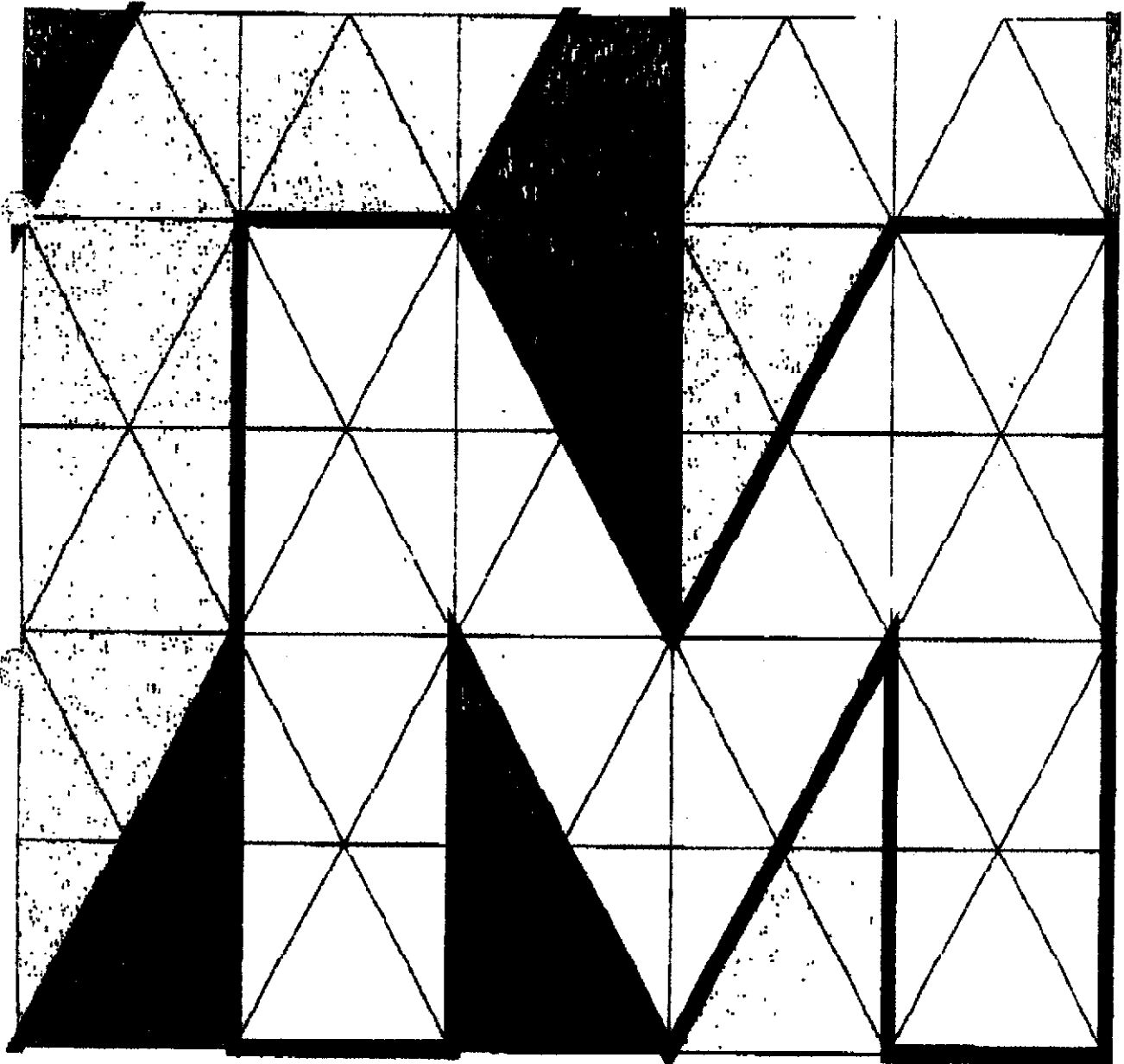


# ALLROUNDER® 320 M

Model 320 M 500-80  
Model 320 M 500-210  
Model 320 M 750-210

Display Control:  
MULTRONICA®



Arburg 320M.max

### Control Unit and Control Cabinet

- Multitronics control (microprocessor with stored program)
- Digital data input via keyboard and display on the screen
- Data input in absolute values for pressures, forces, strokes, speeds, times and temperatures
- Diakette memory for 60 mould set-ups
- Automatic on and off switching with weekly program
- Operating modes:
  - automatic switch-on with oil preheat
  - dry cycling without screw movement
  - automatic programs
- Connection for photo-electric part chute
- Indication of operating mode on the screen
- Operating hints and alarm display on the screen in plain language
- Problem correcting programs (alarm selectable according to problem frequency)
- Automatic switch-off with selectable alarm display
- Different follow up functions on alarms (purging etc.) selectable before switch-off
- Alarm light, flash duration selectable
- Parts counter, cycle counter, hour counter
- Heating and motor current separated

