

ALLROUNDER 320 K

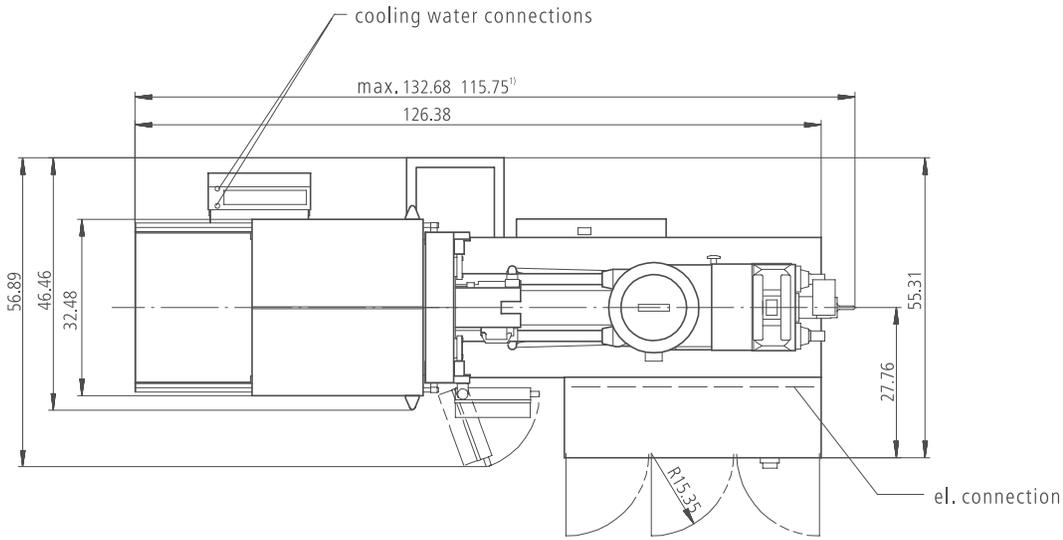
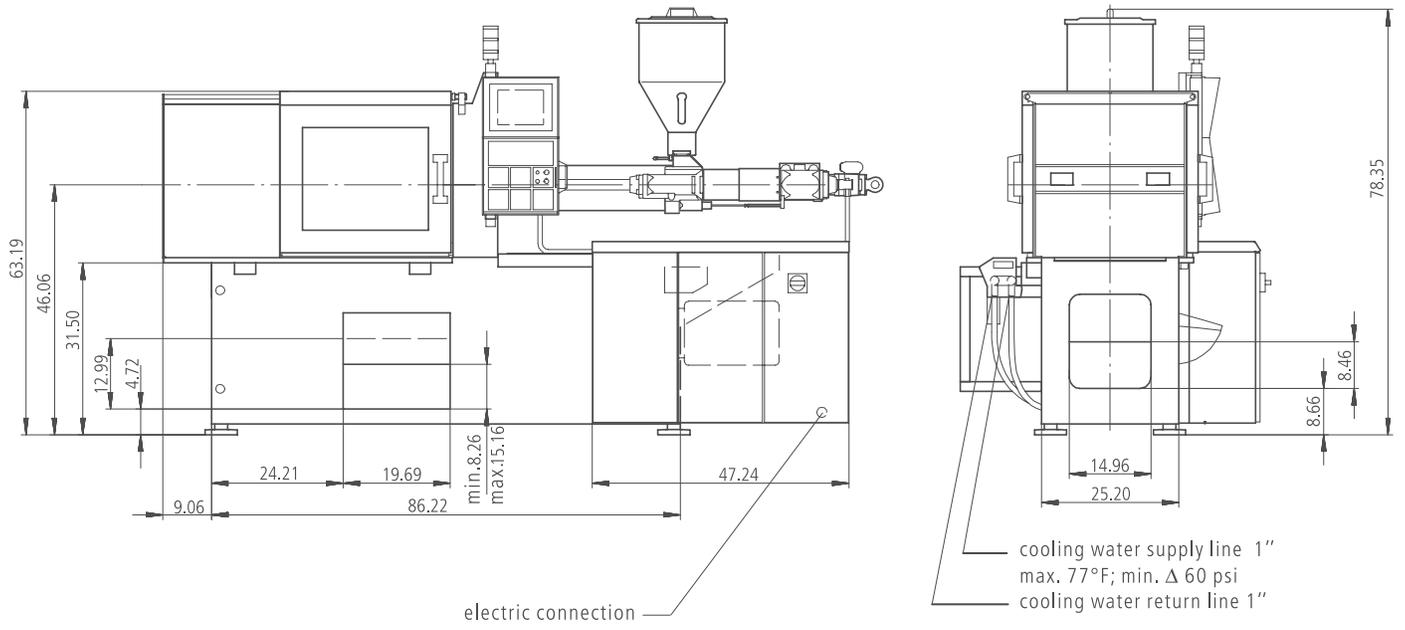
Tie bar distance: 12.60 x 12.60" (320 x 320 mm)

