIC TOOL CHANGER (ATC)
24 TOOL (1,6 / 1,3 sec.)



OTOMATİK TAKIM DEĞİŞTİRİCİ (ATC)
20 TAKIM (6 / 10 sn.)
AUTOMATIC TOOL CHANGER (ATC)
20 TOOL (6 / 10 sec.)

(*) Opsiyon : Müşteride adapte edilebilen aksesuar / Option : Accessory to be adapted on customer site

(**) Versiyon : Sadece Fabrikamızda adapte edilebilen aksesuar / Version : Accessory to be adapted only at our factory



TMC 1000

CNC DİK İŞLEME MERKEZİ

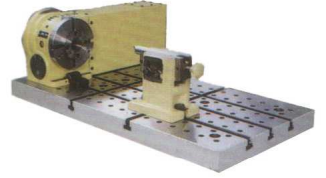
CNC VERTICAL MACHINING CENTER



- YÜKSEK HASSASİYET (TEKRARLAMA 2 μ /TAM STROK, POZİSYONLAMA 5 μ /TAM STROK)
- YÜKSEK RİJİDİTE
- YÜKSEK HIZ(30 m/dak.)
- SERİ KILAVUZ ÇEKME (ADAPTÖRSÜZ 40 delik/dak., HSS, M4, Ç1040)
- YÜKSEK DELİK DELME GÜCÜ (40 mm, HSS, Ç1040)
- YÜKSEK KESME GÜCÜ (140 cm³/dak. Ç1040)
- PROGRAMLAMA VE TEZGAH KULLANIMI İÇİN ÜCRETSİZ EĞİTİM
- SERVİS VE YEDEK PARÇA GÜVENCESİ
- İŞ MİLİ YAĞ SOĞUTMA SİSTEMİ İLE DİZAYN EDİLMİŞTİR
- DİALOG PROGRAMLAMA SİSTEMİ
- TÜM EKSENLERDE LİNEER KIZAKLAR

- HIGH ACCURACY (REPEATABILITY 2 μ /FULL STROK, POSITIONING 5 μ /FULL STROK)
- HIGH RIGIDITY
- HIGH SPEED (30 m/min)
- RAPID TAPPING (40 hole/min., HSS, M4, SAE 1040 WITHOUT ADAPTER)
- HIGH MILLING POWER (40 mm, HSS, SAE 1040)
- HIGH CUTTING POWER (140³ cm³/dak. SAE 1040)
- FREE TRAINING PROGRAMING AND OPERATING MACHINE
- GUARANTEE OF SERVICE AND SPARE PARTS
- SPINDLE PRODUCED BY USING OF OIL QUANCHING SYSTEM
- DIALOG PROGRAMMING SYSTEM
- ALL AXIS LINEER GUIDE

TECHNICAL SPECIFICATIONS	TEKNİK ÖZELLİKLER	TMC 1000V
MOVEMENTS	HAREKETLER	
X/Y/Z AXIS TRAVEL	X/Y/Z EKSEN HAREKETLERİ	1020/510/560 mm
SPINDLE NOSE TO TABLE	İŞ MILİ BURNU TABLA ARASI MESAFE	150-700 mm
SPINDLE CENTER TO COLUMN SURFACE	İŞ MILİ EKSENİNDEN SÜTUNA OLAN MESAFE	
TABLE	TABLA	
TABLE OVERALL SIZE	TABLA EBADI	1200x500mm
WORKING AREA	ÇALIŞMA ALANI	
MAX. LOADING WEIGHT	TABLA YÜKÜ	500 kg
T.SLOTS (WIDTH x NO x PITCH)	T-KANALI GENİŞLİK X ADET X ARALIK	18x5x100 mm
DISTANCE (FLOOR TO TABLE SURFACE)	TABLA YÜZEYİNİN YERDEN YÜKSEKLİĞİ	
SPINDLE	İŞ MILİ	
SPINDLE SPEED	DEVİR ARALIĞI	10000 rpm (dev./dak.)
SPINDLE TAPER	İŞ MILİ KONİĞİ	BT 40
MAX. SPINDLE TORQUE	MAX.TORK	
LUBRICATION SYSTEM	YAĞLAMA SİSTEMİ	GRES(SONSUZ ÖMÜR) GREASE (FOR LIFE)
FEEDRATE	İLERLEMELER	
RAPID TRAVERSE X,Y,Z	HIZLI İLERLEME X.Y.Z	30 m/min. (m/dak.)
CUTTING FEEDRATE	KESME İLERLEMESİ	1-10.000 mm/min (mm/dak.)
MANUAL FEEDRATE	ELLE İLERLEME	1-10-100 mm/min (mm/dak.)
BALL SCREWS (X,Y,Z) (C3)	BİLYALI MİLLER X,Y,Z (C3)	
AUTOMATIC TOOL CHANGER	TAKIM MAGAZİN	
TYPE	TİPİ	KOLLU (ARM TYPE)
CAPACITY	KAPASİTESİ	24
TOOL SELECTION-TOOL HOLDERS	TAKIM UCU TİPİ VE SEÇME YÖNTEMİ	MAS BT40, Random.Bi-Ditectional
TOOL DIAMETER/LENGHT/WEIGHT	MAX.TAKIM ÇAP/BOYU/AĞIRLIĞI	(MAS BT40, ÇİFT YÖNLÜ, SİRASIZ) 100 mm/300/6kg
ATC TIME, TOOL TO TOOL	TAKIM DEĞİŞTİRME ZAMANI (TAKIMDAN TAKIMA)	1,6 SEC (Saniye)
ATC TIME, CHIP TO CHIP	TAKIM DEĞİŞTİRME ZAMANI (TALAŞTAN TALAŞA)	1,3 SEC (Saniye)
MOTOR	MOTOR	
SPINDLE MOTOR (FANUC)	İŞ MILİ MOTORU FANUC(S1/S2)	7.5/11kW
X & Y AXIS MOTOR (FANUC)	X&Y EKSEN MOTORU (FANUC)	3kW
Z AXIS MOTOR (FANUC)	Z EKSEN MOTORU (FANUC)	3kW
COOLANT PUMP	SOĞUTMA POMPASI	0.75kW
ATC MOTOR	ATC MOTORU	
LUBRICATION MOTOR	YAĞLAMA MOTORU	80 watt, 220V
ELECTRICTY AND AIR CONSUMPTION	ELEKTRİK VE HAVA İHTİYACI	
ELECTRICITY NEEDED	ELEKTRİK İHTİYACI	20kW
AIR NEEDED	HAVA İHTİYACI	6atü
COOLING	SOĞUTMA DONANIMI	
TANK CAPACITY	TANK KAPASİTESİ	155 L
PUMP CAPACITY	POMPA KAPASİTESİ (LT/MİN-2M)(LT/DAK.-2M)	60
WEIGHT & FLOOR SPACE	AĞIRLIK VE BOYUTLAR	
WEIGHT	AĞIRLIK	6500 kg
FLOOR SPACE	ÇALIŞMA ALANI	3100x2500x2600 mm



DÖNER VE İLAVE TABLA
ROTARY AND ADDITIONAL TABLE

STANDARD ACCESSORIES / STANDART AKSESUARLAR

- COOLANT EQUIPMENT / SOĞUTMA DONANIMI
- LUBRICATION EQUIPMENT / YAĞLAMA DONANIMI
- LIHGTING SYSTEM / AYDINLATMA DONANIMI
- OPERATOR CALLING LAMP / OPERATÖR ÇAĞIRMA LAMBASI
- TELESCOPIC SLIDEWAYS / TELESKOPIK KAPAKLAR
- FULL ENCLOSED MACHINE CABINET / KOMPLE KAPALI KAPORTA
- AUTOMATIC TOOL CHANGER(24 TOOL POT) ARM TYPE / OTOMATİK TAKIM DEĞİŞTİRİCİ (24) KOLLU TİP
- RAPID TAPPING / ADAPTÖRSÜZ SERİ KILAVUZ ÇEKME
- CHIP CONVEYOR(SCREW TYPE) / TALAŞ KONVEYORU
- TOOLS AND TOOL BOX / TAKIM VE AVADANLIKLAR
- OPERATION AND MAINTENANCE MANUAL / TEZGAH BAKIM VE KULLANMA KİTABI
- MACRO PROGRAMMING / MAKRO PROGRAMLAMA
- GRAPHIC DISPLAY / GRAFİK EKİRAN
- METRIC-INCH TRAVERSE / METRİK - İNÇ DÖNÜŞÜMÜ
- DATA SERVER / HAFIZA
- RS-232 C FOR DNC AND CAD-CAM CONNECTION / DNC VE CAD-CAM İÇİN RS-232 C
- COMPACT FLASH CARD INLET / KOMPAKT FLAŞ KART GİRİŞİ

OPTIONAL ACCESSORIES / ÖZEL AKSESUARLAR (*)

- ADDITIONAL TABLE / İLAVE TABLA
- FOURTH AXIS AND ROTARY TABLE / DÖRDÜNCÜ EKSEN VE DÖNER TABLA
- TOOL ADJUSTMENT DEVICE / TAKIM AYARLAMA CİHAZI

(*) Opsiyon : Müşteride adapte edilebilen aksesuar / Option : Accessory to be adapted on customer site

(**) Versiyon : Sadece Fabrikamızda adapte edilebilen aksesuar / Version : Accessory to be adapted only at our factory



TMC 1000 (NEW)

CNC DİK İŞLEM MERKEZİ
CNC VERTICAL MACHINING CENTER



- YÜKSEK HASSASİYET (TEKRARLAMA 2μ /300mm, POZİSYONLAMA 3μ /300mm)
- YÜKSEK RİJİDİTE
- YÜKSEK HIZ (36 m/dak.)
- SERİ KILAVUZ ÇEKME (ADAPTÖRSÜZ 40 delik/dak., HSS, M4, $\text{Ç}1040$)
- YÜKSEK DELİK DELME GÜCÜ (40 mm, HSS, $\text{Ç}1040$)
- YÜKSEK KESME GÜCÜ ($140 \text{ cm}^3/\text{dak.}$ $\text{Ç}1040$)
- PROGRAMLAMA VE TEZGAH KULLANIMI İÇİN ÜCRETSİZ EĞİTİM, SERVİS VE YEDEK PARÇA GÜVENCESİ
- İŞ MİLİ YAĞ SOĞUTMA SİSTEMİ İLE DİZAYN EDİLMİŞTİR
- DIALOG PROGRAMLAMA SİSTEMİ
- TÜM EKSENLERDE LİNEER KIZAKLAR

- HIGH ACCURACY (REPEATABILITY 2μ /300mm, POSITIONING 3μ /300mm)
- HIGH RIGIDITY
- HIGH SPEED (36 m/min.)
- RAPID TAPPING (40 hole/min., HSS, M4,)
- SAE 1040 WITHOUT ADAPTER)
- HIGH MILLING POWER (40 mm, HSS, SAE 1040)
- HIGH CUTTING POWER ($140 \text{ cm}^3/\text{min.}$, HSS, SAE 1040)
- FREE TRAINING PROGRAMMING AND OPERATING MACHINE
- GUARANTEE OF SERVICE AND SPARE PARTS
- SPINDLE PRODUCED USING OF OIL QUANCHING SYSTEM
- DIALOG PROGRAMMING SYSTEM
- ALL AXIS LINEER GUIDE

TECHNICAL SPECIFICATIONS	TEKNİK ÖZELLİKLER	DEĞER (VALUE)	BİRİM (UNIT)
MOVEMENTS	HAREKETLER		
X/Y/Z/ AXIS TRAVEL	X/Y/Z EKSEN HAREKETLERİ	1020/510/560	mm
SPINDLE NOSE TO TABLE	İŞMİLİ BURNU TABLA ARASI MESAFE	150 ~ 710	mm
SPINDLE CENTER TO COLUMN SURFACE	İŞ MİLİ MERKEZİ İLE SÜTUN ARASI MESAFE		mm
TABLE	TABLA HAREKETLERİ		
TABLE OVERALL SIZE	TABLA EBADI	1200 x 500	mm
WORKING AREA	ÇALIŞMA ALANI		mm
MAX. LOADING WEIGHT	TABLA YÜKÜ	800	Kg
T SLOTS (WIDTH x NO x PITCH)	T-KANALI GENİŞLİK x ADET x ARALIK	18 x 5 x 100	mm
DISTANCE (FLOOR TO TABLE SURFACE)	TABLA YÜZEYİNİN YERDEN YÜKSEKLİĞİ		
SPINDLE	İŞ MİLİ		
SPINDLE SPEED	DEVİR ARALIĞI	8,000	Rpm
		10,000	Rpm (OPTION)
		BT40	
		BBT40	(OPTION)
SPINDLE TAPER	İŞ MİLİ KONIĞİ		
MAX. SPINDLE TORQUE	MAX. TORK		
LUBRICATION SYSTEM	YAĞLAMA SİSTEMİ	GRES (SONSUZ ÖMÜR) / GREASE (FOR LIFE)	
FEEDRATE	İLERLEMELER		
RAPID TRAVERSE X,Y,Z	HIZLI İLERLEME X,Y,Z	36/36/36	M/min.
CUTTING FEEDRATE	KESME İLERLEMESİ	1 ~ 15	M/min.
MANUAL FEEDRATE	ELLE İLERLEME	1-10-100	mm/min.
BALL SCREWS (X,Y,Z) (C3)	BİLYALI MİLLER (X,Y,Z) (C3)	C3 40mm	
AUTOMATIC TOOL CHANGER	TAKIM MAGAZİN		
TYPE	TİPİ	ARMLESS / SEMSİYE TİPİ	
		ARM TYPE / KOLLU	(OPTION)
		16	Tools
CAPACITY	KAPASİTESİ	24	Tools (OPTION)
TOOL SELECTION	TAKIM SEÇME YÖNTEMİ	RANDOM, BI-DIRECTIONAL	
TOOL DIAMETER/LENGTH/WEIGHT	MAX. TAKIM ÇAP/BOYU/AĞIRLIĞI	Ø100 / 300mm / 7 Kg	
ATC TIME, TOOL TO TOOL	TAKIM DEĞİŞTİRME ZAMANI (TAKIMDAN TAKIMA)	1,6	Second
ATC TIME, CHIP TO CHIP	TAKIM DEĞİŞTİRME ZAMANI (TALAŞTAN TALAŞA)	3,1	Second
MOTOR	MOTOR		
SPINDLE MOTOR (MITSUBISHI)	İŞ MİLİ MOTORU MITSUBISHI(S1/S2)	15 HP (7.5/11)	
X & Y AXIS MOTOR (MITSUBISHI)	X & Y EKSEN MOTORU (MITSUBISHI)	2 kW	
Z AXIS MOTOR (MITSUBISHI)	Z EKSEN MOTORU (MITSUBISHI)	3 kW	
COOLANT PUMP	SOĞUTMA SIVISI POMPASI	0,75 kW	
ATC MOTOR	ATC MOTORU		
LUBRICATION MOTOR	YAĞLAMA MOTORU	80 Watt, 220V	
ELECTRICTY AND AIR CONSUMPTION	ELEKTRİK VE HAVA İHTİYACI		
ELECTRICTY NEEDED	ELEKTRİK İHTİYACI	25	KVA
AIR NEEDED	HAVA İHTİYACI	5-7	kgf/cm²
COOLING	SOĞUTMA		
TANK CAPACITY	TANK KAPASİTESİ	155	Lt
PUMP CAPACITY	POMPA KAPASİTESİ	60	Lt/min.-2m
WEIGHT & FLOOR SPACE	AĞIRLIK VE BOYUTLAR		
MACHINE NET WEIGHT (APPROX)	AĞIRLIK	5,190	Kg
FLOOR SPACE (L x W x H)	ÇALIŞMA ALANI	2,980 x 2,955 X 3,044	mm



ARM TYPE 24 TOOLS ATC
(OPTION)



4TH AXIS
(OPTION)



LINEAR GUIDE WAYS
C3 40mm BALL SCREWS



AXES MOTORS ARE DIRECTLY
CONNECTED WITH BALLSCREWS
WHICH PROVIDE HIGH EFFICIENT
MOVEMENT CONTROL AND
LOWER NOISE FEATURES.

