

ALLROUNDER 270/320 S

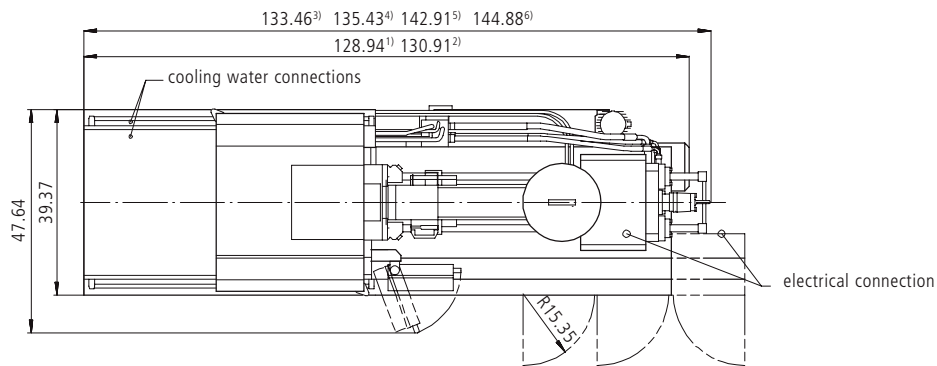
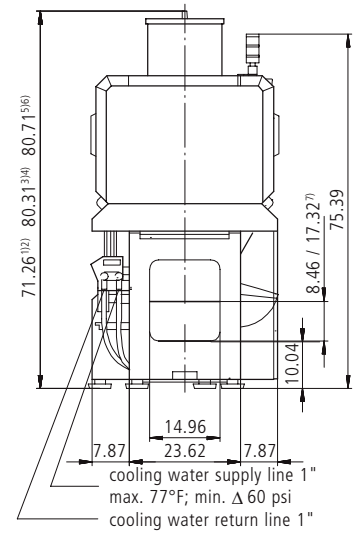
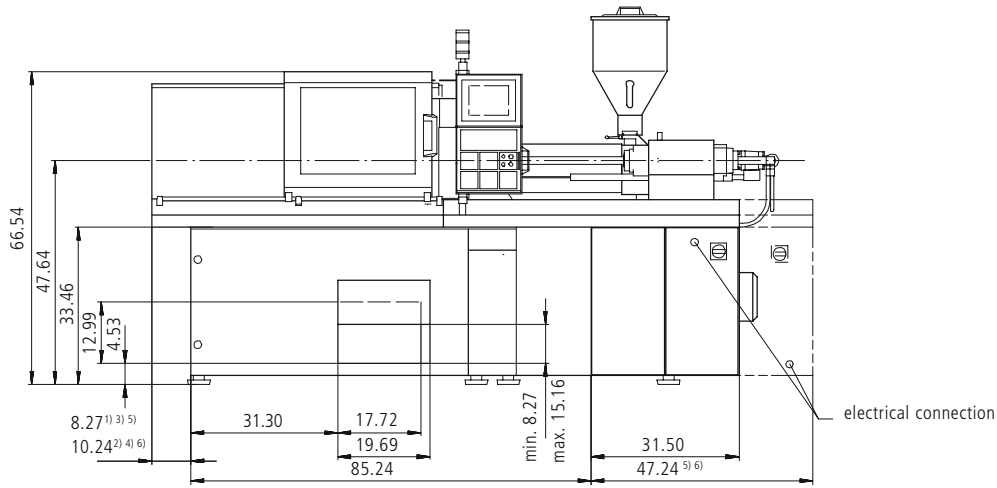
Tie bar distances: 10.63 x 10.63" (270 x 270 mm), 12.60 x 12.60" (320 x 320 mm)

Clamping forces: 38, 55 tons

Injection units: 1.3 oz, 3.4 oz, 7.4 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 to 270 S 38 tons 1.3 oz
270 S 55 tons 1.3 oz
- 2) Dimensions apply to 320 S 38 tons 1.3 oz
320 S 55 tons 1.3 oz
- 3) Dimensions apply to 270 S 38 tons 3.4 oz
270 S 55 tons 3.4 oz
- 4) Dimensions apply to 320 S 38 tons 3.4 oz
320 S 55 tons 3.4 oz
- 5) Dimensions apply to 270 S 38 tons 7.4 oz
270 S 55 tons 7.4 oz
- 6) Dimensions apply to 320 S 38 tons 7.4 oz
320 S 55 tons 7.4 oz
- 7) Dimension only valid in conjunction
with conveyor belt