Clamping force: 77 tons

Injection units: 2.3 oz, 6.1 oz



Some safety equipment or warning tags may have been removed to clearly illustrate the product and must be in place prior to operation



1) Dimensions apply for 320 K 77 tons 2.3 oz

Machine model		320 K	
Size indication		77 tons 2.3 oz	77 tons 6.1 oz
Clamping unit			
Clamping force	max. US-tons	77	
Mold protection force	max. US-tons	0.44-4.4	
Opening stroke	max. inch	9.84	
Mold height	inch	7.87-16.93	
Daylight	max. inch	26.77	
Distance between tie bars	inch	12.60 x 12.60	
Platen size (hor. x vert.)	inch	18.74 x 18.74	
Weight of mov. mold half	max. lbs.	550	
Ejector force	max. US-tons	3.3	
Ejector stroke	max. inch	2.76	
Hydraulics, drive, general			
Drive power of the hydraulic pump	kW	12.6	18
Dry cycle time for opening stroke	³⁾ s- inch	1.6-8.86	1.5-8.86
Total connected load	¹⁾ kW	20.0	26.9
Color: plastic coated, structure light gray / mint green / canary yellow			
Control cabinet			
Safety standard according to		ANSI	
Injection unit		2.3 oz	6.1 oz
Screw diameter	inch	0.79/0.98/1.18	1.18/1.38/1.57
	mm	20/25/30	30/35/40
Effective screw length	L/D	25/20/16,7	23,3/20/17,5
Screw stroke	max. inch	3.94	5.91
Calculated injection volume	max. cu.inch	1.89/2.99/4.27	6.47/8.78/11.47
Shot capacity	max. oz. PS	1.0/1.6/2.3	3.4/4.6/6.1
Injection pressure	⁴⁾ max. psi	36250/32480/22475	35815/26390/20155
Injection flow	⁴⁾ max. cu.in./sec.	3.42/5.37/7.81	6.83/9.39/12.32
Back pressure positive / negative	max. psi	5075/2900	5075/2030
Circumferential screw speed	max. ft/min.	98.43/121.40/147.65	160.77/187.02/216.55
Screw torque	max. ft.lbs.	132.88/221.46/221.46	332.19
Nozzle contact force	max. US-tons	6.05	7.7
Nozzle retraction stroke	max. inch	7.09	9.45
Installed cylinder heating power	W	1600+3 x 900	1900+3 x 1300
Installed nozzle heating power	W	600	600
Material hopper capacity	lbs.	80	80
Horizontal injection position (VARIO principle) max. inch		4.72	
Machine capacity and weights of the basic machine			
Oil capacity	US-gal.	31.70	
Net weight	lbs.	4774	4994
Electrical connection (pre-fused)	¹⁾ A	70	90
Electrical connection (pre-fused)	²⁾ A	30	35
		17.5	20

1) Values refer to 230 V/60 cycles. The load is symmetrically distributed on three phases (depending on optional equipment ordered).

2) Values refer to 460 V/60 cycles for motor and control resp. 230 V/60 cycles for heating. The load is symmetrically distributed on three phases (depending on optional equipment ordered).