### Machine Base with Hydraulic System

- Machine base installed on vibration pads
- Hydraulics with 2 variable output pumps
- Position controlled proportional valves
- Monitoring of
  - oil level
  - oil temperature
  - oil filter contamination

- Cooling water regulator for closed loop control of hydraulic oil temperature
- Arburg-Flowmatic - total of four closed cooling circuits with flow meter and thermometer in every cooling circuit
- Preheating program for hydraulic oil to shorten starting time
- Pressure gauge with selection switch
- Fine filter in return line
- Oil tank breather

### Stamping Unit

- Fully hydraulic closing system with differential piston
- 4 tie bars, can be pulled
- Closing speed profile programmable in 3 steps
- Opening speed profile programmable in 3 steps
- Opening and closing force programmable
- Opening with increased opening force possible
- Intermediate stops selectable during closing and opening
- Display of mould protection monitoring time
- Alarm either directly or after one repetition of the mould protection
- With alarm mould protection select stop or open
- Hydraulic ejector, forces, speeds, advance and retract delay and number of strokes programmable
- Ejector maintain forward at the end of the cycle programmable
- Hydraulic ejector integrated into closing system
- Air blow with programmable blow time selectable during opening
- Mould monitoring possible through ejector plate retract confirmation and photo-electric barrier
- Hydraulic mould monitoring (flow pressure closed loop, locking time monitored)

### Injection Unit

- Injection unit either horizontally displaceable (parallel to mould surface) or centrally fixed
- Injection unit as plug in, designed as complete group
- Thermoplastic screw with universal design, option of three diameters
- Flattening cylinder assembly as module, with central coupling
- Nozzle speed adjustable, advance and retract delay programmable
- Nozzle contact force adjustable
- Nozzle forward monitored
- Nozzle against mould possible during entire cycle
- Injection delay
- 4 stage programmable speed profile for injection and holding pressures
- Stroke dependent injection speeds monitored
- Injection time measured, indicated and monitored
- Switch-over from first to second pressure step, volume or time dependent, or by an external signal
- Pressure profile for injection and holding, 4 steps, programmable
- Holding pressure speed programmable
- Dosage delay
- Screw RPM programmable
- Display of circumferential screw speed
- Display of dosage time with programmable dosage time monitoring
- Dosage possible before or after screw retract
- Melt decompression with programmable decompression speed
- Open nozzle with replaceable tip
- Cylinder and nozzle heat closed loop
- Digital temperature input/integrated into Multitronics control unit
- Temperature monitoring with tolerance field
- Automatic temperature decrease selectable in case of trouble or with automatic switch-off
- Material hopper stainless, movable into shut-off and dump position

### Control Unit and Control Cabinet

- Device for measuring mould cavity pressure with display of mould cavity pressure and programmable adjustment of switch over pressure
- Connection for scale
- Visible alarm flashlight
- Audible alarm
- Additional single phase socket 220 V ~ at the control cabinet
- Additional three phase socket at the control cabinet
- Printer connection with actual value protocol, connection for AQS
- Interface for host computer, DNC mode and data acquisition
- Connection for handling device
- 8 additional heating circuits for mould heating/cooling
- Programmable Inputs/Outputs

### Regulated Parameters

- Hydraulic oil temperature
- Plasticizing cylinder temperature (adaptive)
- Electric mould heating circuits
- Injection flow, injection speed
- Holding pressure

### Machine Base with Hydraulic System

- Accumulator for very quick injection
- Solenoid valve for water shut-off
- Arburg-Flowmatic with 6 or 8 free cooling circuits
- Crane with electrical chain hoist to facilitate mould mounting and to swivel or remount the injection unit