Machine model		270 S / 320 S		
Size indication		38 tons 1.3 oz / 55 tons 1.3 oz	38 tons 3.4 oz / 55 tons 3.4 oz	38 tons 7.4 oz / 55 tons 7.4 oz
Clamping unit				
Clamping force	max. US-tons		38 / 55	
Closing force	max. US-tons		3.85	
Opening force / increased	max. US-tons		2.75 / 13.20	
Opening stroke	max. in.		13.78	
Mold height	min. in.		6.89 / 8.86	
Daylight	max. in.		20.67 / 22.64	
Distance between tie bars	in.		10.63. x 10.63 / 12.60 x 12.60	
Platen size (hor. x vert.)	in.		17.56 x 17.56	
Weight of mov. mold half	max. lbs.		616	
Ejector force	max. US-tons		3.3	
Ejector stroke	max. in.		4.92	
Hydraulics, drive, general				
Capacity of the hydraulic pump	kW	8.6 / 12.6	12.6 / 18	18 / 22
Dry cycle time for opening stroke	³⁾ s- inch	1.6-7.44 / 1.7-7.44	1.6-7.44 / 1.7-7.44	1.6-7.44 / 1.6-7.44
Total connected load	^{1) 2)} kW	14.3 / 18.3	23.7 / 29.1	29.9 / 33.9
Color: plastic coated, structure light gray / mint green / canary yellow				
Control cabinet				
Safety standard according to			ANSI	
Injection unit		1.3 oz	3.4 oz	7.4 oz
Screw diameter	in.	0.71/0.87/0.98	0.98/1.18/1.38	1.38/1.57/1.77
	mm	18/22/25	25/30/35	35/40/45
Effective screw length	L/D	24.5/20/17.5	24/20/17	23/20/18
Screw stroke	max. in.	3.15	4.33	5.71
Calculated stroke volume	max. cu.in.	1.22/1.83/2.38	3.29/4.76/6.47	8.48/11.1/14.03
Shot capacity	max. oz. PS	0.6/1.0/1.3	1.7/2.5/3.4	4.5/5.9/7.4
Injection pressure	⁴⁾ max. psi	36250/33930/26245	36250/32045/23490	36250/30740/24215
Injection flow	⁴⁾ max. cu.in.	3.17/4.76/6.1 /	3.42/5/6.83 /	6.1/8.05/10.25 /
		3.29/4.88/6.34	4.88/6.95/9.52	7.81/10.25/12.93
Injection flow with accumulator	max. cu.in.	8.42/12.69/16.35	11.10/15.98/21.84	30.01/39.16/49.65
Back pressure positive / negative	max. psi	5075 / 2900	5075 / 2900	5075 / 2900
Circumferential screw speed	max. ft./min	144.36/173.89/200.14	121.40/147.65/170.61 /	121.40/137.80/154.21 /
		164.05/203.42/229.67	170.61/206.70/239.51	154.21/173.89/196.86
Screw torque	max. ft.lbs.	92.28/132.88/147.64	221.46/258.37/258.37	413.39/516.74/516.74
Nozzle contact force	max. US-tons	3.3/4.4	5.5/7.7	5.5/7.7
Nozzle retraction stroke	max. in.	8.66	11.81	11.81
Cylinder heating	W	1250 + 2 x 800	4 x 2000	4 x 2200
Nozzle heating	W	300	600	600
Material hopper capacity	lbs.	40	80	80
Horizontal injection position (VARIO principle) max. in.			4.72	
Machine capacity and weights of the basic machine				
Oil capacity	US-gal.		31.7	
Net weight (wihtout oil)	lbs.	4180	4950	5720
Electrical connection (pre fused)	¹⁾ A	50 / 70	80 / 100	100 / 110
Electrical connection (pre-fused) Motor	²⁾ A	20 / 30	30 / 40	40 / 45
		Heat	10 / 10	30 / 30

1) values refer to 230 V/60 cycles. The load is evenly distributed on three phases

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 (Dry cycle time for 320 S with 8.82 inch opening stroke 0,1 s larger)

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. The specifications shown reflect the status at the time of printing. In the interest of continuing development of our products, we reserve the right to modify specifications.