STANDART ACCESSORIES / STANDART AKSESUARLAR

- COOLANT EQUIPMENT / SOĞUTMA DONANIMI
- LUBRICATION EQUIPMENT / YAĞLAMA DONANIMI
- LIGHTING SYSTEM / AYDINLATMA DONANIMI
- OPERATOR CALLING LAMP / OPERATÖR ÇAĞIRMA LAMBASI
- TELESCOPIC SLIDEWAYS / TELESKOPİK KAPAKLAR
- FULLY ENCLOSED CABINET / KOMPLE KAPALI KAPORTA
- RAPID TAPPING / ADAPTÖRSÜZ SERİ KILAVUZ ÇEKME
- CHIP CONVEYOR / TALAŞ KONVEYÖRÜ
- TOOLS AND TOOLS BOX / TAKIM VE AVADANLIKLAR
- OPERATON AND MAINTENANCE MANUAL / TEZGAH BAKIM VE KULLANMA KİTABI
- MACRO PROGRAMING / MAKRO PROGRAMLAMA
- GRAPHIC DISPLAY/ GRAFİK EKRAN
- METRIC-INC TRAVERSE / METRİK-İNÇ DÖNÜŞÜMÜ
- DATA SERVER / HAFIZA
- RS-232 C FOR DNC AND CAD-CAM CONNECTION / DNC VE CAD-CAM İÇİN RS-232 C
- COMPACT FLASH CARD INLET / KOMPAKT FLAŞ KART GİRİŞİ

OPTIONAL ACCESSORIES / ÖZEL AKSESUARLAR (*)

- ADDITIONAL TABLE / İLAVE TABLE
- FOURTH AXIS AND ROTARY TABLE / DÖRDÜNCÜ EKSEN VE DÖNER TABLA
- TOOL ADJUSTMENT DEVICE / TAKIM AYARLAMA CİHAZI

(*) OPSİYON : Müşteride adapte edilebilen aksesuar / Option : Accessory to be adapted on customer site

(**) VERSİYON : Sadece fabrikamızda adapte edilebilen aksesuar / Version : Accessory to be adapted only at our factory



TTC 630

CNC TORNA TEZGAHI CNC LATHE



- EKSENLERDE YÜKSEK HIZ (30m/dak.)
- YÜKSEK HASSASIYET (TEKRARLAMA: 1-5 μ /X-Z TAM STROK, POZİSYONLAMA: 5-10 μ /X-Z TAM STROK)
- YÜKSEK KESME GÜCÜ
- TEK PARÇA 45° EĞİK RİJİT DÖKÜM GÖVDE
- HASSAS (ISO P4) RULMANLARLA YATAKLANMIŞ RİJİT İŞ MİLİ
- VDI REVOLVER KAFA (TARET)
- PROGRAMLAMA VE TEZGAH KULLANIMI İÇİN ÜCRETSİZ EĞİTİM
- SERVİS VE YEDEK PARÇA GÜVENCESİ
- MOTORİZE HAREKETLİ PUNTA GÖVDESİ

- HIGH AXIS SPEED (30m/min.)
- HIGH ACCURACY (REPEATABILITY: 1-5 μ /X-Z FULL STROKE, POSITIONING: 5 μ /X-Z FULL STROKE)
- HIGH CUTTING POWER
- 45° INCLINED ONE PIECE RIGID CAST IRON BODY
- RIGID SPINDLE SUPPORTED BY PRECISION SPINDLE BEARINGS (ISO P4)
- VDI REVOLVER HEAD (TURRET)
- FREE TRAINING PROGRAMING AND OPERATING MACHINE
- GUARANTEE OF SERVICE AND SPARE PART
- MOTORISED TAIL STROCK MOVEMENT

TECHNICAL SPECIFICATION	TEKNİK ÖZELLİKLER	DEĞER (VALUE)	BİRİM (UNIT)
CAPACITY	KAPASİTE		
SWING ON SLIDE	MAX.İŞ PARÇASI ÇEVİRME ÇAPI	500	mm
MAX.TURNING DIAMETER ON CENTERS	İKİ PUNTA ARASI TORNALAMA ÇAPI	210	mm
MAX.TURNING DIAMETER	MAX.FLANŞ TORNALAMA ÇAPI	350	mm
DISTANCE BETWEEN CENTERS	MAX İŞ PARÇASI TORNALAMA BOYU	630	mm
MAX. LOADING CAPACITY ON CHUCK	AYNADA İŞLENEBİLECEK MAX.İŞ PARÇASI AĞIRLIĞI	150	kg
MAX.LOADING ON TAILSTOCK	PUNTA İLE İŞLENEBİLECEK MAX. İŞ PARÇASI AĞIRLIĞI	200	Kg
SPINDLE	İŞ MİLİ		
SPINDLE SPEED (STEPLESS)	İŞ MİLİ DEVİR ARALIĞI (KADEMESİZ)	10-4000	rpm(d/dak.)
SPINDLE NOSE	İŞ MİLİ BURNU	ISO 702/1 -A6	
SPINDLE HOLE DIAMETER	İŞ MİLİ DELİK ÇAPI	52	mm
MAX.BAR FEED DIAMETER	SÜRÜLEBİLECEK MAX.ÇUBUK ÇAPI	45	mm
SPINDLE BEARING DIAMETER	İŞ MİLİ RULMAN ÇAPI (ÖN/ARKA)	150/140	mm
HYDRAULIC CHUCK SIZE	HİDROLİK AYN A ÇAPI	210	mm
TRAVEL • SPEEDS	EKSEN HAREKETLERİ - HIZLARI		
X AXIS TRAVEL-SPEED	X EKSENİ HAREKET - HIZ	200-30	mm-m/min.(mm-m/dak.)
Z AXIS TRAVEL-SPEED	Z EKSENİ HAREKET -HIZ	630 - 30	mm-m/min.(mm-m/dak.)
VDI TOOL REVOLVER(TURRET)	TARET		
POSITIONS	TAKIM BAĞLAMA İSTASYONU SAYISI	12	
NO OF ROTATING TOOL POSITIONS(VERSION)	DÖNER TAKIM BAĞLAMA İSTASYONU SAYISI(VERSİYON)	6	
BORING BAR DIAMETER	TAKIM TUTUCU SAPI	DIN 69880-40	
TOOL SHANK SIZE	KATER ÖLÇÜLERİ	25x25-32	mm
TOOL CHANGE (LOOKING INCLUDED)	TARET İNDEKSELEME ZAMANI (TAKIMDAN TAKIMA)	0.25	sec(sn)
MAX. SPEED OF ROTATING TOOL (VERSION)	DÖNER TAKIM DEVİRİ (VERSİYON)	3000	rpm(d/dak.)
TAILSTOCK	KARŞI PUNTA		
BODY STROKE	KARŞI PUNTA HAREKETİ	475	mm
QUILL STROKE	KARŞI PUNTA PINOL HAREKETİ	125	mm
QUILL DIAMETER	PINOL ÇAPI	80	mm
QUILL TAPER	PINOL KONIĞI	4	MT/MK
MOTORS	MOTORLAR		
SPINDLE MOTOR POWER(SIEMENS-FANUC)	ANA İŞ MİLİ MOTORU GÜCÜ (SIEMENS(S1/S2)-FANUC(S1/S2))	15/20-15/18.5	kW(S1/S2)
TORQUE (SIEMENS-FANUC)	TORKU (SIEMENS-FANUC)	191	Nm
X AXIS MOTOR POWER/TORQUE(SIEMENS-FANUC)	X EKSENİ MOTORU GÜCÜ/TORKU (SIEMENS-FANUC)	3.3/16	kW/Nm
Z AXIS MOTOR POWER/TORQUE(SIEMENS-FANUC)	Z EKSENİ MOTORU GÜCÜ/TORKU (SIEMENS-FANUC)	3.3/16-2.0/9	kW/Nm
REVOLVER HEAD INDEXING MOTOR	TARET İNDEKSELEME MOTORU	1.8	kW
TOOL DRIVING MOTOR (VERSION)	TAKIM TAHRİK MOTORU (VERSİYON)	3.9/20	kW/Nm
HYDRAULIC PUMP	HİDROLİK POMPA MOTORU	1.1	kW
COOLANT PUMP	SOĞUTMA SIVISI MOTORU (DEBİ-BASMA YÜKSEKLİĞİ)	1.1-40-25	kW-L/min-m (kW-L/dak.-m)
MACHINE OVERALL SIZE	MAKİNA ÖLÇÜLERİ		
TOTAL DRIVING POWER	TOPLAM İHTİYAÇ DUYULAN GÜÇ	40	kW
MACHINE WEIGHT	TEZGAH AĞIRLIĞI	4000	kg
FLOOR SPACE	TEZGAH ÇALIŞMA ALANI	4000x2000x2300	mm
PACKING DIMENSIONS	AMBALAJ ÖLÇÜLERİ (DENİZ AŞIRI)	4150x2150x2600	mm
MISCELLANEOUS	DİĞER		
HYDRAULIC SYSTEM PRESSURE	HİDROLİK SİSTEM BASINCI	40	Bar
HYDRAULIC TANK CAPACITY	HİDROLİK TANK KAPASİTESİ	60	Lt
AIR CONSUMPTION	HAVA İHTİYACI	6	Bar

STANDART ACCESSORIES / STANDART AKSESUARLAR

- Ø 210 HYDRAULIC CHUCK/ Ø 210 HİDROLİK AYN A
- FOOT PEDAL / AYAK PEDALI
- TAIL STOCK WITH ADJUSTABLE QUILL TRAVEL / HİDROLİK KONTROLLÜ PUNTA
- COOLANT SYSTEM / SOĞUTMA DONANIMI
- AUTOMATIC LUBRICATION SYSTEM / YAĞLAMA DONANIMI
- LIGHTING EQUIPMET / AYDINLATMA DONANIMI
- FULLY ENCLOSED CABINET/ TAM KAPALI KABORTA
- CHIP CONVEYOR (STEEL) /TALAŞ KONVEYÖRÜ (ÇELİK)
- TELESCOPIC SLIDEWAYS GUARDS /KIZAK KORUYUCULARI VE SİYİRİCİLERİ
- 3.5" DISKETTE DRIVER (ONLY FOR SIEMENS) /3.5" DISKET SÜRÜCÜ (SADECE SIEMENS İÇİN)

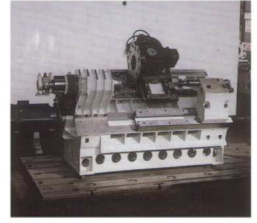
OPTIONAL ACCESSORIES / STANDART AKSESUARLAR

- TOOL SETTING ARM (RENISHAW) / TAKIM AYARLAMA CİHAZI (RENISHAW)
- STEADY REST / ARA YATAK (LUNET)
- BAR FEEDER / ÇUBUK SÜRME ÜNİTESİ

VERSION / VERSİYON (**)

- C - AXIS CONTROL / C - EKSEN KONTROLÜ

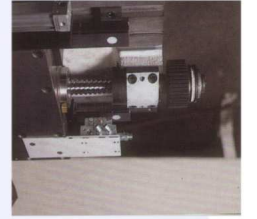
- DOOR SWITCH / KAPI EMNİYET SİVİCİ
- VDI REVOLVER HEAD / VDI REVOLVER KAF A
- OPERATOR CALLING LAMP /OPERATÖR UYARI LAMBASI
- MACHINE LIFTING FIXTURE / TEZGAH KALDIRMA APARATI
- TOOLS AND TOOL BOXES /TAKIM VE AVADANLIKLAR
- OPERATING MANUAL / TEZGAH BAKIM VE KULLANMA KİTABI
- MACRO PROGRAMING /MAKRO PROGRAMLAMA
- GRAPHIC DISPLAY / GRAFİK EKRAN
- METRIC INC TRAVERS / METRİK İNÇ DÖNÜŞÜMÜ
- TIME AND PART COUNTER / SAAT VE PARÇA SAYICI
- RS-232 -C FOR DNC, CAD-CAM CONNECTION / DNC VE CAD-CAM BAĞLANTISI İÇİN RS-232-C
- FLASH CAD CONNECTION / HAFİZA KARTI BAĞLANTISI



RIGID CONSTRUCTION
RÜJİT KONKSTRÜKSİYON



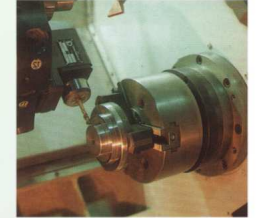
VDI TURRET
VDI TARET



TORQUE LIMITER CLUTCH X AXIS
X EKSENİNDE EMLİYET KAVRAMASI



POWERFUL HYDRAULIC TAILSTOCK
GÜÇLÜ HİDROLİK PUNTA



C - AXIS CONTROL (VERSION) (**)
C - EKSEN KONTROLÜ (VERSİYON) (**)

(**) Opsiyon : Müşteride adapte edilebilen aksesuar / Option : Accessory to be adapted on customer site