### Clamping Unit

- Clamping unit swivable, hydraulic swivel drive
- Clamping unit vertical up
- Core pull control, different programmes, pressures and speeds can be programmed for core in and core out
- Unscrewing device, one or two directions of rotation, installed on stationary or movable platen, time or stroke controlled
- Air blow device
- Parts chute with or without photo-electric recycling chute
- Pneumatically operated safety guard, programmable opening time
- Mechanical quick lock device
- Sorter unit
- Mechanical safety interlock

### Injection Unit

- Device for parting line injection
- Lifting device for parting line injection with vertical clamping unit
- Regulation of injection speeds and injection pressures (injection regulation)
- Longer nozzle tips
- Needle type shut-off nozzle, spring actuated
- Hydraulic shut-off nozzle
- Arburg-Arbid thermoplastic cylinders against abrasion and corrosion. Recommended against wear, i. e. PVC or glass content
- Bimetallic cylinder for thermoplastics
- Vented cylinder
- Inhermoset cylinder
- Cylinder for elastomeric materials
- Equipment for liquid silicone rubber processing

## Maximum Shot Weight

320 M

### Maximum Shot Weight for the Most Important Materials (In gramme/oz.)<sup>a)</sup>

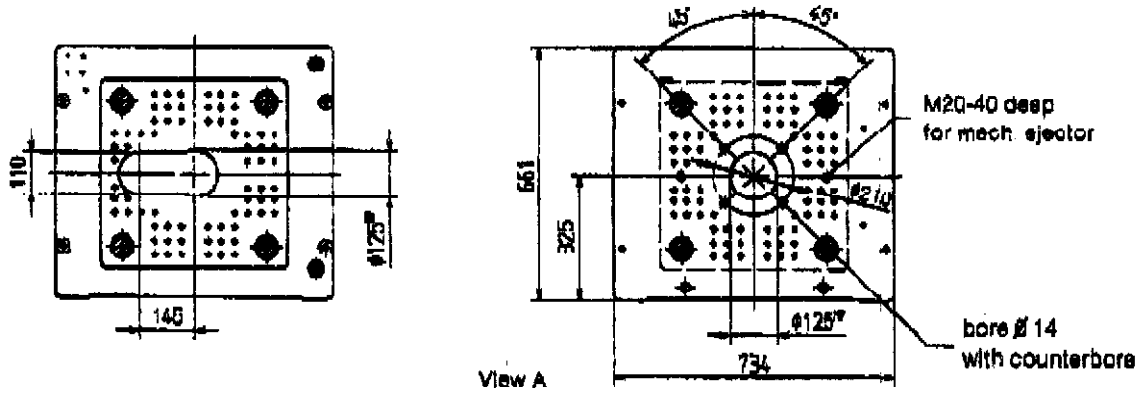
Screw stroke	mm/in.	100/3.94	100/3.94	100/3.94	150/5.91	150/5.91	150/5.91
Screw diameter	mm	20/0.79	25/0.98	30/1.18	30/1.18	35/1.38	40/1.58
Polystyrene	PS	25/0.92	41/1.45	59/2.08	59/2.14	121/4.27	158/5.57
Styrene heteropolymerizates	SB	25/0.92	41/1.45	59/2.08	59/2.14	121/4.27	158/5.57
	SAN, ABS <sup>b)</sup>	27/0.95	42/1.48	61/2.15	82/3.24	125/4.41	163/5.75
Cellulose acetate	CA <sup>b)</sup>	32/1.13	50/1.78	73/2.57	109/3.84	148/5.22	194/6.84
Celluloseacetobutyrate	CAB <sup>b)</sup>	30/1.06	47/1.66	68/2.40	101/3.56	136/4.87	180/6.35
Polymethyl methacrylate	PMMA	30/1.06	48/1.62	67/2.33	100/3.53	136/4.80	178/6.28
Polyphenylene oxide, mod.	PPO	27/0.95	42/1.48	60/2.12	80/3.17	122/4.30	160/5.64
Polycarbonate	PC	30/1.06	47/1.68	68/2.40	102/3.60	136/4.90	181/6.38
Polyethylphene	PSU	31/1.09	49/1.73	70/2.47	105/3.70	143/5.04	187/6.60
Polyamide	PA 6.6, PA 6 <sup>b)</sup>	29/1.02	45/1.59	64/2.26	95/3.39	131/4.62	171/6.03
	PA 6.10, PA 11 <sup>b)</sup>	27/0.95	46/1.48	60/2.12	80/3.17	122/4.30	160/5.64
Polyoximethylene	POM	35/1.23	55/1.94	80/2.82	120/4.23	163/5.75	213/7.51
Polyethylene terephthalate	PETP	34/1.20	53/1.87	77/2.72	115/4.06	157/5.54	205/7.23
Polyethylene	PE soft	23/0.81	36/1.27	52/1.83	78/2.75	106/3.74	139/4.90
	PE rigid	24/0.85	37/1.30	54/1.90	81/2.86	110/3.88	143/5.04
Polypropylene	PP	23/0.81	38/1.27	51/1.80	77/2.72	106/3.70	137/4.85
Fluoropolymerides (Teflon, Hostafion)	FEP, PCTFE <sup>b)</sup>	54/1.90	84/2.96	122/4.30	182/6.42	248/8.75	324/11.43
(Tefzel)	ETFE	43/1.52	67/2.38	96/3.39	144/5.08	196/6.91	256/9.02
Polyvinyl chloride	PVC rigid	35/1.23	54/1.90	78/2.75	117/4.13	159/5.61	208/7.34
	PVC soft <sup>b)</sup>	32/1.13	50/1.78	72/2.54	106/3.81	147/5.18	192/6.77