Control system and control cabinet

- SELOGICA control system (modular, graphic multi-processor system)
- Cycle sequence programming with representative symbols
- Cycle step display in sequence diagram
- Function panel selection with 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 design with self-recognizing bus system
- Data administration via diskette
- Control cabinet integrated into the floor space of the machine
- Visual warning signal (warning light)
- Operating modes:
 - Set up
 - Dry cycle without screw movement

- 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 nozzle
- Electric heating regulation circuits for molds (adaptive) (3, 6, 9, 12, 15, 18); fuses for mold heating 10 A, 2 kW
- Fuses for mold heating 16 A, 3.5 kW
- 4 or 8 freely programmable inputs / outputs
- Core-pull programs in many variations integrated in the SELOGICA control system
- Special processes such as injection coining, mold venting, etc.
- Conveyor belt (electrically driven), height-adjustable in 3 steps, can be integrated into the machine base with or without sorter unit.
- The hydraulic system operates with an energy-saving variable regulating pump and servo valve for drive and pressure control. It is completely separated from the machine base and thus runs virtually without noise
- Machine base and oil container on anti-vibration pads
- ARBURG energy saving system AES (rpm changeable for hydraulic pump drive)
- Expansion up to 3 hydraulic control circuits
- Minimum oil volume, oil change interval every 20,000 hours
- Monitoring of oil level, oil temperature and oil filter contamination
- Service friendly due to directly accessible oil tank
- Manually adjustable, machine-related cooling water circuits with 4 free connections
- 6 or 8 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
- Regulation of hydraulic oil temperature (manually adjustable)
- Regulation of hydraulic oil temperature (programmable)
- Hydraulic preheating program to reduce start-up time

Machine base with separate hydraulic system

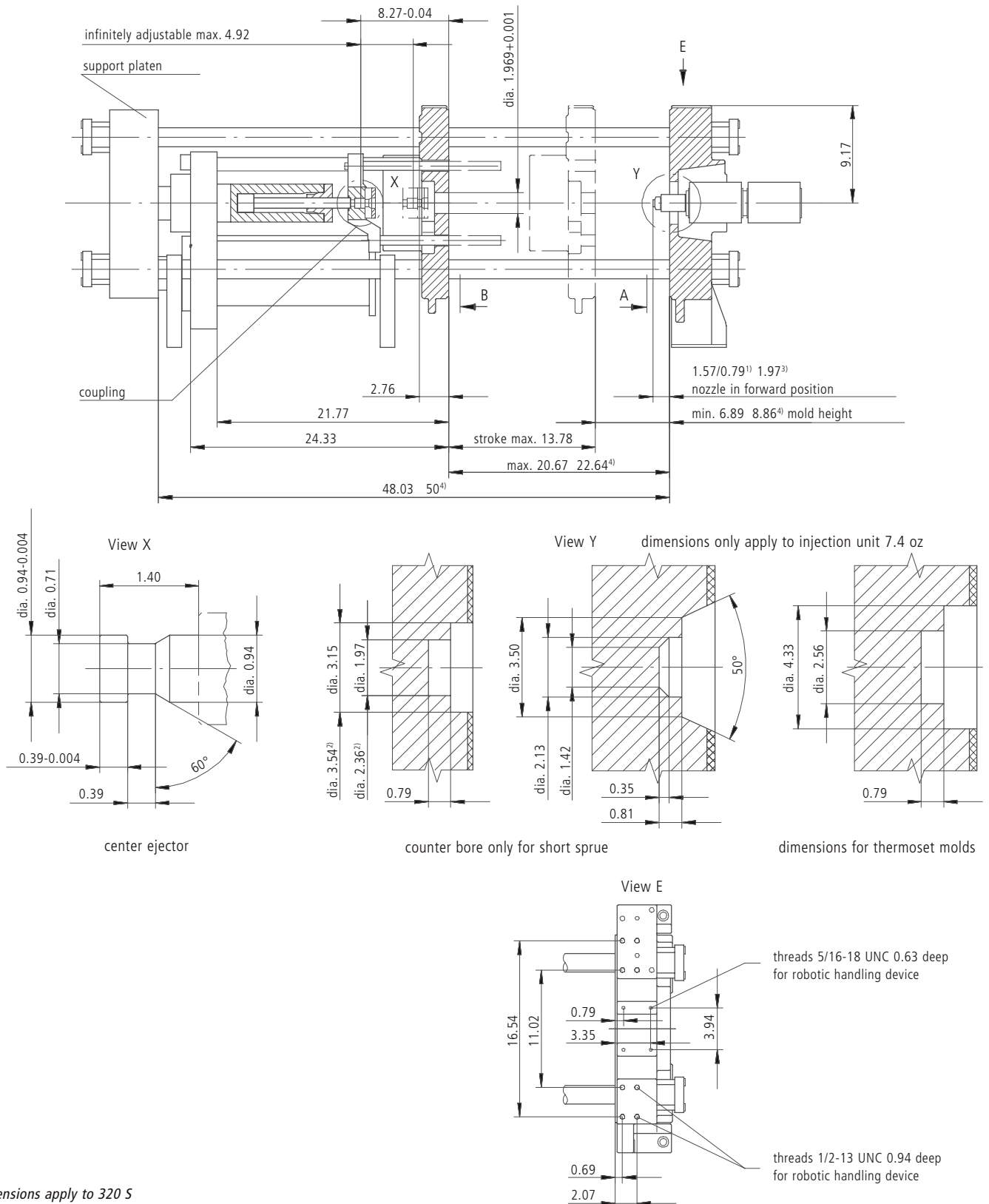
- Space-saving, compact design
- Space for peripheral devices within floor space