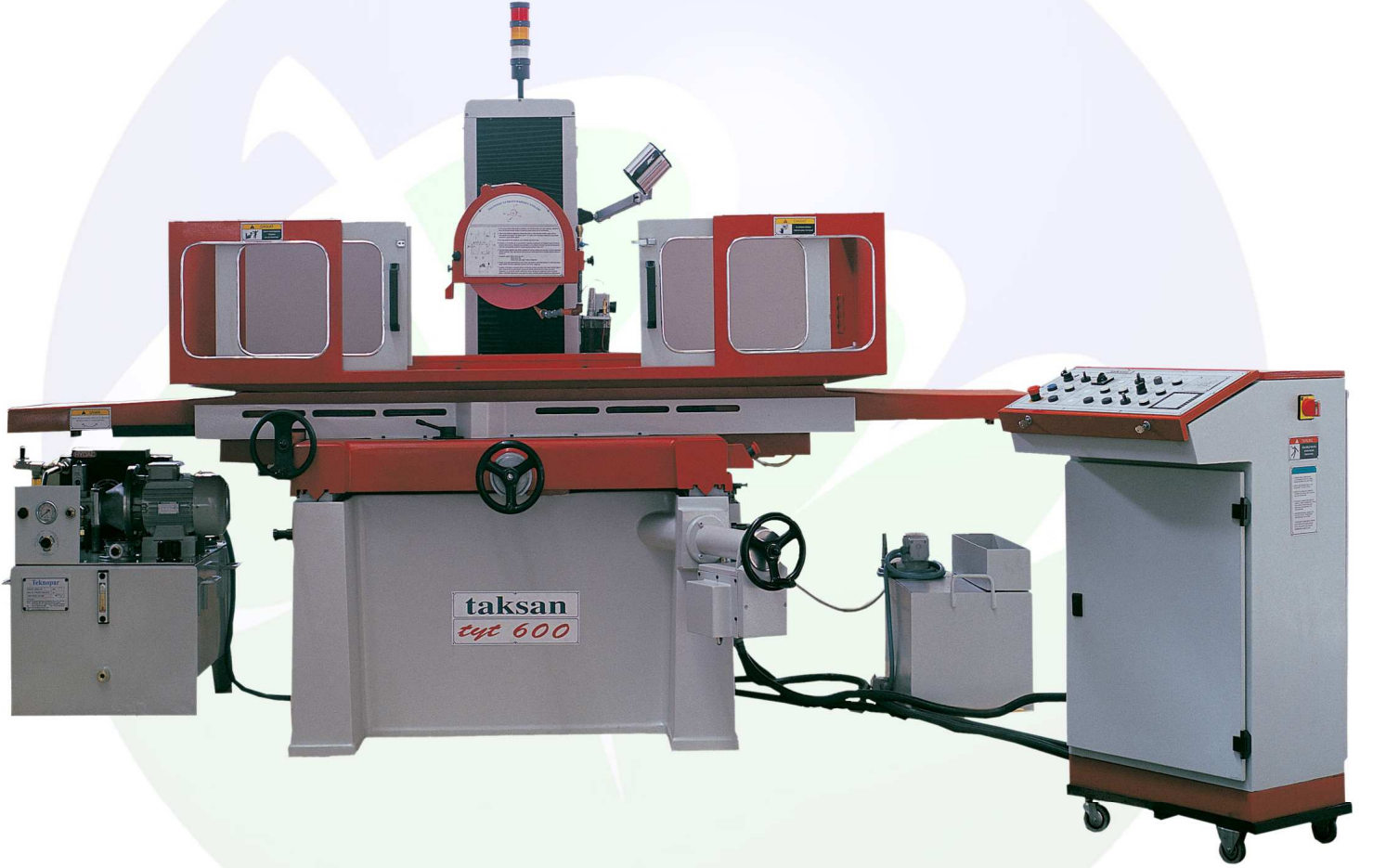
(**) Versiyon : Sadece Fabrikamızda adapte edilebilen aksesuar / Version : Accessory to be adapted only at our factory



TYT 400 / TYT 600

YATAY MİLLİ SATIŞ TAŞLAMA TEZGAHI

HORIZONTAL SPINDLE SURFACE GRINDING MACHINE



- OTOMATİK MERKEZİ YAĞLAMA DONANIMI
- BOYUNA İLERLEMEDE HİDROLİK KONTROL
- İŞ MİLİ BAKIM İSTEMEYEN HASSAS (ISO P4) OMUZLU BİLYALI RULMANLARLA YATAKLANMIŞTIR
- İŞ MİLİ DİREKT TAHRİK EDİLEREK MİNİMUM VİBRASYON TEMİN EDİLMİŞTİR
- ENİNE DOĞRULTUDAKİ V KIZAKLAR TURCITE-B İLE KAPLANMIŞTIR
- X/Y EKSENİNDE OTOMATİK YÖN DEĞİŞTİRME

- CENTRAL LUBRICATION SYSTEM
- HYDRAULIC CONTROL ON LONGITUDINAL TRAVERSE
- SPINDLE RUNS IN PRECISION (ISO P4) ANGULAR CONTACT BEARING, LUBRICATED FOR LIFE
- DIRECT DRIVE BALANCED SPINDLE WITH MINIMUM VIBRATION
- V GUIDEWAYS ON CROSS SLIDE IS COATED WITH TURCITE-B
- AUTOMATIC GRINDING CYCLE ON X/Y AXES

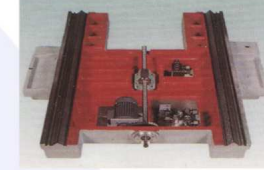
TECHNICAL SPECIFICATIONS	TEKNİK ÖZELLİKLER	TYT 400 DEĞER (VALUE)	TYT 600 DEĞER (VALUE)	BİRİM(UNIT)
WORK TABLE	İŞ TABLASI			
WORKING SURFACE OF TABLE	TABLA BAĞLAMA ALANI	400X850	600X1200	mm
MAX.SURFACE GROUND AREA	MAX TAŞLANAN YÜZEY	400X850	600X1200	mm
T-SLOT NUMBER/SIZE	T-KANAL SAYISI/BOYUTU	1/14H7	1/14H7	pcs/mm(ad/mm)
MAX.CARRYING CAPACITY	MAX.İŞ PARÇASI AĞIRLIĞI	250	300	kg
TRAVERSES&SPEEDS	HAREKET SAHASI VE HIZLAR			
MAX.TABLE TRAVEL (CROSS&LONGITUDINAL)	MAX TABLA HAREKETİ (ENİNE x BOYUNA)	410X900	600X1200	mm
CENTER DISTANCE OF SPINDLE TO TABLE (MIN/MAX)	TAŞ MILİ EKSENİNİN TABLAYA MESAFESİ (Min / Max)	75/550	75/550	mm
SPEED OF LONGITUDINAL TABLE TRAVERSE	TABLANIN BOYUNA İLERLEME HIZI	5-25	5-20	m/min.(m/dak)
AUTO CROSS FEED INCREMENT	TABLANIN OTOMATİK ENİNE İLERLEME MİKTARI	0.1-10	0.1-10	mm/strok
AUTO. DOWN FEED (INDCREMENT)**	TAŞ KAFASI OTOMATİK PASO VERME **	0.001	0.001	mm
WHEEL SPEED	TAŞ MILİ DEVRİ	1500.(50 HZ)	1500.(50 HZ)	rpm (d/dak.)
GRINDING WHEEL DIMENSION	TAŞ BOYUTLARI			
HAND WHEEL DIVISION	EL VOLANI TAKSİMATLARI	350X127X40	350X127X40	mm
CROSS FEED ON HAND WHEEL/REVOLUTION	ENİNE HAREKET EL TEKERİNİN 1 DEVRİ İÇİN İLERLEME MİKTARI	5	5	mm
CROSS FEED ON HAND WHEEL- 1 GRADUATION	ENİNE HAREKET EL TEKERİNİN İKİ SKALA ARASI	0.02	0.02	mm
VERTICAL DOWN FEED ON HAND WHEEL-1 GRADUATION	DIKEY HAREKET EL TEKERİNİN 1 DEVRİ İÇİN İLERLEME MİKTARI	2	2	mm
VERTICAL FEED ON HAND WHEEL-1 GRADUATION	DIKEY HAREKET EL TEKERİNİN İKİ SKALA ARASI	0.01	0.01	mm
DRIVING POWER	MOTOR GÜÇLERİ			
SPINDLE MOTOR	TAŞ MILİ MOTORU	4	4	kw
HYDRAULIC PUMP MOTOR	HİDROLİK POMPA MOTORU	2.2	2.2	kw
AUTO CROSS FEED MOTOR	OTOMATİK ENİNE İLERLEME MOTORU	0.18	0.18	kw
RAPID HEAD ELEVATION MOTOR	TAŞ KAFASI SERİ HAREKET MOTORU	0.25	0.25	kw
LUBRICATION PUMP	YAĞLAMA POMPASI	4-220	4-220	Watt -Volt
COOLING PUMP	SOĞUTMA SUYU POMPASI	0.2	0.2	kw
TOTAL POWER	TOPLAM GÜÇ	6.8	6.8	kw
WEIGHT&SIZE	AĞIRLIK VE BOYUTLAR			
MACHINE WEIGHT (CROSS-NET)	TEZGAH AĞIRLIĞI (BRÜT-NET)	4400-3600	5500-4800	Kg
FLOOR SPACE	TEZGAH ÇALIŞMA ALANI	1790x3100x1990	2230x3900x1990	mm



ELEKTROMAGNETIC TABLE
ELEKTROMANYETİK TABLA



DIRECT DRIVE BALANCED SPINDLE
DİREK TAHRİKLİ İŞ MILİ



AUTO CROSS FEED MECHANISM
OTOMATİK ENİNE
İLERLEME TERTİBATI

STANDARD ACCESSORIES / STANDART AKSESUARLAR

- FULL SPLASH GUARD / TABLA MUHAFAZA SACI
- ELECTROMAGNETIC TABLE /ELEKTROMANYETİK TABLA
- WHEEL BALANCING STAND /TAŞ BALANSI SEHPASI
- BALANCING ARBOR / TAŞ BALANSI MALAFASI
- GRINDING WHEEL (Ø350xØ127x40) / TAŞLAMA TAŞI (Ø350xØ127x40)
- GRINDING WHEEL FLANGE PULLER / TAŞ FLANŞI ÇEKTİRMESİ
- TABLE - TYPE WHEEL DRESSER (W/O DIAMOND) / TABLADAN TAŞ BİLEME APARATI (ELMASSIZ)
- SPOT LIGHT / AYDINLATMA DONANIMI
- COOLANT EQUIPMENT /SOĞUTMA DONANIMI
- MACHINE OPERATING TOOLS /TAKIM VE AVADANLIKLAR
- LIFTING SCREWS / KALDIRMA CİVATALARI
- OPERATOR'S MANUAL / KULLANMA VE BAKIM EL KİTABI
- RAPID POWER HEAD ELEVATION / TAŞ KAFASI SERİ HAREKET DÜZENİ
- DEMAGNETIZING UNIT FOR ELECTROMAGNETIC TABLE / DEMAGNETİZE ÜNİTESİ (ELEKTROMANYETİK TABLA İÇİN)

OPTIONAL ACCESSORIES / ÖZEL AKSESUARLAR (*)

- ADDITIONAL WHEEL FLANGE / İLAVE TAŞ FLANŞI
- MAGNETIC FILTER / MANYETİK FİLTRE
- WHEEL DRESSER ON WHEEL HEAD (W/O DIAMOND) / TAŞ KAFASINDAN TAŞ BİLEME APARATI (ELMASSIZ)
- TOOL MAKER VISE / TAKIMCI MENGENESİ
- MAGNETIC SINE PLATE / MANYETİK SİNÜS PLEYTİ
- SINE BAR / SİNÜS ÇUBUĞU
- DEMAGNETIZER (FOR WORKPIECES) / MANYETİZMA GİDERME CİHAZI (İŞ PARÇASI İÇİN)
- PUNCH FORMER/ PROFİL TAŞLAMA VE BİLEME APARATI

VERSION / VERSİYON (**)

- PLC CONTROL AUTOMATIC DOWNFEED MECHANISM ON Z-AXIS / Z EKSENİNDE PLC KONTROLLÜ OTOMATİK PASO DÜZENİ

(*) Opsiyon : Müşteride adapte edilebilen aksesuar / Option : Accessory to be adapted on customer site

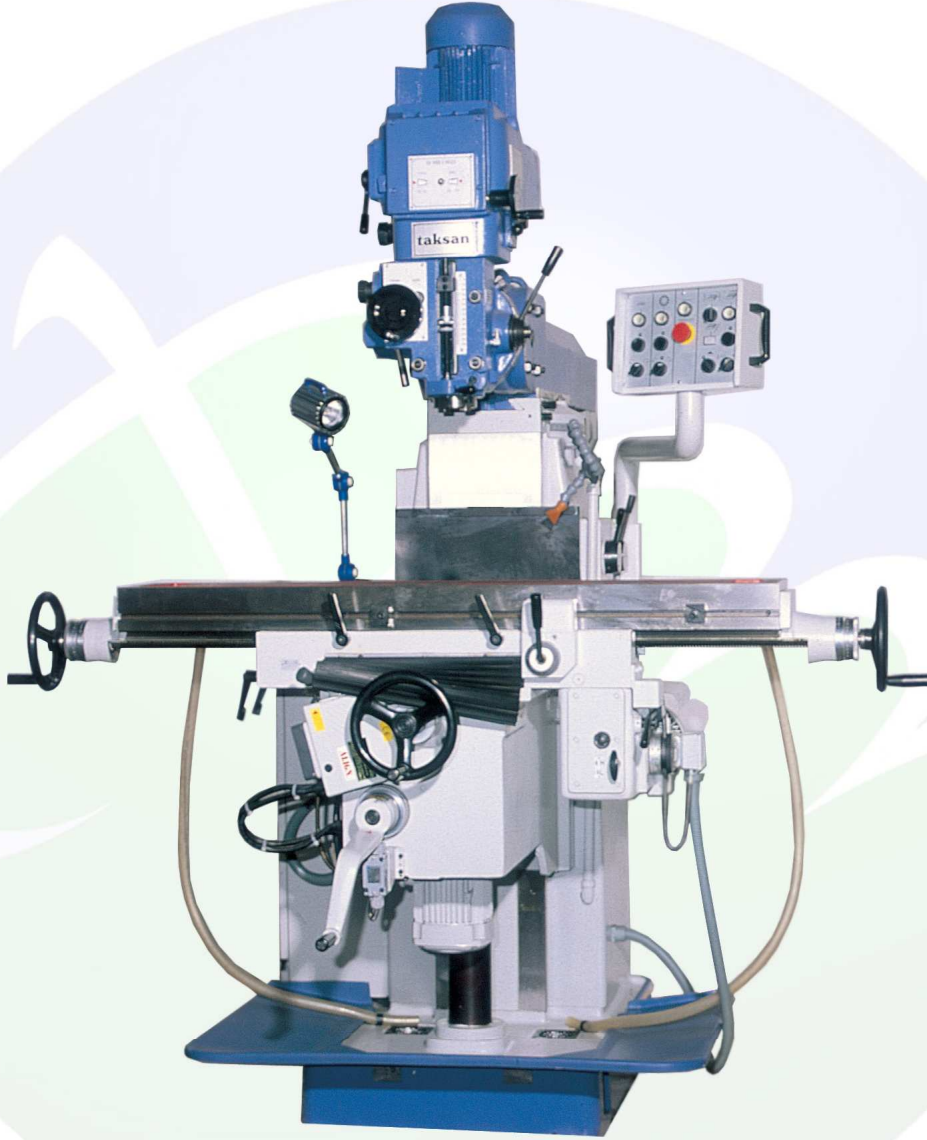
(**) Versiyon : Sadece Fabrikamızda adapte edilebilen aksesuar / Version : Accessory to be adapted only at our factory