a) 80% of theoretical  
b) average value

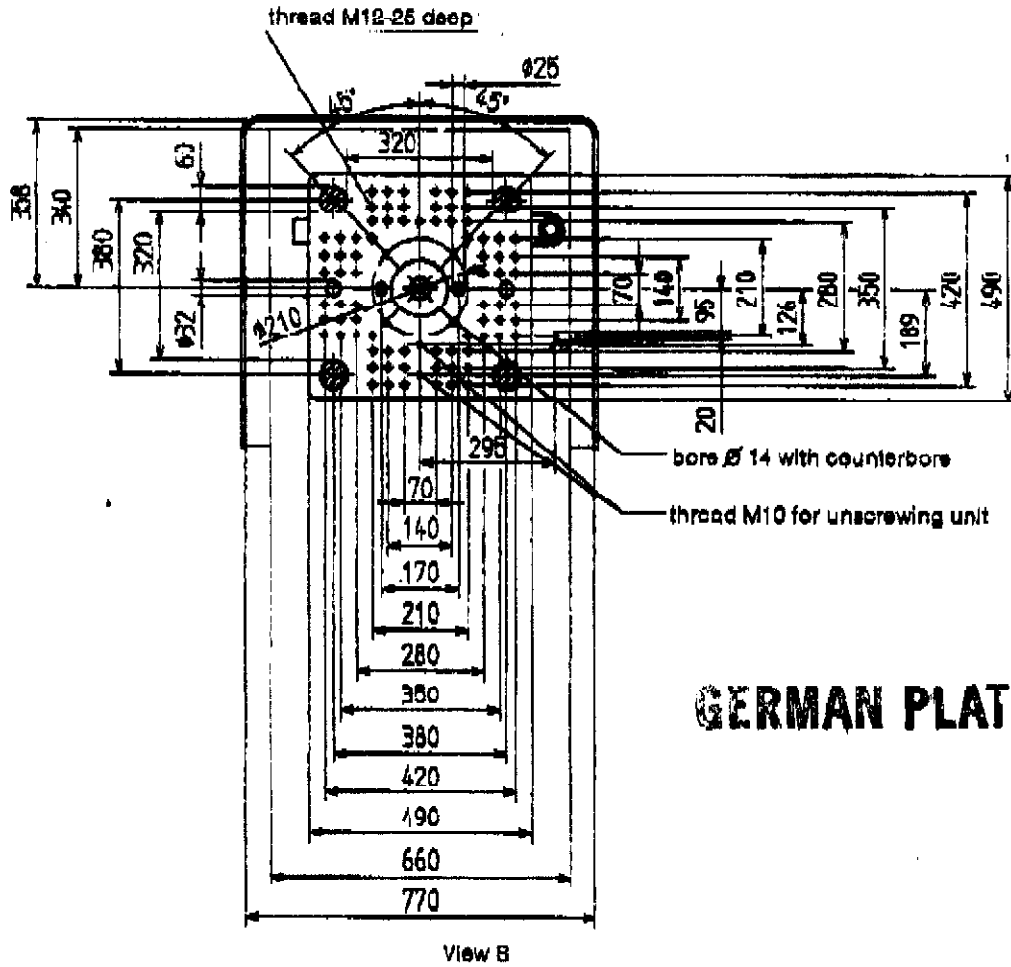
Arburg 320M.max

selection

for horizontally  
displaceable injection unit                      for central injection unit