- Separate, continuous oil circulation for additional cooling
- Generously designed protective cover
- Crane with electric hoist to facilitate mold installation and to swivel or shift the injection unit

Clamping unit

- Compact, fully hydraulic double piston clamping system with 4 individually removable tie bars
- Precise 6-point guidance of the movable mold platen with centrally supported lower tie bars
- Attachment possibility for robotic handling device
- Clamping unit with hoseless hydraulic system easily accessible for precise drive of the axes
- Mold clamping forces of 38 US-tons and 55 US-tons combined with a distances between the tie bars of 10.63 x 10.63 inch or 12.60 x 12.60 inch
- All axes of the mold clamping unit are program-controlled in their movements and serially driven via energy-saving one-circuit pump technology (Technology stage T1)
- All axes of the mold clamping unit can be moved simultaneously using two-circuit pump technology (T2 servo control) and operated with a pressure holding function (from T2 onwards)
- Hydraulic system with 3 regulating pumps for extended simultaneous movements (T3)

- Closing and opening speed profiles, 2 stage programmable
 - Automatic ramp sequence when changing to lower speed and when stopping
 - Prepared for integral picker
 - Core-pull connections with quick release couplings on the movable mold platen
 - Unscrewing devices for threaded cores in 1 or 2 drive directions for mounting at the fixed or movable platen, time or stroke controlled (hydraulic ejector not possible)
 - Hydraulic ejector with quick-release coupling, available in serial version
 - Hydraulic ejector for simultaneous movements or in regulated version possible
 - Mold protection monitoring via ejector platen safety switch (interface)
 - Power-operated safety gate, programmable opening time
 - Mold blow unit with pressure relief valve
 - Part sorter unit (SELECTRON)
 - Mechanical mold closing protection (safety bar)
- Injection unit**
- Central injection unit, plug-in and swivable as complete assembly
 - Horizontally displaceable injection unit (VARIO principle)
 - Device for parting line injection (injection unit 1.3 oz and 3.4 oz)
 - Thermoplastic cylinder with universal screw, 3 different nominal diameters can be selected per injection unit
 - Thermoplastic cylinder modules in high wear resistant execution
 - Thermoplastic, thermoset, vented and elastomer cylinder, as well as equipment for LSR processing available in various wear resistant categories
 - Plasticizing cylinder in modular design, with central coupling and adaptive temperature regulation
 - Regulated injection speed profile, programmable in 2 stages
 - Hydraulic accumulator for very fast injection
 - Position-regulated screw (forced movement of injection axis)
 - Injection process regulation
 - Programmable delay times for dosage, nozzle advancement, as well as for the injection process
 - Measurement, display and monitoring of injection time, volume-dependent injection monitoring
 - Positive and negative programmable back pressure
 - Volume or time dependent switch-over to holding pressure
 - Holding pressure profile regulated via polygon with 4 base points
 - ARBURG AED electro-mechanical dosing (injection unit 3.4 oz and 7.4 oz)
 - Temperature monitoring with tolerance bands during operation
 - Automatic temperature sink can be selected on error or after automatic switch off
 - Corrosion proof stainless steel material hopper movable to a blocking and emptying position
 - THERMOLIFT: combined drying and conveyance of plastic granules
 - Temperature regulated feed throat, programmable
 - Cylinder coding
 - Needle-type shut-off nozzle actuated hydraulically or with spring force
- Extended functions**
- Extended monitoring of the mechanical sequence of mold and machine for complex applications
 - 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 rotation speed
 - Injection flow or injection speed
 - Holding pressure
 - Movements and force of mold, nozzle and ejector
 - Ramp sequence during movements to target point for mold, ejector and nozzle
 - Back pressure
 - Electrical mold heating circuits (adaptive)
 - Mold cooling circuits
 - Pressure in mold or in front of screw
 - Nozzle contact pressure
 - Screw position
 - Feed throat temperature
 - Ejector position and ejector speed
- ARBURG robotic systems, programming via SELOGICA machine control system**
- INTEGRALPICKER H: sprue picker operating horizontally from the rear of the machine under the protection cover; pneum. drive
 - INTEGRALPICKER V: integrated vertical sprue picker operating from above, pneum. drive
 - MULTILIFT H: robotic system operating horizontally from the rear of the machine with pneumatic drives (dipping axis optional with servo-electric drive)