TKF 260V

DİKEY MİLLİ KALIPÇI FREZE TEZGAHI

TOOL ROOM MILLING MACHINE WITH VERTICAL SPINDLE



- X-Y-Z EKSENLERİNDE TURCITE-B KAPLAMA
- Y/Z EKSENLERİNDE KARE KIZAKLAR
- X EKSENİNDE KIRLANGIÇ KIZAKLAR
- 50-3750 Dev/dak. KADEMESİZ İŞ MİLİ DEVRİ
- SERT KROM KAPLANMIŞ, TAŞLANMIŞ PİNOL
- HASSAS İŞ MİLİ RULMANLARI (ISO P4)
- EŞ YÖNLÜ FREZELEME TERTİBATI
- X-EKSENİNDE DİŞLİ KUTUSU İLE SERİ VE KADEMELİ HAREKET OLANAĞI
- OTOMATİK MERKEZİ YAĞLAMA SİSTEMİ
- TÜM EKSENLERDE ÇİFT MEKANİK KİLİTLEME

- TURCITE-B COATING ON X/Y/Z AXES
- SQUARE GUIDEWAYS ON Z&Y AXES
- DOVETAIL GUIDEWAY ON X AXIS
- STEPLESS ROTATING SPEED BETWEEN 50-3750 rpm
- HARD CHROME PLATED GROUND QUILL
- PRECISION SPINDLE BEARINGS (ISO P4)
- BACKLASH ELIMINATION
- RAPID AND GEAR BOX TYPE FEED ON X-AXIS
- AUTOMATIC CENTRAL LUBRICATION SYSTEM
- DOUBLE LOCKS ON ALL AXES

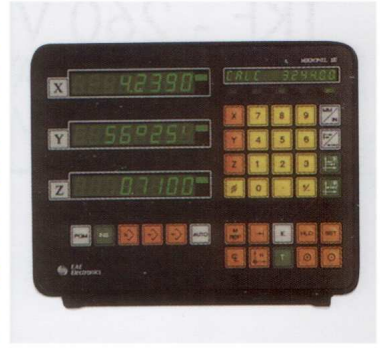
TECHNICAL SPECIFICATIONS	TEKNİK ÖZELLİKLER	DEĞER (VALUE)	BİRİM (UNIT)
WORK TABLE	İŞ TABLASI		
TABLE WORKING AREA	İŞ BAĞLAMA YÜZEYİ	1300/260	mm
T-SLOTS NUMBER / SIZE	T-KANAL SAYISI / BOYUTU	3/14	pcs/mm (adet/mm)
DISTANCE BETWEEN SLOTS	KANAL ARALIĞI	63	mm
MAX. TABLE LOAD CAPACITY	MAX. İŞ PARÇASI YÜK.KAPASİTESİ	300	kg
TRAVERSES	TABLA HAREKETLERİ		
LONGITUDINAL TRAVERSE	BOYUNA HAREKET	770	mm
CROSS TRAVERSE-by hand/by motor*	ENİNE HAREKET-el ile/motor ile*	390/380	mm
VERTICAL TRAVERSE-by hand/bv motor*	DIKEY HAREKET-el ile/motor ile*	400/335	mm
RAPID TRAVERSES	SERİ HAREKETLER		
LONGITUDINAL RAPID TRAVERSE	BOYUNA SERİ HAREKET	1715	mm/min.(mm/dak.)
CROSS RAPID TRAVERSE*	ENİNE SERİ HAREKET*	1000	mm/min.(mm/dak.)
VERTICAL RAPID TRAVERSE*	DIKEY SERİ HAREKET*	800	mm/min.(mm/dak.)
FEEDS	İLERLEMELER		
LONGITUDINAL FEED	BOYUNA İLERLEMELER	18-575	mm/min.(mm/dak.)
VERTICAL FEED*	DIKEY İLERLEME*	800	mm/min.(mm/dak.)
CROSS FEED*	ENİNE İLERLEME*	0-1000	mm/min.(mm/dak.)
MAIN SPINDLE	İSMİLİ		
NUMBER OF SPEED RATES	İŞ MİLİ HIZ BASAMAK SAYISI	2	
SPINDLE SPEED (STEPLESS)	İŞ MİLİ DEVRİ (KADEMESİZ)	(50-470)(420-3750)	rpm (d/dak.)
QUILL	PİNOL		
SPINDLE TAPER	İŞ MİLİ KONIĞI	ISO 40	
QUILL TRAVEL	PİNOL HAREKETİ	127	mm
QUILL FEED (3 STEPS)	PİNOL İLERLEMESİ (3 KADEMELİ)	0.04/0.08/0.14	mm/rev.(mm/devir)
ORIENTATION OF SPINDLE HEAD	İSMİLİ KAFASI DÖNME YÖNÜ		
RIGHT-LEFT	SAGA-SOLA	±90°	
FRONT-BACK	ÖNE-ARKAYA	±45°	
OVERARM TRAVEL	ÜST Kafa HAREKETİ	470	mm
OVERARM ROTATION	ÜST Kafa DÖNÜŞÜ	360°	
DISTANCE SPINDLE NOSE TO TABLE (min.-max.)	İŞ MİLİ ALNI-TABLA ARASI (min.-max.)	145-545	mm
DISTANCE SPINDLE CENTER TO THE COLUMN (min.-max.)	İŞ MİLİ EKSENİ-SUTUN ARASI (min.-max.)	360-830	mm
WEIGHT & SIZE	AĞIRLIK VE BOYUTLAR		
MACHINE WEIGHT (Net/Gross)	TEZGAH AĞIRLIĞI (Net/Brüt)	1550/2300	kg
FLOOR SPACE	TEZGAH ÇALIŞMA ALANI	2644x2074x2250	mm
PACKING DIMENSIONS	SANDIK ÖLÇÜLERİ	2000x2000x2300	mm
DRIVING POWER	MOTOR GÜÇLERİ		
TOTAL POWER	BAGLANTI GÜCÜ	4.4	KW
SPINDLE MOTOR	İŞ MİLİ	2.2-1500	KW-rpm (KW-d/dak.)
LONGITUDINAL FEED MOTOR	BOYUNA İLERLEME	0.5/0.7-750/1500	KW-rpm (KW-d/dak.)
VERTICAL FEED MOTOR*	DIKEY İLERLEME*	1.1-1000	KW-rpm (KW-d/dak.)
CROSS FEED MOTOR*	ENİNE İLERLEME*	0.25-200	KW-rpm (KW-d/dak.)
COOLANT PUMP	SOĞUTMA SIVISI POMPASI	0.15/3000	KW-rpm (KW-d/dak.)

STANDARD ACCESSORIES/ STANDART AKSESUARLAR

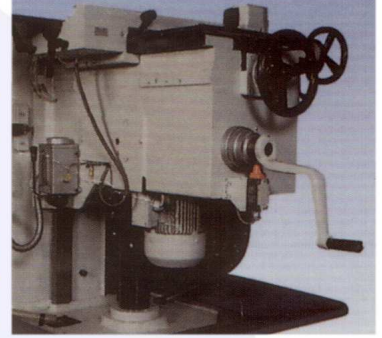
- AUTOMATIC CENTRAL LUBRICATION SYSTEM / OTOMATİK MERKEZİ YAĞLAMA SİSTEMİ
- DRAW BAR / TAKIM ÇEKTİRME ÇUBUĞU
- CHIP PAN / TALAŞ TEKNESİ
- WORKING LAMP / AYDINLATMA LAMBASI
- COOLANT EQUIPMENT / SOĞUTMA DONANIMI
- TOOL KIT / TAKIM VE AVADANLIKLAR
- OPERATION AND MAINTENANCE MANUAL / TEZGAH BAKIM VE KULLANIM KİTABI
- POWER FEED ON Y-AXIS / Y-EKSENİ SERİ VE KADEMELİ HAREKET DÜZENİ
- RAPID TABLE ELEVATING MOTOR / TABLA DIKEY SERİ HAREKET MOTORU

OPTIONAL ACCESSORIES / ÖZEL AKSESUARLAR (*)

- DIGITAL READOUT / DİJİTAL OKUYUCU SİSTEMİ



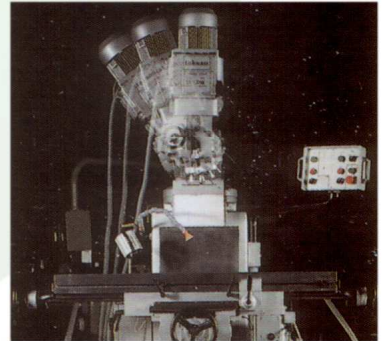
DIGITAL READOUT
DİJİTAL OKUYUCU SİSTEMİ



RAPID TRAVERSE MECHANISM ON Z - AXIS
Z - EKSENİ SERİ HAREKET DÜZENİ



W/AC FREQUENCY VARIABLE Y-AXIS
Y-EKSENİ SERİ HAREKET DÜZENİ



SWIVEL HEAD
DÖNER Kafa

(*) Opsiyon : Müşteride adapte edilebilen aksesuar / Option : Accessory to be adapted on customer site

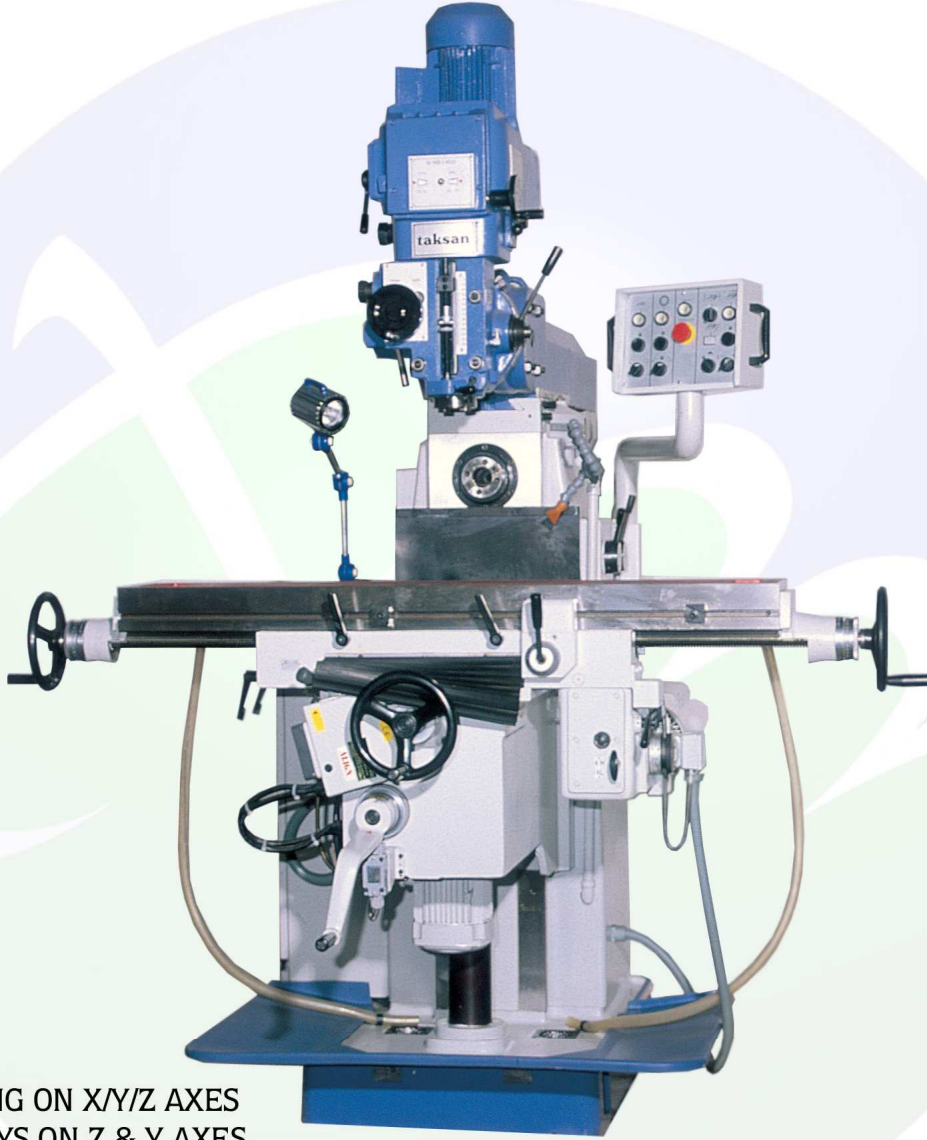
(**) Versiyon : Sadece Fabrikamızda adapte edilebilen aksesuar / Version : Accessory to be adapted only at our factory



TKF 260 VH

DİKEY VE YATAY İŞ MİLİ KALIPÇI FREZE TEZGAHI

TOOL ROOM MILLING MACHINE WITH VERTICAL & HORIZONTAL SPINDLE



- TURCITE-B COATING ON X/Y/Z AXES
- SQUARE GUIDEWAYS ON Z & Y AXES
- DOVETAIL GUIDEWAY ON X AXIS
- STEPLESS ROTATING SPEED BETWEEN 50-3750 rpm (VERTICAL)
- ROTATING SPINDLE BETWEEN 54-1218 rpm WITH 6 STEP (HORIZONTAL)
- HARD CHROME PLATED GROUND QUILL
- PRECISION SPINDLE BEARINGS (ISO P4)
- BACKLASH ELIMINATION
- RAPID AND GEAR BOX TYPE FEED ON X-AXIS
- AUTOMATIC CENTRAL LUBRICATION SYSTEM
- DOUBLE LOCKS ON ALL AXES
- X-Y-Z EKSENLERİNDE TURCITE-B KAPLAMA
- Y/Z EKSENLERİNDE KARE KIZAKLAR
- X-EKSENİNDE KIRLANGIÇ KIZAKLAR
- 50-3750 Dev/dak KADEMESİZ İŞMİLİ DEVRİ (DİKEY)
- 54-1218 Dev/dak 6 KADEMELİ İŞ MİLİ DEVRİ (YATAY)
- SERT KROM KAPLANMIŞ, TAŞLANMIŞ PİNOL
- HASSAS İŞMİLİ RULMANLARI (ISO P4)
- EŞ YÖNLÜ FREZELEME TERTİBATI
- X-EKSENİNDE DİŞLİ KUTUSU İLE SERİ VE KADEMELİ
- HAREKET OLANAĞI
- OTOMATİK MERKEZİ YAĞLAMA SİSTEMİ
- TÜM EKSENLERDE ÇİFT MEKANİK KİLİTLEME