Movable Platen



**GERMAN PLATENS**



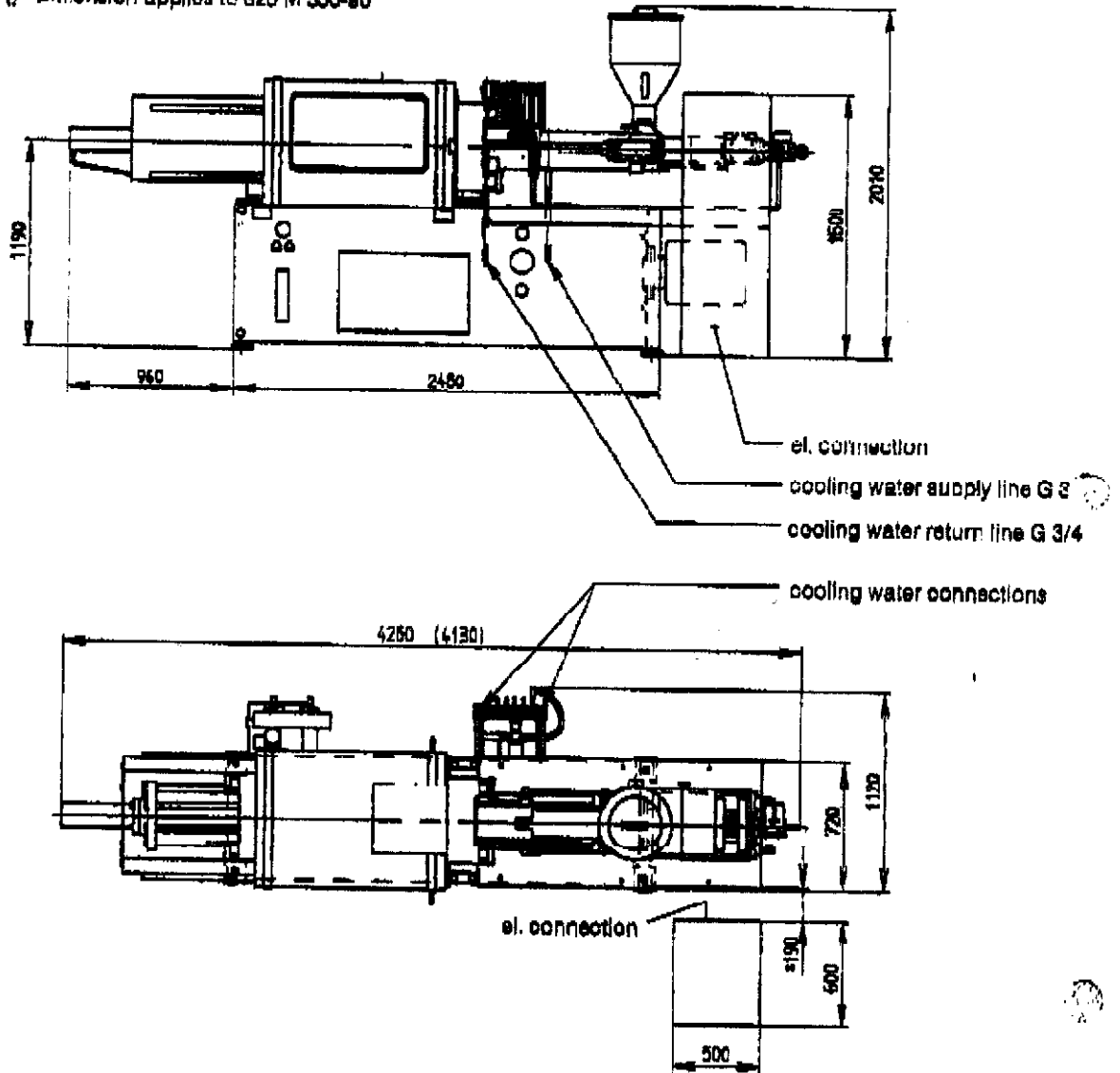
Usable mould area when tie bars are retracted for mould mounting