3) according to EUROMAP

4) a combination of max. injection pressure and max injection flow (max. injection capacity) can be mutually exclusive, depending on the equipment-related motor output.

Control unit and control cabinet

- SELOGICA controller (modular, graphic multiprocessor system)
- Cycle sequence programming with representative symbols
- Cycle step display in sequence diagram
- Function panel selection via function keyboard and direct jump
- Swivelling monitor unit located close to the mold
- Active Matrix flat screen color monitor
- Graphic chart of injection pressure (nominal / actual value) and screw stroke (actual value)
- Freely programmable parameter pages
- Quality assurance program with fault evaluation and monitoring chart
- Optimization and user help, follow-up functions at program end
- Equipment-specific control system architecture with self-recognizing bus system
- Operating modes:
 - Set up
 - Test run without screw movement
- Data set administration via dis-kette
- Visual warning signal (warning lamp)
- Visual / audible warning signal (flashing light / siren)
- Equipment for switch-over to holding pressure with external signal, hydraulic pressure or material pressure with various pressure transducers
- Interface for V24 printer with documentation program for quality evaluation
- Interfaces for: plotter, production recorder, robotic handling device, part weighing scale, optical barrier, host processor, AQC, SPI, coloring unit, PC keyboard, ALLROUNDER@web, THERMOLIFT, hot runner control unit and temperature control units for molds and cylinder
- 1 additional heating regulation circuit for the nozzle
- Electric heating regulation circuits for molds (adaptive) (3, 6, 9, 12, 15, 18); fuses for the mold heating 10 A, 2 kW
- Fuses for the mold heating 16 A, 3.5 kW
- 4 or 8 freely programmable inputs / outputs
- Core pull programs in many variants integrated in the SELOGICA control system

Machine base with hydraulic system

- The hydraulic system operates with an energy-saving regulating pump and a servo valve for drive and pressure regulation
- ARBURG energy saving system AES (rpm changeable for hydraulic pump drive)
- Minimum oil volume, oil change interval every 20,000 hours due to fine filtering
- Monitoring of oil level, oil temperature and oil filter contamination
- Oil tank venting via air filter
- Free standing machine base on anti-vibration pads
- Regulation of hydraulic oil temperature (manually adjustable)
- Regulation of hydraulic oil temperature (programmable)
- Hydraulic oil preheat program for reduction of start up times
- Separate, continuous oil circulation for additional cooling
- Conveyor belt (electrically driven), can be integrated into the machine base with or without sorter unit
- Manually adjustable, machine-related cooling water circuits with 4 free connections
- 6, 8 or 10 free cooling water circuits, manually adjustable
- Programmable, machine-related and / or free cooling water circuits
- 1 or 2 central switch off valves for cooling water
- Crane with electric hoist to facilitate mold installation and to swivel or shift the injection unit

Clamping unit

- 4-tie bar system with hydraulic toggle
- Horizontally fixed clamping unit
- Attachment possibility for robotic handling device
- Closing and opening speed profiles, 2 stage programmable
- Programmable closing and opening force
- Intermediate stop possible with closing and opening
- Monitoring of mold protection time
- Alarm immediately or after one repetition of the mold protection, as selected
- After alarm "mold protection" mold can either be stopped or opened
- Hydraulic ejector: forces, speeds, advancement and retraction delay as well as stroke count (up to 10) programmable
- Programmable ejector advanced at program end
- Adjustable mold installation height and closing force
- Hydraulic mold protection

- Basic machine
- Options

- Automatic central oil lubrication for the toggle system
- Mold protection monitoring via ejector platen safety switch (interface)
- Core pulls with quick connect couplings, programmable, for serial movements
- Power operated safety gate, opening time programmable
- Unscrewing unit for threaded cores with two directions of rotation for installation on the fixed or movable mold platen, time / stroke controlled or with fixed limit (hydraulic ejector not possible)
- Mechanical rapid clamping system with mold support to facilitate mold installation
- Mold blow unit with pressure relief valve
- Sorter unit (SELECTRON)
- Mechanical mold closing protection (closing stroke protection)