TECHNICAL SPECIFICATIONS	TEKNİK ÖZELLİKLER	DEĞER (VALUE)	BİRİM (UNIT)
WORK TABLE	İŞ TABLASI		
TABLE WORKING AREA	İŞ BAĞLAMA YÜZEYİ	1300/260	mm
T-SLOTS NUMBER / SIZE	T-KANAL SAYISI / BOYUTU	3/14	pcs/mm(adet/mm)
DISTANCE BETWEEN SLOTS	KANAL ARALIĞI	63	mm
MAX. TABLE LOAD CAPACITY	MAX. İŞ PARÇASI YÜK.KAPASİTESİ	300	kg
TRAVERSES	TABLA HAREKETLERİ		
LONGITUDINAL TRAVERSE	BOYUNA HAREKET	770	mm
CROSS TRAVERSE-by hand/by motor*	ENİNE HAREKET-el ile/motor ile*	390/380	mm
VERTICAL TRAVERSE-by hand/bv motor*	DIKEY HAREKET-el ile/motor ile*	400 / 335	mm
RAPID TRAVERSES	SERİ HAREKETLER		
LONGITUDINAL RAPID TRAVERSE	BOYUNA SERİ HAREKET	1715	mm/min.(mm/dak.)
CROSS RAPID TRAVERSE*	ENİNE SERİ HAREKET*	1000	mm/min.(mm/dak.)
VERTICAL RAPID TRAVERSE*	DIKEY SERİ HAREKET*	800	mm/min.(mm/dak.)
FEEDS	İLERLEMELER		
LONGITUDINAL FEED	BOYUNA İLERLEMELER	18-575	mm/min.(mm/dak.)
VERTICAL FEED*	DIKEY İLERLEME*	800	mm/min.(mm/dak.)
CROSS FEED*	ENİNE İLERLEME*	0-1000	mm/min.(mm/dak.)
VERTICAL SPINDLE	DIKEY İŞMİLİ		
NUMBER OF SPEED RATES	İŞ MİLİ HIZ BASAMAK SAYISI	2	
SPINDLE SPEED (STEPLESS)	İŞ MİLİ DEVRİ (KADEMESİZ)	(50-470)(420-3750)	rpm (d/dak.)
HORIZONTAL SPINDLE	YATAY İŞ MİLİ		
SPINDLE SPEED	İŞ MİLİ DEVRİ	54-103-204-324-616-1218	rpm (d/dak)
SPINDLE TAPER	İŞ MİLİ KONİĞİ	ISO 40	
QUILL	PİNOL		
SPINDLE TAPER	İŞ MİLİ KONİĞİ	ISO 40	
QUILL TRAVEL	PİNOL HAREKETİ	127	mm
QUILL FEED (3STEPS)	PİNOL İLERLEMESİ (3 KADEMELİ)	0.04/0.08/0.14	mm/rev.(mm/devir)
ORIENTATION	İŞ MİLİ KAFASI		
OF SPINDLE HEAD	DÖNME YÖNÜ		
RIGHT-LEFT	SAĞA-SOLA	±90°	
FRONT-BACK	ÖNE-ARKAYA	±45°	
OVERARM TRAVEL	ÜST Kafa HAREKETİ	470	mm
OVERARM ROTATION	ÜST Kafa DÖNÜŞÜ	360°	
DISTANCE SPINDLE NOSE TO TABLE (min.-max.)	İŞ MİLİ ALNI-TABLA ARASI (min.-max.)	145-545	mm
DISTANCE SPINDLE CENTER TO THE COLUMN (min.-max.)	İŞ MİLİ EKSENİ-SUTUN ARASI (min.-max.)	360-830	mm
WEIGHT & SIZE	AĞIRLIK VE BOYUTLAR		
MACHINE WEIGHT (Net/Gross)	TEZGAH AĞIRLIĞI (Net/Brüt)	1550/2300	kg
FLOOR SPACE	TEZGAH ÇALIŞMA ALANI	2644x2074x2250	mm
PACKING DIMENSIONS	SANDIK ÖLÇÜLERİ	2000x2000x2300	mm
DRIVING POWER	MOTOR GÜÇLERİ*		
TOTAL POWER	BAĞLANTI GÜCÜ	8.4	KW
VERTICAL SPINDLE MOTOR	DIKEY İŞ MİLİ	2.2-1500	KW-rpm (KW-d/dak.)
HORIZONTAL SPINDLE MOTOR	YATAY İŞ MİLİ	4-1500	KW-rpm (KW-d/dak.)
LONGITUDINAL FEED MOTOR	BOYUNA İLERLEME	0.5/0.7-750/1500	KW-rpm (KW-d/dak.)
VERTICAL FEED MOTOR*	DIKEY İLERLEME*	1.1-1000	KW-rpm (KW-d/dak.)
CROSS FEED MOTOR*	ENİNE İLERLEME*	0.25-200	KW-rpm (KW-d/dak.)
COOLANT PUMP	SOĞUTMA SIVISI POMPASI	0.15/3000	KW-rpm (KW-d/dak.)

STANDARD ACCESSORIES / STANDART AKSESUARLAR

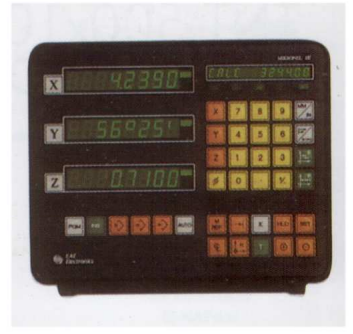
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- RAW BAR / TAKIM ÇEKTİRME ÇUBUĞU
- CHIP PAN / TALAŞ TEKNESİ
- WORKING LAMP / AYDINLATMA LAMBASI
- COOLANT EQUIPMENT / SOĞUTMA DONANIMI
- TOOL KIT / TAKIM VE AVADANLIKLAR
- OPERATION AND MAINTENANCE MANUAL / TEZGAH BAKIM VE KULLANIM KİTABI
- SERİ HAREKET MOTORU
- KADEMELİ HAREKET DÜZENİ

OPTIONAL ACCESSORIES / ÖZEL AKSESUARLAR (*)

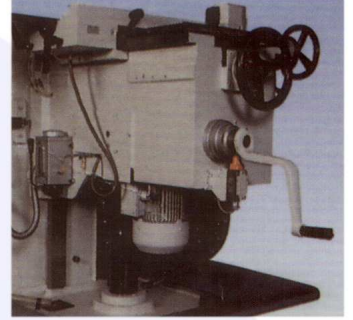
- DIGITAL READOUT / DİJİTAL OKUYUCU SİSTEMİ

(*) Opsiyon : Müşteride adapte edilebilen aksesuar / Option : Accessory to be adapted on customer site

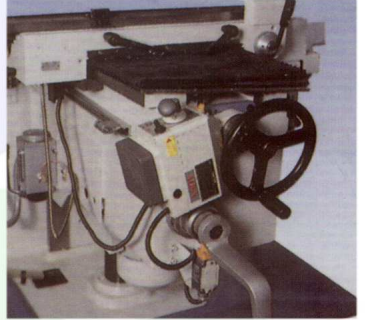
(**) Versiyon : Sadece Fabrikamızda adapte edilebilen aksesuar / Version : Accessory to be adapted only at our factory



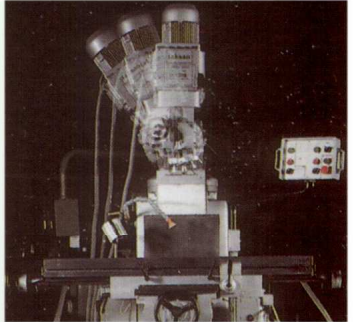
DIGITAL READOUT
DİJİTAL OKUYUCU SİSTEMİ



RAPID TRAVERSE MECHANISM ON Z - AXIS
Z - EKSENİ SERİ HAREKET DÜZENİ



W/AC FREQUENCY VARIABLE Y - AXIS
Y - EKSENİ SERİ HAREKET DÜZENİ

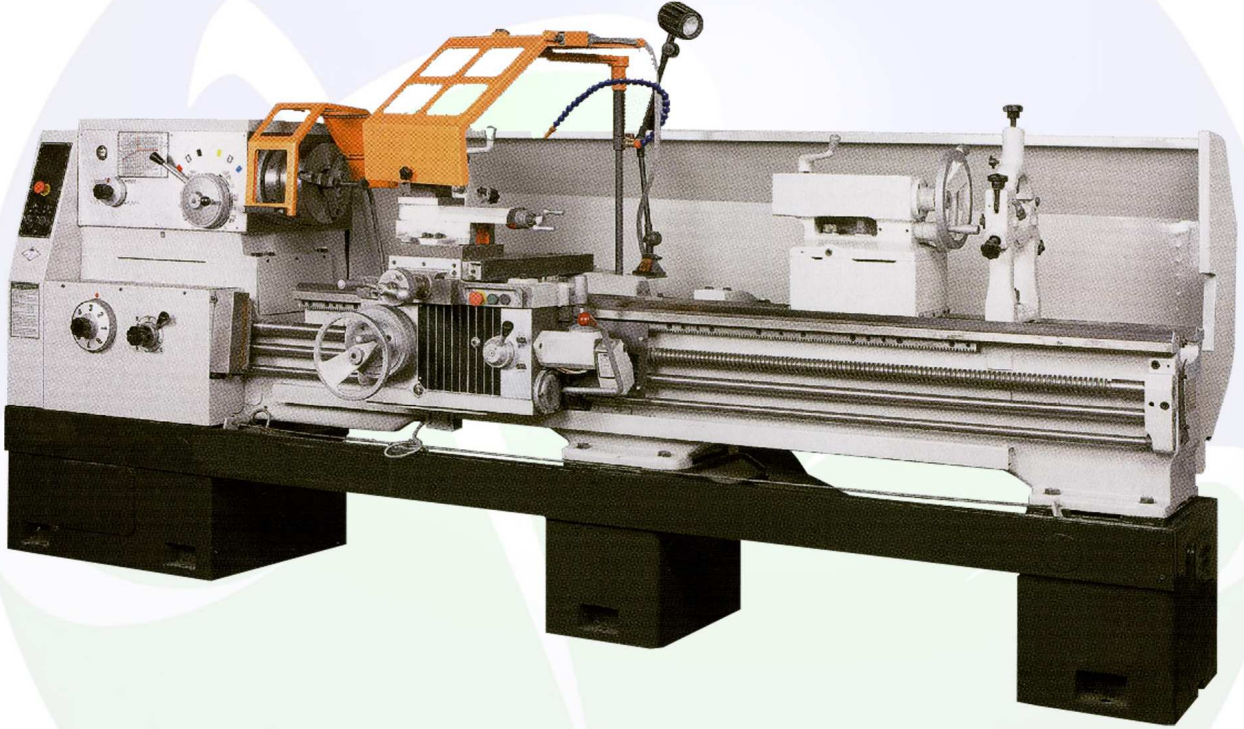


SWIVEL HEAD
DÖNER KAFA



TNT 500x1000/1500/2000

UNIVERSAL TORNA ENGINE LATHE



- GG 30 KALİTE, GENİŞ KIZAK ARALIKLI RİJİT GÖVDE
- HASSAS KONİK RULMANLARLA YATAKLANMIŞ RİJİT İŞ MİLİ
- İNDÜKSİYONLA SERTLEŞTİRİLMİŞ VE TAŞLANMIŞ GÖVDE KIZAK YOLLARI
- AYAK PEDALI İLE KUMANDA EDİLEBİLEN HİDROLİK İŞ MİLİ FREN SİSTEMİ
- EKSENLERDE AŞIRI YÜKLEMELERE KARŞI EMNİYET KAVRAMASI
- YÜKSEK TALAŞ DEBİSİNE HAİZ KESME ÖZELLİĞİ

- RIGID BED MADE OF GG 30 DESIGNED AS WIDE SLIDEWAYS
- RIGID SPINDLE SUPPORTED BY HIGH ACCURACY TAPER BEARING
- BED SLIDEWAYS INDUCTION HARDENED AND FINE GROUND
- HYDRAULIC SPINDLE BRAKE SYSTEM CONTROLLED BY FOOT PEDAL
- OVERLOAD SAFETY CLUTCHES ON AXES
- HIGH METAL REMOVAL RATE CAPACITY