# Machine Dimensions and Weights

320 M

• Dimensions not binding as control cabinet can be erected at different places

① Dimension applies to 320 M 500-90



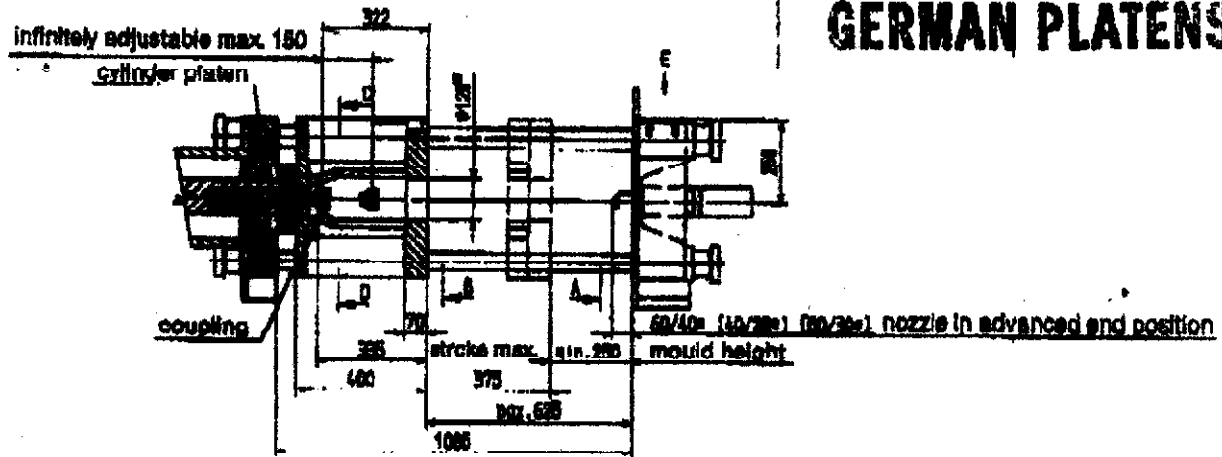
## Machine Dimensions and Weights 320 M

Machine Model:		320 M 500-90	320 M 500-210	320 M 750-210
Height with vertical clamping unit	mm/in.	3200/126.0	3440/135.4	3440/135.4
Height of hoist	mm/in.	3800/149.6	3800/149.6	3800/149.6
Oil filling	kg/lbs.	220/485	220/485	220/485
Machine weight without oil filling	kg/lbs.	2210/4871	2480/5422	2480/5422
Weight of control cabinet	kg/lbs.	150/331	150/331	150/331
Elec. connection (addit. fuse) ②	A	60	60	63

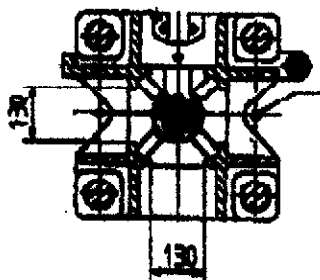
② The 690 V lead is symmetrically distributed on the three phases if so far as possible; Observe the machine dismantling procedure

320 M 500 Specifications are subject to change without notice. © Arburg

# GERMAN PLATENS

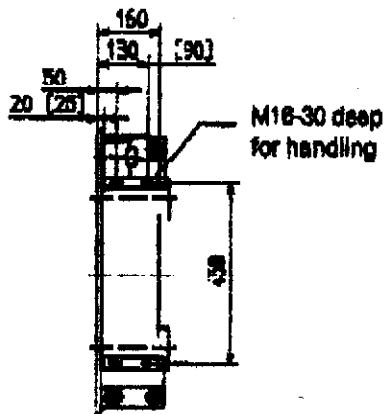


C-D



threads M20-18 deep  
in cylinder platen  
for mech. ejector

View E



- ( ) Dimensions only apply to 320 M 500-60
- [ ] Dimensions are valid only for horizontally swivable injection units
- \* Dimensions only apply to thermoast moulds

Parting line unit see separate dimensional diagram

Counter bore in the mould  
required only for short sprue