Injection unit

- Modular injection unit as complete assembly group
- Centrally fixed injection unit
- Horizontally displaceable injection unit (VARIO principle)
- Adapter for parting line injection
- Plasticizing cylinder as modular assembly, with central coupling
- Thermoplastic cylinder with universal screw, available in 3 different diameters
- Thermoplastic cylinder complete in high wear resistant execution
- Thermoplastic, thermoset, vented, elastomer and silicone cylinders are available in various wear resistant categories
- Programmable nozzle speeds (advance 2, retract 1 stage) and advance and retract delay
- Monitored nozzle contact
- Continuous nozzle contact during the complete cycle
- Regulated injection speed profile, 2 steps programmable with injection delay
- Volume dependent injection monitoring
- Measurement, display and monitoring of injection time
- Switch over to holding pressure as a volume or time dependent function
- Material cushion monitoring
- Holding pressure profile regulated via polygon with 4 base points
- Dosage delay
- Screw circumferential speed display
- Adjustable positive and negative back pressure
- Dosage time display with programmable dosage time monitoring
- Dosage possible before or after nozzle retraction
- Material decompression with programmable decompression speed
- Open nozzle with screw-in tip
- Electronically regulated cylinder and nozzle heating
- Temperature regulator with digital temperature input, integrated in the SELOGICA controller
- Adaptive temperature regulation
- Temperature monitoring with tolerance band input in regulation mode
- 80 lbs corrosion proof stainless steel material hopper movable to a blocking and emptying position
- THERMOLIFT: combined drying and conveyance of plastic granules
- Temperature regulated cylinder feed zone, programmable
- Programmable nozzle contact force
- Needle type shut off nozzle, spring force actuated
- Needle type shut off nozzle, hydraulically actuated

Extended functions

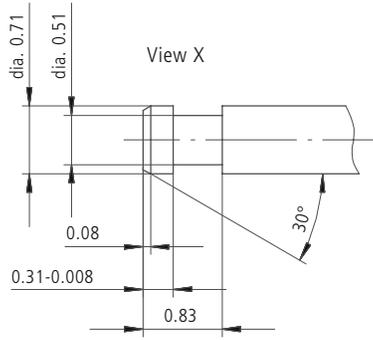
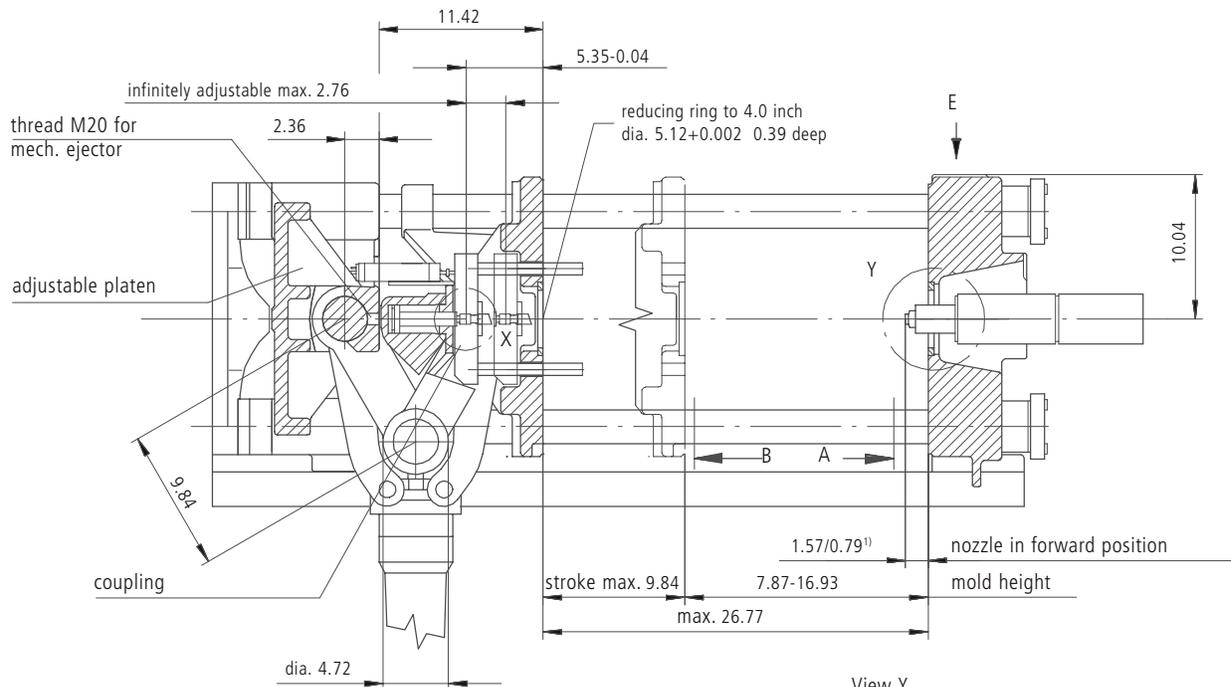
- Extended drive movements
- Production control with nominal temperature value control, programmable alarm cycles, programmable switch-on / switch-off sequences as well as time-controlled automatic switch-on/off in second programming level for follow-up batch