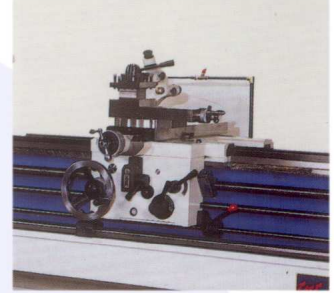
TECHNICAL SPECIFICATIONS	TEKNİK ÖZELLİKLER	DEĞER (VALUE)	BİRİM (UNIT)
NOMINAL SIZE	ANA BOYUTLAR		
SWING -OVER BED	DÖNME ÇAPI-GÖVDE ÜZERİNDEN	500	mm
-OVER CROSS SLIDE	-ÇAPRAZ KIZAK ÜZERİNDEN	300	mm
-OVER GAP	-KÖPRÜ BOŞLUĞUNDAN	720	mm
DISTANCE FROM BED TO CENTER	GÖVDE ÜZERİNDEN PUNTA YÜKSEKLİĞİ	210	mm
FROM FLOOR TO CENTER	YERDEN PUNTA YÜKSEKLİĞİ		mm
BETWEEN CENTER	PUNTALAR ARASI MESAFE	1000 / 1500 / 2000	mm
SPINDLE	İŞ MİLİ		
TYPE OF SPINDLE NOSE	İŞ MİLİ BURNU TİPİ	D8	
DIAMETER OF HOLE IN SPINDLE	İŞ MİLİ DELİĞİ ÇAPI	Ø80	
TAPER OF SPINDLE BORE	İŞ MİLİ KONIĞI		M.T./M.K.
NUMBER OF SPINDLE SPEEDS	İŞ MİLİ HIZ KADEMELERİ SAYISI		rpm (d/dak)
RANGE OF SPINDLE SPEEDS	İŞ MİLİ HIZ ARALIĞI	10-1400 (24)	d/d
LEAD SCREW	ANA MİL		mm
THREADS	DIŞ HATVELERİ		
INCH	İNÇ	1/2-24 (28 Kinds)	T.P.I
METRIC	METRİK	1-192 (24 Kinds)	mm
DIAMETRAL PITCH	ÇAPSAL HATVE	1/2-96 (38 Kinds)	D.P.
MODULE	MODÜL	0.25-48 (39 Kinds)	m
FEEDS	İLERLEMELER		
NUMBER OF FEEDS CHANGES(LONGSCROSS)	BOYUNA VE ENİNE İLERLEME	64 (For Each)	
RANGE OF CROSS FEEDS	ENİNE İLERLEME ARALIĞI		mm/rev(mm/dev)
RANGE OF LONGITUDINAL FEEDS	BOYUNA İLERLEME ARALIĞI	0.028-6.4	mm/rev(mm/dev)
TOOL POST	TAKIM TUTUCU		
CROSS SLIDE TRAVEL	ÇAPRAZ KIZAK HAREKET MİKTARI	320	mm
COMPOUND OF REST TRAVEL	LUNET HAREKET MİKTARI	140	mm
MAX.SIZE CUTTING TOOL	KESİCİ TAKIM MAKSİMUM EBADI	25x25	mm
TAILSTOCK	KARŞI PUNTA		
TRAVEL OF SLEEVE	PINOL HAREKETİ	150	mm
TAPER OF SLEEVE CENTER	PINOL KONIĞI	Morse No:5	M.T./M.K.
BED	GÖVDE		
WIDTH OF BED FACE AND HARDNESS	KIZAK YÜZEYİ GENİŞLİĞİ VE SERTLİĞİ	400/Rc 52	mm
LENGTH OF BED	KIZAK BOYU		mm
MOTOR	MOTORLAR		
MAIN SPINDLE MOTOR	ANA İŞ MİLİ MOTORU	7.5 (10 Hp)	kW
COOLANT PUMP MOTOR	SOĞUTMA SIVISI POMPASI MOTORU		kW
WEIGHT & FLOOR SPACE	AĞIRLIK VE BOYUTLAR		
FLOOR SPACE (WxL)	TEZGAHIN KAPLADIĞI ALAN	2668 /3168 /3668 x1037x1312	mm
NET WEIGHT	NET AĞIRLIK	2150 / 2300 / 2650	kg

STANDARD ACCESSORIES / STANDART AKSESUARLAR

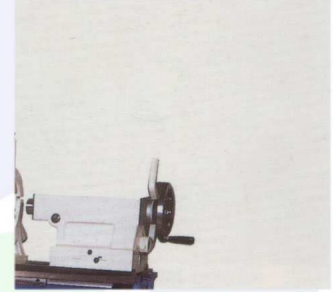
- COOLANT EQUIPMENT/ SOĞUTMA SUYU DONANIMI
- FOLLOW REST / HAREKETLİ LUNET
- STEADY REST / SABİT LUNET
- WORK LIGHT / AYDINLATMA LAMBASI
- SLEEVE / KOVAN
- CENTER / SABİT PUNTA UCU
- LIVE CENTER / DÖNER PUNTA UCU
- FACE PLATE / ALIN PLEYTİ
- LEVELLING BOLT / SEVİYELEME PLAKA VE CIVATALARI (SET)
- TOOL & TOOL BOXİ TAKIM VE AVADANLIKLAR (SET)
- 3-JAW CHUCK (10") / 3 -AYAKLI Ayna (10")
- 4-JAW CHUCK (10") / 4-AYAKLI Ayna (10")
- INSTRUCTION MANUAL / KULLANIM KİTABI



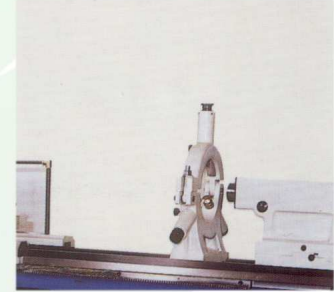
HEAD STOCK
İŞ KAFASI



APRON & TOOL POST
ARABA VE TAKIM TUTUCU



TAIL STOCK
KARŞI PUNTA



STEADY REST
LUNET



FU 400x1600 V/1

ÜNİVERSAL FREZE UNIVERSAL MILLING MACHINE



- DERİN KANALLAR, BAĞLANMASI PROBLEMLİ OLAN İNCE PARÇALAR VE ÇOK SERT METALLERİN İŞLENMESİNDE EN UYGUN METOD OLARAK UYGULANAN "EŞ YÖNLÜ FREZELEME" TERTİBATI İLE DONATILMIŞTIR. 1500 KG İŞ BAĞLAMA KAPASİTESİ İLE SARKAÇ (ÇİFT YÖNLÜ) FREZELEME, TEZGAHIN EN ÖNEMLİ AVANTAJLARINDANDIR. TABLAYA TAHRİK, ELEKTROMANYETİK KAVRAMA İLE İLETİLMİŞ OLUP ZORLAMALARI KARŞI ELEKTROMANYETİK AŞIRI YÜK EMNİYET KAVRAMASINA HAİZDİR. KUMANDA PANELİNDEN BUTONLAR VASİTASI İLE ÜÇ EKSENLİ KONTROL İMKANI, RİJİT YAPISI, YÜKSEK ÇALIŞMA VERİMİ, HASSASİYETİ VE KAPASİTE İLE ÜSTÜN

- ELECTRICALLY CONTROLLED UNIVERSAL (COLUMN-AND-KNEE TYPE) MILLING MACHINES WITH SWIVEL TABLE,, FITTED WITH CLIMB-MILLING ATTACHMENT. SUITABLE FOR NORMAL MILLING, INTERMITTENT-FEED MILLING, RECIPROCAL MILLING WITH CHANGE OF DIRECTION OF CUTTER ROTATION.

- ELEKTROMAGNETIC CLUTCHES ON EVERY AXIS FOR DRIVING AS WELL AS FOR BREAKING

TECHNICAL SPECIFICATIONS	TEKNİK ÖZELLİKLER	DEĞER (VALUE)	BİRİM (UNIT)
TABLE	TABLA		
CLAMPING AREA	İŞ BAĞLAMA YÜZEYİ	400x1600	mm
SWIVELLING RANGE OF TABLE	TABLA DÖNÜŞ AÇISI	±45°	
MAX.TABLE LOAD	MAX.İŞ PARÇASI AĞIRLIĞI	1500	kg
TRAVERSES BY POWER/BY HAND	TABLA HAREKETLERİ MOTORLA / ELLE		
LONGITUDINAL	BOYUNA	1120/1150	mm
TRANSVERSE	ENİNE	355/370	mm
VERTICAL	DIKEY	600/630	mm
WORKING RANGES	ÇALIŞMA ALANI		
SPINDLE NOSE TO OVERARM	İŞ MİLİ UCU-KARŞI YATAK	710	mm
SPINDLE CENTRE TO CLAMPING AREA	İŞ MİLİ EKSENİ-TABLA (MIN.-MAX.)	15-645	mm
SPINDLE CENTRE TO LOWER EDGE	İŞ MİLİ EKSENİ KARŞI YATAK		
OF COUNTER BEARING	ALT KENARI	160	mm
REAR EDGE TABLE TO COLUMN WAYS	TABLA ARKA KENARI-KOLON KIZAKLARI	120-475	mm
MILLING	İŞ MİLİ		
DIA. OF FRONT SPINDLE BEARING	ÖN YATAK ÇAPI	110	mm
SPINDLE TAPER	İŞ MİLİ KONIĞI	50	ISO
MAX.CUTTER HEAD DIAMETER	MAX.ÇAKI ÇAPI	315	mm
SPEEDS	DEVİRLER		
NUMBER	KADEME SAYISI	18	
INCREMENT	TAHVİL ORANI	1.25	
STANDARD RANGE	DEVİR SAYISI	28...1400	rpm(d/dak)
FEEDS	İLERLEMELER		
NUMBER	KADEME SAYISI	18	
PROGRESSION	TAHVİL ORANI	1.25	
STANDART RANGE	NORMAL İLERLEMELER		
LONGITUDINAL AND CROSS	BOYUNA VE ENİNE	16...800	mm/min.(mm/dak.)
VERTICAL	DIKEY HAREKET	5...250	mm/min.(mm/dak.)
RAPID TRAVERSE	HIZLI İLERLEMELER		
LONGITUDINAL AND CROSS	BOYUNA VE ENİNE	3150	mm/min.(mm/dak.)
VERTICAL	DIKEY HAREKET	1000	mm/min.(mm/dak.)
POWERS	TAHRİK GÜCÜ		
MILLING SPINDLE DRIVE MOTOR	ANA MOTOR	11/50	kW/Hz
FEED DRIVE MOTOR	İLERLEME MOTORU	2.2/50	kW/Hz
CONNECTED LOAD	TOPLAM GÜÇ	13.5/50	kW/Hz
NET WEIGHT	NET AĞIRLIK		
STANDARD MACHINE	TEZGAH	3880	Kg
ELECTRIC CABINET	ELEKTRİK KABİNI	200	kg

STANDARD ACCESSORIES / STANDART AKSESUARLAR

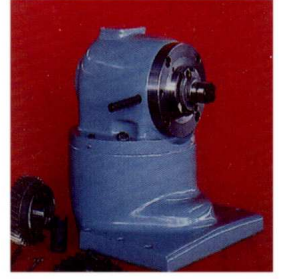
- LONG CUTTER ARBOR Ø 40 MM / UZUN MALAFA Ø 40 MM
- COOLANT EQUIPMENT / SOĞUTMA DONANIMI
- CONROL UNIT AND ELECTRIC CABINET / ELEKTRİK DONANIMI VE PANOSU
- LEVERS AND SPLASH GUARD / HAREKET KOLU VE TALAŞ SİPERİ
- STOPPERS AND DOGS / TAHDİT SVİÇLERİ VE DOGLAR
- ARBOR COVER / MALAFA KAPAĞI
- OPERATING MANUAL / KULLANIM KİTABI

OPTIONAL ACCESSORIES / ÖZEL AKSESUARLAR (*)

- LONG CUTTER ARBOR Ø 22.Ø27.Ø 32. Ø 50 MM
- / UZUN MALAFA Ø 22.Ø 27.Ø 32. Ø 50 MM
- UNIVERSAL MILLING ATTACHMENT / ÜNİVERSAL FREZE BAŞLIĞI
- VERTICAL MILLING ATTACHMENT / DİK FREZE BAŞLIĞI
- ROTARY INDEXING TABLE / DÖNER TABLA
- UNIVERSAL DIVIDING HEAD / ÜNİVERSAL DİVİZÖR
- ROTARY MACHINE VICE / DÖNER MENGENE
- RACK INDEXING ATTACHMENT / KREMAYER DIŞ AÇMA TERTİBATI
- ROTARY TABLE DRIVE UNIT / DÖNER TABLA TAHRİK ÜNİTESİ
- PLANER HEAD / PLANYA BAŞLIĞI

(*) Opsiyon : Müşteride adapte edilebilen aksesuar / Option : Accessory to be adapted on customer site

(**) Versiyon : Sadece Fabrikamızda adapte edilebilen aksesuar / Version : Accessory to be adapted only at our factory



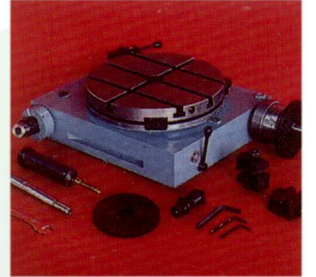
DİK FREZE BAŞLIĞI
VERTICAL MILLING ATTACHMENT



ÜNİVERSAL FREZE BAŞLIĞI
UNIVERSAL MILLING ATTACHMENT



ÜNİVERSAL DİVİZÖR
UNIVERSAL DIVIDING HEAD

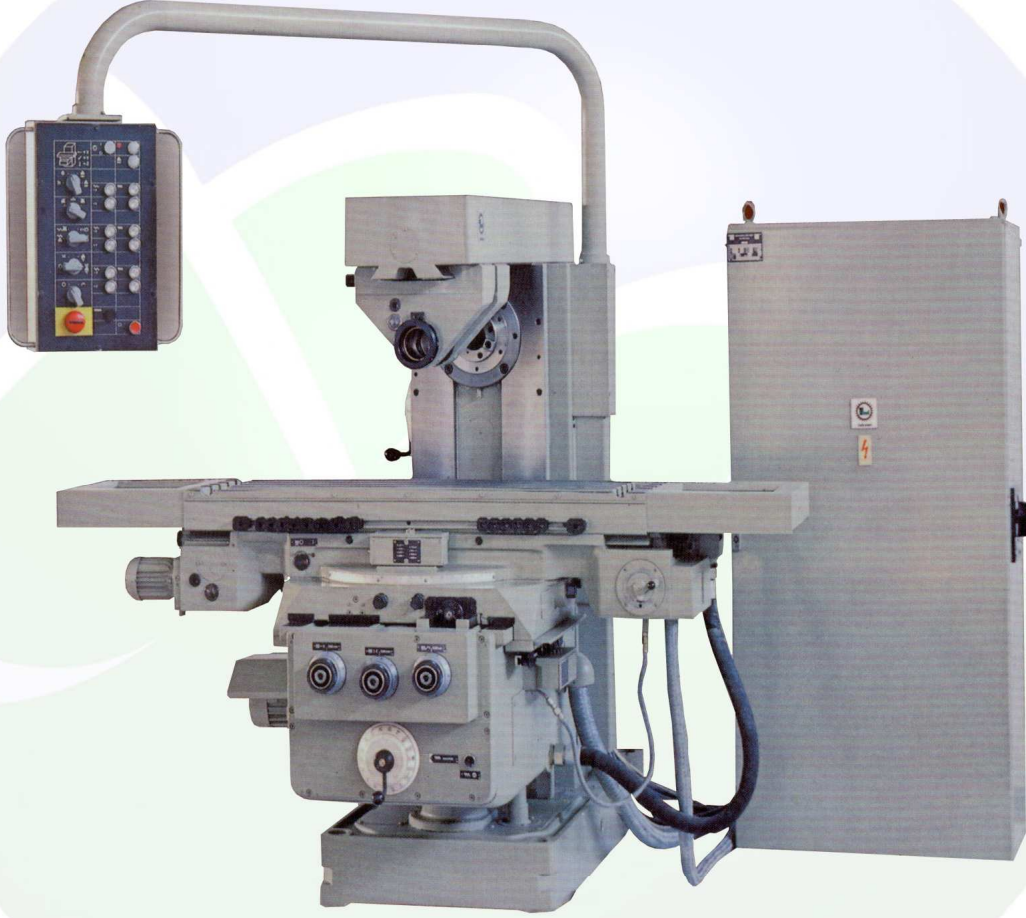


DÖNER TABLA
ROTARY INDEXING TABLE



FU 315 x 1250 V/1

UNIVERSAL FREZE / UNIVERSAL MILLING MACHINE



DERİN KANALLAR, BAĞLANMASI PROBLEMLİ OLAN İNCE PARÇALAR VE ÇOK SERT METALLERİN İŞLENMESİNDE EN UYGUN METOD OLARAK UYGULANAN "EŞ YÖNLÜ FREZELEME" TERTİBATI İLE DONATILMIŞTIR. 1000 KG İŞ BAĞLAMA KAPASİTESİ İLE SARKAÇ (ÇİFT YÖNLÜ) FREZELEME, TEZGAHIN EN ÖNEMLİ AVANTAJLARINDANDIR. TABLAYA TAHRİK ELEKTROMANYETİK KAVRAMA İLE İLETİLMİŞ OLUP ZORLAMALARA KARŞI ELEKTROMANYETİK AŞIRI YÜK EMNİYET KAVRAMASINA HAİZDİR. KUMANDA PANELİNDEN BUTONLAR VASİTASI İLE ÜÇ EKSENLİ KONTROL İMKANI, RİJİT YAPISI, YÜKSEK ÇALIŞMA VERİMİ, HASSASİYETİ VE KAPASİTESİ İLE ÜSTÜN VASIFLI BİR TEZGAHTIR.