Regulated parameters

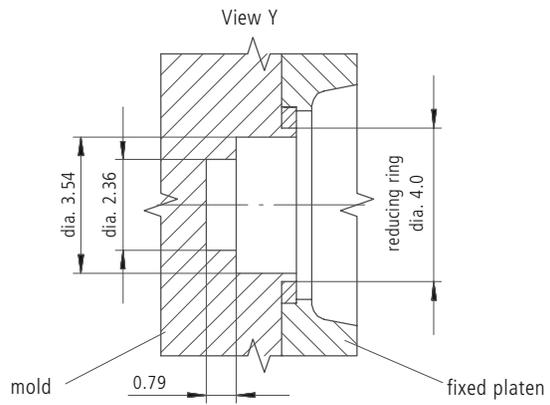
- Control cabinet temperature
- Hydraulic oil temperature
- Plasticizing cylinder temperature (adaptive)
- Screw circumferential speed
- Injection flow, injection speed
- Holding pressure
- Movements and force of mold, nozzle and ejector
- Ramp control sequence for mold, ejector and nozzle end position
- Back pressure
- Electric mold heating circuits
- Mold cooling circuits
- Granule feed zone temperature

ARBURG robotic systems, programming via SELOGICA machine control system

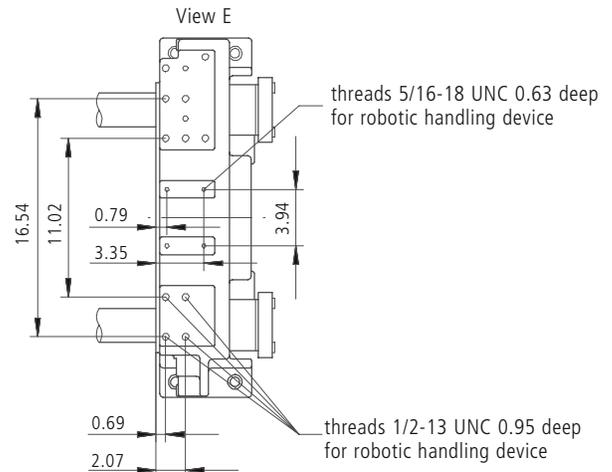
- INTEGRALPICKER V: Vertical sprue picker operating from above, pneumatic drive
- MULTILIFT H: Robotic system operating horizontally from the rear of the machine with pneumatic drives (dipping axis optional with servo-electric drive)



center ejector



counter bore only for short sprue



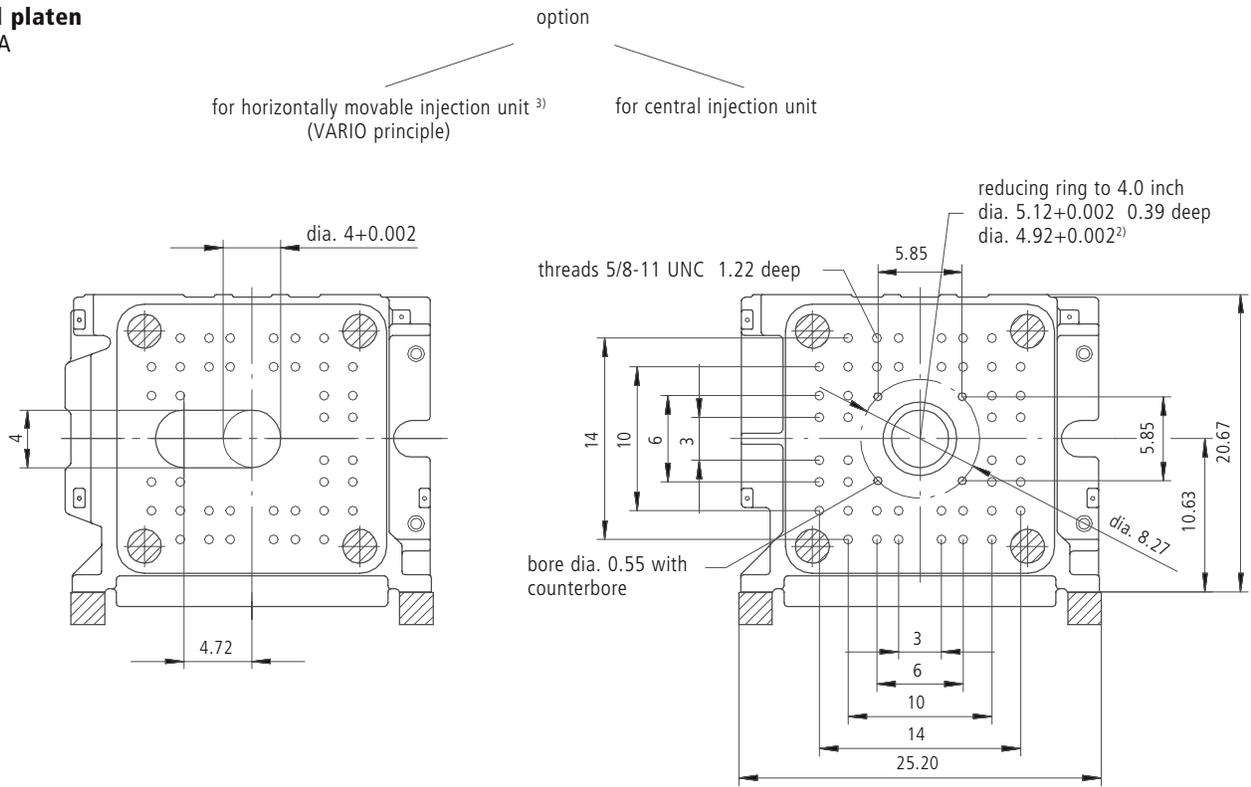
1) Dimensions apply to thermoset molds

2) Reducing ring to 4 inch

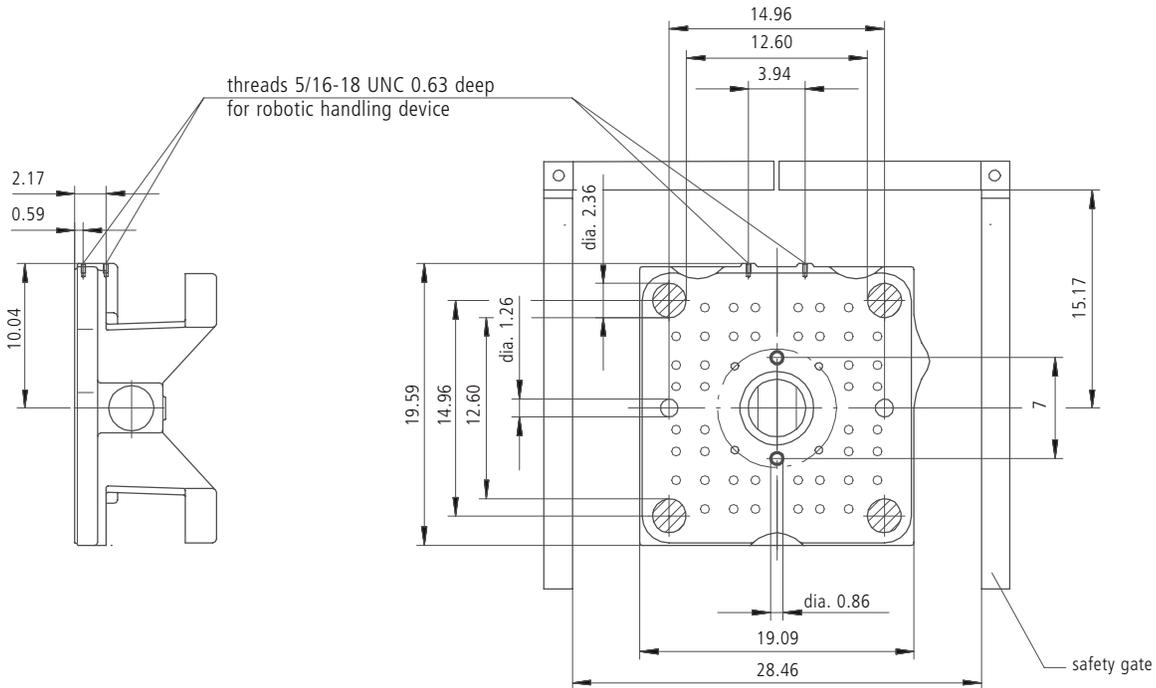
3) Not available to thermoset machines

Refer to separate dimension sheet for parting line unit (on request)

Fixed platen View A



Movable platen View B



Maximum theoretical shot capacities for the most important materials (in ounce)

Injection units		2.3 oz			6.1 oz		
Screw diameter	inch	0.79	0.98	1.18	1.18	1.38	1.57
	mm	20	25	30	30	35	40
Polystyrene	PS	1.0	1.6	2.3	3.4	4.6	6.1
Styrene heteropolymerizates	SB	1.0	1.5	2.2	3.3	4.6	5.9
	SAN, ABS ¹⁾	1.0	1.6	2.2	3.4	4.6	6.0
Cellulose acetate	CA ¹⁾	1.1	1.8	2.6	3.8	5.2	6.8
Celluloseacetobutyrate	CAB ¹⁾	1.1	1.7	2.4	3.6	4.9	6.4
Polymethyl methacrylate	PMMA	1.1	1.6	2.4	3.5	4.8	6.3