ELECTRICALLY CONTROLLED UNIVERSAL (COLUMN-AND-KNEE TYPE) MILLING MACHINES WITH SVVIVEL TABLE, FITTED WITH CLIMB-MILLING ATTACHMENT. SUITABLE FOR NORMAL MILLING, INTERMITTENT-FEED MILLING, RECIPROCAL MILLING WITH CHANGE OF DIRECTION OF CUTTER ROTATION. ELEKTROMAGNETIC CLUTCHS ON EVERY AXIS FOR DRIVING AS WELL AS FOR BREAKING

TECHNICAL SPECIFICATIONS	TEKNİK ÖZELLİKLER	DEĞER (VALUE)	BİRİM (UNIT)
WORK TABLE	İŞ TABLASI		
CLAMPING AREA	İŞ BAĞLAMA YÜZEYİ	315x1250	mm
MAXIMUM TABLE ROAD	MAX. İŞ PARÇASI AĞIRLIĞI	1000	kg
SWIVELLING RANGE OF TABLE	TABLANIN HER İKİ YÖNDE DÖNÜŞ AÇISI	±45°	
TRAVERSES, BY POWER,BY HAND	HAREKETLER, MOTOR İLE/EL İLE		
LONGITUDINAL	BOYUNA	850/880	mm
TRANSVERSE	ENİNE	270 / 300	mm
VERTICAL	DIKEY	355/385	
WORKING RANGES	ÇALIŞMA ALANI		
REAR EDGE TABLE TO COLUMN WAYS	TABLA ARKA KENARI - GÖVDE KIZAKLARI	100...370	mm
SPINDLE NOSE TO OVERARM	İŞ MİLİ ALNI - KARŞI YATAK	600	mm
SPINDLE CENTRE TO LOWER EDGE OF COUNTER BEARING	İŞ MİLİ EKSENİ - ÜST Kafa ALT YÜZEYİ	150	mm
SPINDLE CENTRE TO CLAMPING AREA	İŞ MİLİ EKSENİ - TABLA	45...400	mm
MILLING SPINDLE	İŞ MİLİ		
DIAMETER OF FRONT SPINDLE BEARING	İŞ MİLİ ÖN YATAK ÇAPI	110	mm
MAXIMUM PERMISSIBLE TORQUE	MAX. TORK	2000	Nm
TOOLHOLDER SPINDLE HEAD (ISO 297-1976)	İŞ MİLİ KONİĞİ DİN 2079 (ISO 297 - 1976)	50	
MAXIMUM CUTTER HEAD DIA	MAX.FREZE ÇAKISI ÇAPI	250	mm
SPEEDS	HIZLAR		
NUMBER	KADEME SAYISI	18	
INCREMENT	TAHVİL ORANI	1.25	
STANDART RANGE	HIZ DEĞERİ	28...1400	rpm(dev/dak)
FEEDS	İLERLEMELER		
PROGRESSION	KADEME SAYISI	18	
NUMBER	TAHVİL ORANI	1.25	
STANDART RANGES	HIZ DEĞERLERİ		
LONGITUDINAL AND CROSS	BOYUNA VE ENİNE	16...800	mm/min.(mm/dak.)
VERTICAL	DIKEY	5...250	mm/min.(mm/dak.)
RAPID TRAVERSE	HIZLI HAREKET		
LONGITUDINAL AND CROSS	BOYUNA VE ENİNE	3150	mm/min.(mm/dak.)
VERTICAL	DIKEY	1000	mm/min.(mm/dak.)
DRIVEN POWER	TAHRİK GÜCÜ		
MILLING SPINDLE DRIVE	İŞ MİLİ MOTORU (50 Hz.)	7.5	kW
FEED DRIVE	İLERLEME MOTORU	1.5	kW
CLIMB MILLING DRIVE	EŞ YÖNLÜ FREZELEME MOTORU	0.04	kW
COOLANT MOTOR	SOĞUTMA SIVISI MOTORU	0.15	kW
TABLE RISE AND FALL DRIVE	KONSOL ALÇALTMA MOTORU	0.12	kW
TOTAL POWER OUTPUT	TOPLAM GÜÇ	9.31	kW
NET WEIGHT	NET AĞIRLIK		
MACHINE WEIGHT	TEZGAH AĞIRLIĞI	2800	kg
ELECTRIC CABINET WEIGHT	ELEKTRİK PANOSU AĞIRLIĞI	200	kg

STANDARD ACCESSORIES / STANDART AKSESUARLAR

- CRANK HANDLE B 250X80 / ÇEVİRME KOLU
- PROTECTIVE HOOD FOR CUTTER ARBOR NUT / MALAFA SOMUNU KORUYUCU KAPAĞI
- LONG MILLING ARBOR Ø32 mm / UZUN MALAFA Ø32 mm
- HOOD / TAKIM TABLASI
- MACHINE LAMP / AYDINLATMA ARMATÜRÜ
- SOCKET FOR LIGHTING / FIŞ
- PROTECTIVE COVER FOR CONTROL PANEL WIRING / KABLO MUHAFAZA KAPAĞI
- CUTTER GUARD / TALAŞ SİPERİ
- DRAW-IN ARBOR / MALAFA ÇEKTİRMESİ
- WIRE CLAMP / KABLO BAĞLAMA KELEPÇESİ
- SOCKET SPANNER / BORU ANAHTARI
- ALIEN HEAD BOLTS / ALYEN BAŞLI CİVATALAR
- SET OF SPANNERS I ANAHTAR SETİ
- COMPLETE COOLING EQUIPMENT / SOĞUTMA DONANIMI
- GREASE GUN /GRES POMPASI
- COMPLETE ELECTRICAL EQUIPMENT / KOMPLE ELEKTRİK DONANIMI
- OPERATING AND MAINTENANCE INSTRUCTION / KULLANMA TALİMATI

OPTIONAL ACCESSORIES / ÖZEL AKSESUARLAR (*)

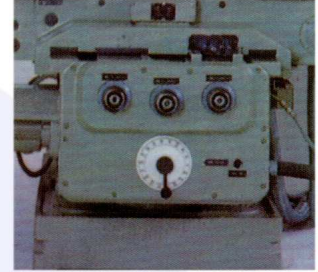
- MILLING ARBORS / FREZE MALAFALARI
- LONG CUTTER ARBORS Ø22,Ø27,Ø40,Ø50 / UZUN MALAFALAR Ø22,Ø27,Ø40,Ø50
- VERTICAL MILLING ATTACHMENT ApS-II / DIK FREZE BAŞLIĞI ApS-II
- UNIVERSAL MILLING ATTACHMENT / UNİVERSAL FREZE BAŞLIĞI
- ROTARY INDEXING TABLE D 315 / DÖNER TABLA D 315
- ROTARY INDEXING TABLE DRIVE UNIT ApAR-III / DÖNER TABLA TAHRİK ÜNİTESİ ApAR-II
- RACK INDEXING ATTACHMENT ApTZ-II / KRAMAYER DİŞ AÇMA APARATİ ApTZ-II
- UNIVERSAL INDEXING HEAD ApTU-13S-1 / UNIVERSAL DİVİZÖR ApTU-13S-I
- MACHINE VICE-SWIVEL TYPE SxD 160 / DÖNER MENGENE SxD-160

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CONTROL PANEL
KONTROL PANELİ



CREEP TRAVERSE MECHANISM
HASSAS İLERLEME TERTİBATI

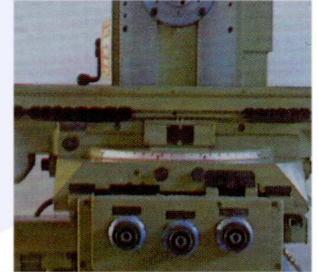
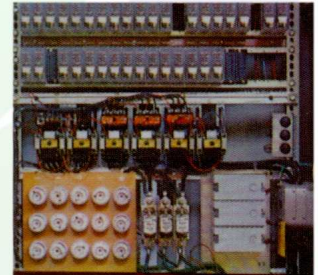


TABLE DRIVE UNIT
TABLE TAHRİK ÜNİTESİ

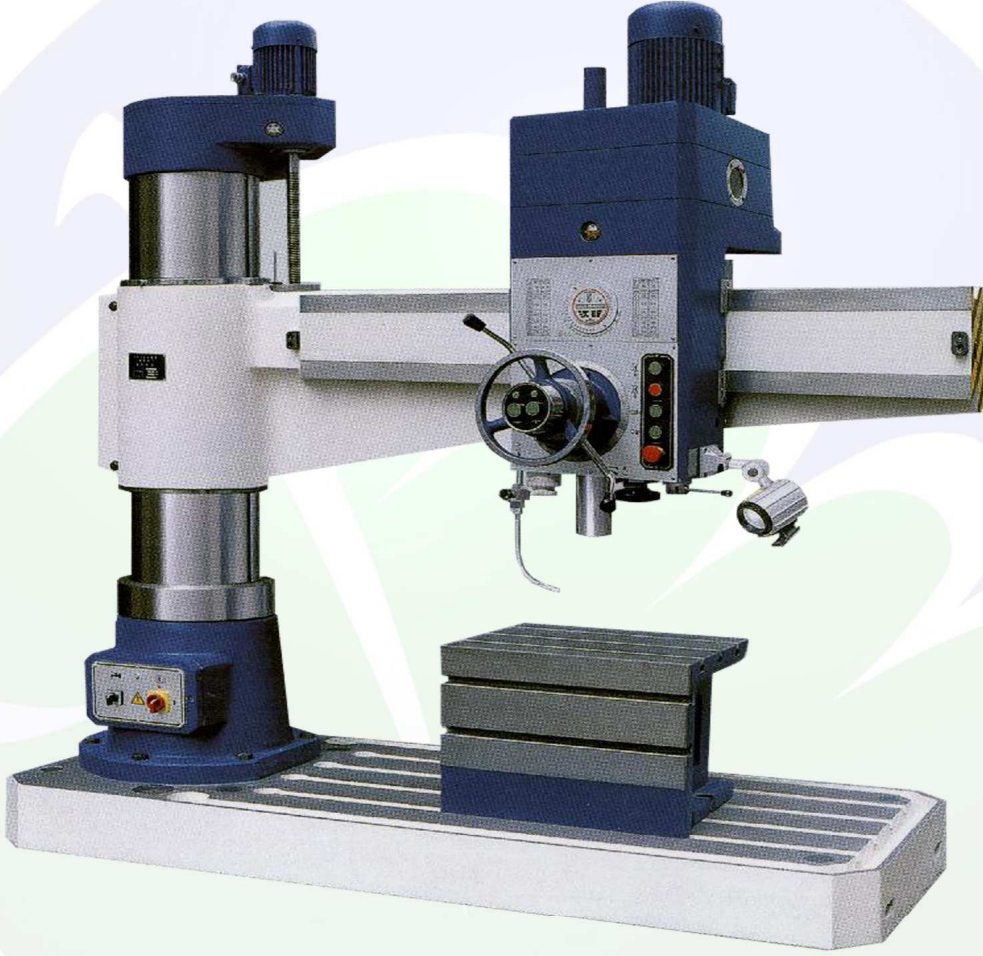


ELECTRICAL CONTROL
ELEKTRİKLİ KONTROL



BR 40/2x1250

RADYAL MATKAP TEZGAHI RADIAL DRILLING MACHINE



- ÜRETİMİMİZ OLAN BR 40/2x1250 TİP RADYAL MATKAP TEZGAHI; ÇELİK, PİK, HAFİF METALLER, AHŞAP VE PLASTİK MALZEMELERDE, DELME, DELİK İŞLEME VE DİŞ AÇMA OPERASYONLARINDA YÜKSEK HASSASİYET SAĞLAYAN SON TEKNOLOJİK GELİŞMELERLE DONATILMIŞ MODERN DİZAYNIYLA BENZERLERİ ARASINDA SEÇKİN BİR YERE SAHPTİR. RİJİT YAPISI VE RADYAL KOLUN ELEKTRO-MEKANİK KİLİTLEME ÖZELLİĞİYLE HER TÜRLÜ DELME İŞLEMLERİNDE GÜVENİLİR BİR TEZGAHTIR.

- TAKSAN RADIAL DRILLING MACHINES ARE SUITABLE BOTH FOR INDIVIDUAL AND SERIES PRODUCTION AND ENSURE HIGH EFFICIENCY IN DRILLING, REAMING, COUNTER BORING, AND THREAD CUTTING OF WORK MADE OF STEEL, CASTING, AND NON-FERROUS METALS AS WELL AS OF WOOD AND PLASTICS.

- RADIAL DRILLING MACHINES ARE PARTICULARLY SUITED FOR PERFORMING DIFFICULT MACHINING OPERATIONS ON GEAR BOXES, CASING AND OTHER WORK TYPES IN STEEL CONSTRUCTION, MACHINE BUILDING, AND JIG AND FIXTURE MANUFACTURE

TECHNICAL SPECIFICATIONS	TEKNIK ÖZELLİKLER	DEĞER (VALUE)	BİRİM (UNIT)
DRILLING	DELME		
MAX.DRILLING DIAMETER	MAX.DELME ÇAPI (St60)	40	mm
MAX.DRILLING DIAMETER	MAX.DELME ÇAPI (DDL20)		mm
WORKING RANGES	KILAVUZ ÇEKME		
MAX. THREAD CUTTING (St 60)(METRIC)	METRIK DİŞ (St60)-(DDL 20)		mm
MAX. THREAD CUTTING (St 60)(INCH)	PARMAK SİSTEMİNE GÖRE DİŞ (St 60)		inch
MAX. THREAD CUTTING (DDL 20)(INCH)	PARMAK SİSTEMİNE GÖRE DİŞ (DDL 20)		inch
DISTANCE SPINDLE CENTER TO COLUMN.	İŞMİLİ MERKEZİ İLE SÜTÜN		
(MIN-MAX)	ARASINDAKİ UZAKLIK(MIN-MAX)	350-1250	mm
DISTANCE SPINDLE HEAD TO BASEPLATE	İŞ MİLİ KAFASI İLE TABLA PLAKASI		
(MIN-MAX)	ARASINDAKİ UZAKLIK (MIN-MAX)	350-1375	mm
SWIVELLING RADIUS OF DRILLING SPINDLE	İŞ MİLİ DÖNME YARIÇAPI (MIN.-MAX)		mm
SWIVELLING RANGE OF RADIAL ARM	KOLUN DÖNÜŞ AÇISI		
CLAMPING SURFACE OF BASEPLATE(WxL)	TABLA PLAKASI (GENİŞLİK x UZUNLUK)		mm
DRILLING SPINDLE	İŞMİLİ		
TAPER NO (DIN 228)	İŞMİLİ KONIĞI (DIN 228)	4	MT/MK
MAX. STROKE	İŞ MİLİ STROĞU	315	mm
MAX.TORQUE	MAX.TORK		Nm
MAX.FEED TORQUE	MAX.İLERLEME KUVVETİ		N
SPEEDS	HIZLAR		
NUMBER OF RATES	HIZ BAŞAMAK SAYISI / ORANI	16	
SPEED RANGE	DEVİR SAYISI ARALIĞI	25 - 2000	rpm(d/dak)
FEED	İLERLEMELER (DIN 803'E GÖRE)		
NO.OF INCREMENTS	KADEME SAYISI /ORANI	16	
RANGE R5	İLERLEME HIZ ARALIĞI	0.04-3.2	(mm/m)mm/d
MOTORS	MOTORLAR		
POWER OF MAIN MOTOR	ANA MOTOR	3	kW
FLOOR SPACE	TEZGAH ÖLÇÜLERİ		mm
LENGTH	UZUNLUK	2150	mm
WIDTH	GENİŞLİK	1070	mm
HEIGHT	YÜKSEKLİK	2840	
NET WEIGHT	NET AĞIRLIK		
STANDARD MACHINE	TEZGAH	3000	kg

STANDARD ACCESSORIES / STANDART AKSESUARLAR

COOLANT EQUIPMENT / SOĞUTMA DONANIMI
MACHINE LIGHTING (24V.) / AYDINLATMA DONANIMI (24V.)
CONTROL UNIT / ELEKTRİK DONANIMI
GREASE PUMP / GRES POMPASI
SPANNERS / ÖZEL ALYEN VE AY ANAHTAR
OPERATING MANUAL / KULLANMA VE BAKIM KİTABI
TACOMETER / TAKOMETRE

OPTIONAL ACCESSORIES / ÖZEL AKSESUARLAR (*)

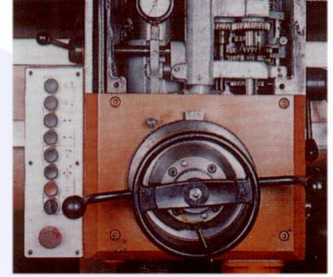
- 500x630 mm CUBIC TABLE (FIXED) / 500x630 mm KÜBİK (SABİT) TABLA
- MACHINE VISE SX-200 / SABİT MENGENE SX-200

(*) Opsiyon : Müşteride adapte edilebilen aksesuar / Option : Accessory to be adapted on customer site

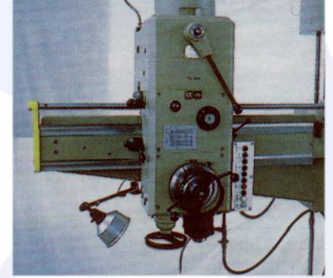
(**) Versiyon : Sadece Fabrikamızda adapte edilebilen aksesuar / Version : Accessory to be adapted only at our factory



HIGH DRILLING CAPACITY
YÜKSEK DELME KAPASİTESİ



AUTOMATIC FEED WITH 6 STEPS
6 KADEMELİ OTOMATİK İLERLEME



360° SWIVELING RANGE OF RADIAL ARM
360° DÖNER KOL



ANGLE TABLE (ADJUSTABLE)
YATAR AÇILI TABLA



BN 102 B

UNİVERSAL TAKIM BİLEME VE TAŞLAMA TEZGAHI UNIVERSAL TOOL AND CUTTER GRINDING



BN 102 B ÜNİVERSAL TAKIM BİLEME VE TAŞLAMA TEZGAHI TÖM GENEL AMAÇLI KESİCİ TAKIMLARIN ÜNİVERSAL OLARAK BİLİNMESİ AMACIYLA DİZAYN EDİLMİŞ, STANDART VE ÖZEL AKSESUARLARI İLE KULLANIM ALANI GENİŞLETİLEREK İÇ VE DİŞ SİLİNDİRİK, KONİK TAŞLAMA VE SATIİH TAŞLAMA İMKANI DA ELDE ETMİŞTİR. TAKIM BİLEME VE KALIP ATÖLYELERİNDE ÇOK YÖNLÜ İMALAT YAPAN İŞYERLERİNDE, EĞİTİM ATÖLYELERİNDE, MATKAP UÇLARI DÜZ VE HELİS RAYBALARI, DİSK TİPİ FREZE ÇAKILARI, BROŞLAR, TORNA KALEMLERİ VE KESİCİ TAKIMLARDAKİ RADYUS VE PROFİLLERİ BİLEME GİBİ İŞLERDE KULLANILAN ÇOK FONKSİYONLU BİR TEZGAHTIR

THE BN 102 B UNIVERSAL TOOL AND CUTTER GRINDER IS INTENDED TOGETHER WITH ITS STANDART AND OPTIONAL ACCESSORIES, FOR THE SHARPENING OF ALL CURRENT METAL CUTTING TOOLS, IT ALSO ENABLES THE GRINDING OF CYLINDRICAL AND TAPARED SURFACES, BOTH EXTERNAL AND INTERNAL, AND OF FLAT SURFACES. IN VIEW OF ITS HIGH VERSATİLİTY, THE MACHINE FINDS A VERY WİDE FIELD OF APPLICATION, NOTABLY IN TOLROOMS, TOOL SHARPENING SHOPS, PROTOTYPE SHOPS AND SHOPS ENGAGED IN ONE-OFF PRODUCTION.

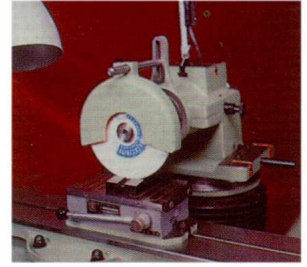
THE EXTENSIVE RANGE OF ACCESSORIES AVAILABLE FOR THE MACHINE PERMITS TWİST DRİLLS, ROUGHİNG REAMERS, REAMERS, BACKED-OFF DİSC-TYPE MILLİNG CUTTERS, HOBS, LONG TAPARED CUTTING TOOLS AND BROACHES TO BE SHARPENED. THE ACCESSORIES PERMIT FURTHER RE-SHARPENİNG AND SHARPENİNG OF LATHE TOOLS, CUTTER HEADS AND GRİNDİNG OF RADII ON LATHE TOOLS AND MILLİNG CUTTERS

TECHNICAL SPECIFICATIONS	TEKNİK ÖZELLİKLER	DEĞER (VALUE)	BİRİM (UNIT)
SWING	MAX. TAŞLAMA ÇAPI		
SWING WITH RAISING BLOCK	YÜKSELTİCİ BLOKLARLA MAX.TAŞLAMA ÇAPI	280	mm
DISTANCE BETWEEN TAILSTOCK CENTRES	PUNTALAR ARASI MAX. MESAFE	370	mm
DISTANCE BETWEEN TAILSTOCK CENTRES	PUNTA VE İŞ KAFASI ARASI MAX. MESAFE	760	mm
HEIGHT OF TAILSTOCK AXIS ABOVE TABLE	PUNTA EKSENİNİN TABLADAN YÜKSEKLİĞİ	615	mm
TAPER IN BORE OF WHEEL SPINDLE	TAŞMILI KONİĞİ	130	mm
TAPER IN BORE OF WORK SPINDLE	İŞMİLİ KONİĞİ	3	Mors No
MAX. DIAMETER OF GRINDING WHEEL	TAKIM BİLEME İÇİN MAX. TAŞ ÇAPI	5/ISO 50	Mors No
USED FOR SHARPENING		175	mm
MAX. DIAMETER OF GRINDING WHEEL	SİLİNDİRİK TAŞLAMA İÇİN MAX.TAŞ ÇAPI		
USED FOR CYLINDRICAL GRINDING		200	mm
MAX. DIAMETER OF WHEEL USED FOR SURFACE GRINDING	YÜZEY TAŞLAMA İÇİN MAX. TAŞ ÇAPI	175	mm
SWIVEL OF WHEELHEAD IN HORIZONTAL PLANE	TAŞ KAFASININ TABLA DÜZLEMİNE GÖRE MAX. AÇISAL HAREKETİ		
SWIVEL OF WORKHEAD IN VERTICAL PLANE	İŞ KAFASININ TABLA DÜZLEMİNE GÖRE MAX AÇISAL HAREKETİ	350°	
SWIVEL OF WORKHEAD IN HORIZONTAL PLANE	İŞ KAFASININ DÜŞEY DÜZLEMDE MAX AÇISAL HAREKETİ	360°	
SWIVEL OF TABLE THROUGH	TABLANIN YATAY DÜZLEMDE AÇISAL HAREKETİ	360°	
FINE SWIVEL OF TABLE THROUGH	TABLANIN HASSAS AÇISAL HAREKETİ	± 45° / 90°	
VERTICAL ADJUSTMENT OF WHEEL HEAD	TAŞ KAFASININ MAX. AŞAĞI/YUKARI HAREKETİ	±9° / 18°	
RATE OF POWER ADJUSTMENT OF WHEELHEAD	TAŞ KAFASININ DİKEY YÖNDE OTOMATİK İLERLEMESİ	290	mm
LONGITUDINAL TRAVERSE OF TABLE	TABLANIN MAX. BOYUNA HAREKETİ	1.2	m/min (m/dak)
CROSS TRAVERSE OF TABLE	ÇAPRAZ KIZAĞIN MAX. ENİNE HAREKETİ	510	mm
WORKING SURFACE OF TABLE	TABLANIN BAĞLAMA YÜZEYİ	250	mm
SPEED TO WHEEL SPINDLE - IN EITHER DIRECTION	TAŞ KAFASI MİLİ DEVRİ (Her iki yönde)	140x980	mm
MAIN MOTOR POWER	TAŞ MİLİ MOTORU GÜCÜ	2800-5600	rpm (dev/dak)
TOTAL INPUT REQUIRED	TOPLAM TEZGAH GÜCÜ	0.55/0.75	kW
BY MACHINE AND ACCESSORIES	AKSESUARLAR İLE BİRLİKTE		
WEIGHT OF MACHINE	STANDART AKSESUARLARLA BERABER	3	kW
WITH STANDART EQUIPMENT	TEZGAH AĞIRLIĞI		
WEIGHT OF MACHINE	STANDART VE ÖZEL AKSESUARLARLA	995	kg
WITH FULL SET OF ACCESSORIES	TEZGAH AĞIRLIĞI	1544	kg
MACHINE DIMENSIONS	TEZGAH EBATLARI (UzunlukxGenişlikxYükseklik)	1510x1550x1455	mm
FLOOR SPACE	TEZGAH ÇALIŞMA ALANI	2800x2800	mm

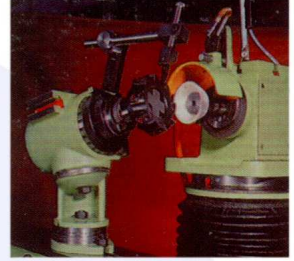
STANDARD ACCESSORIES

STANDART AKSESUARLAR

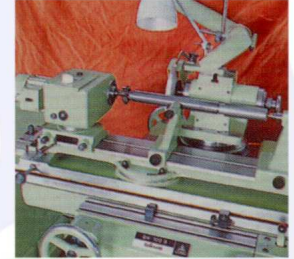
- WORKHEAD AND REDUCING SOCKETS (Mors 5/4,5/3, 5/2, ISO 50/40)
- İŞ KAFASI VE REDÜKSİYON KOVANLARI (Mors 5/4,5/3, 5/2, ISO 50/40)
- LEFT, HAND AND RIGHT HAND TAILSTOCK
- SOL VE SAĞ PUNTA GÖVDELERİ VE PUNTA UÇLARI
- ARBORS, FLANGES, GRINDING WHEELS, HOLDER AND HOLDER ROD, WHEEL GUARDS
- TAŞLAMA TAŞLARI, TAŞ MUHAFAZALARI, TAŞ FLANŞLARI, TAŞ MALAFALARI VE ÇEKTİRME
- UNIVERSAL AND STEADY TOOTH REST, SUPPORTING STAND, CENTRING GAUGE
- MERKEZLEME MASTARI, SABİT VE UNIVERSAL DESTEKLER
- RAISING BLOCKS
- YÜKSELTİCİ BLOKLAR
- BALANCING AND CLAMPING ARBOR
- KONTROL MALAFASI
- ATTACHMENT FOR WHEEL DRESSING
- TAŞ BİLEME APARATI
- SET OF SPANNERS AND SET OF TOOLS-EQUIPMENTS
- ANAHTAR TAKIMI VE AVADANLIKLAR
- MACHINE LAMP / AYDINLATMA SİSTEMİ
- OPERATING AND MAINTENANCE INSTRUCTION
- KULLANMA VE BAKIM MANUELİ



SURFACE GRINDING
ATTACHMENT / SATIŞ
TAŞLAMA APARATI



ATTACHMENT FOR GRINDING
CUTER HEADS / FREZE KAFASI
BİLEME APARATI



ATTACHMENT FOR GRINDING
BETWEEN CENTERS /
PUNTOLAR ARASI TAŞLAMA
APARATI



ATTACHMENT FOR GRINDING
ROUGHING REAMERS / RAYBA
BİLEME APARATI



ATTACHMENT FOR SHARPENING
HOBS / AZDIRMA ÇAKISI BİLEME
APARATI

(*) Opsiyon : Müşteride adapte edilebilen aksesuar / Option : Accessory to be adapted on customer site

(**) Versiyon : Sadece Fabrikamızda adapte edilebilen aksesuar / Version : Accessory to be adapted only at our factory