Polyphenylene oxide, mod.	PPO	1.0	1.5	2.1	3.2	4.3	5.6
Polycarbonate	PC	1.1	1.7	2.4	3.6	4.9	6.4
Polysulphone	PSU	1.1	1.7	2.5	3.7	5.0	6.6
Polyamide	PA 6.6, PA 6 ¹⁾	1.0	1.6	2.2	3.4	4.6	6.0
	PA 6.10, PA 11 ¹⁾	1.0	1.5	2.1	3.2	4.3	5.6
Polyoximethylene (Polyacetal)	POM	1.2	1.9	2.8	4.2	5.8	7.5
Polyethylene terephthalate	PETP	1.2	1.9	2.7	4.1	5.5	7.2
Polyethylene	PE soft	0.8	1.2	1.7	2.6	3.5	4.6
	PE rigid	0.8	1.2	1.8	2.7	3.6	4.7
Polypropylene	PP	0.8	1.3	1.8	2.7	3.7	4.8
Fluoropolymerides	FEP, PTFE ¹⁾	1.6	2.5	3.6	5.5	7.4	9.7
	ETFE	1.4	2.2	3.2	4.8	6.5	8.5
Polyvinyl chloride	PVC rigid	1.2	1.9	2.8	4.1	5.6	7.3
	PVC soft ¹⁾	1.1	1.8	2.5	3.8	5.2	6.8

1) average value



ARBURG GmbH + Co KG Quality: Certified according to DIN EN ISO 9001 and DIN EN ISO 14001

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