() Dimensions apply to 320 S

1) Dimensions apply to thermoset molds

2) Dimensions apply to injection unit 3.4 oz

3) Dimensions apply to injection unit 7.4 oz

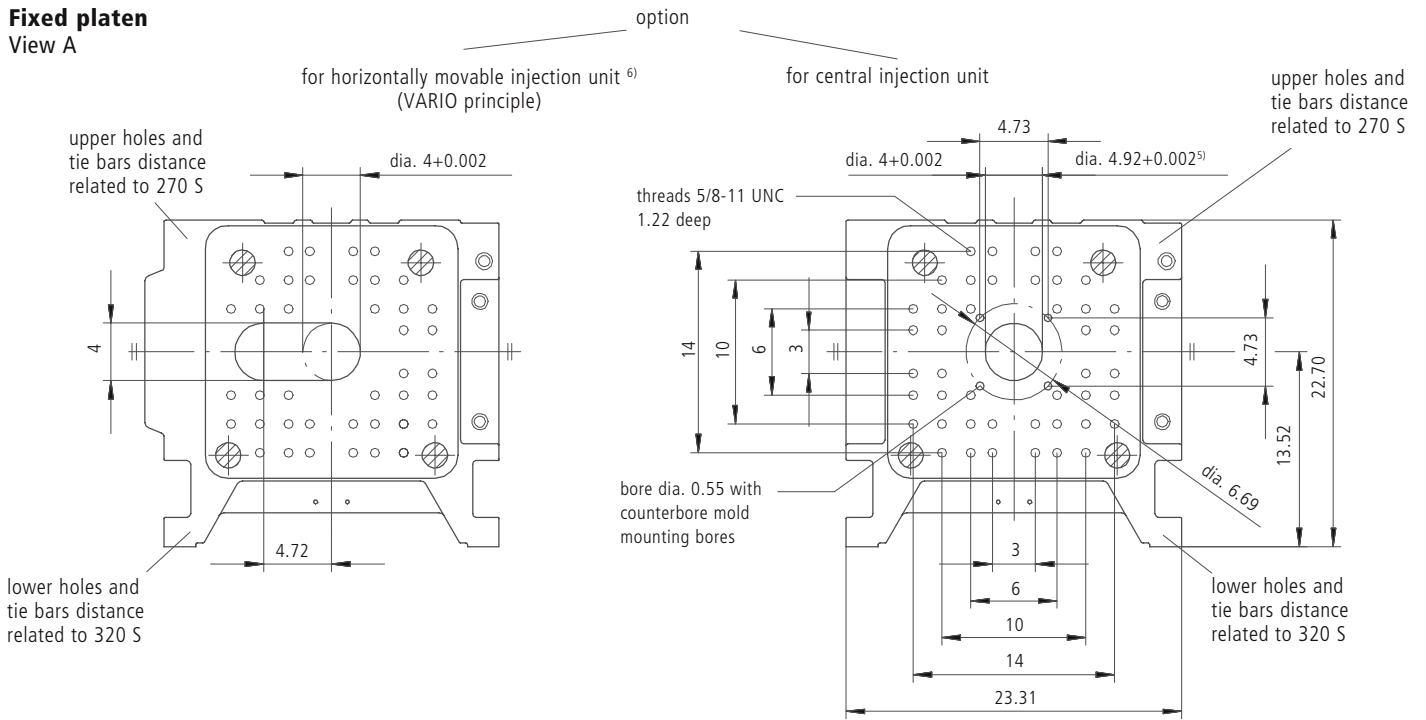
4) Dimensions apply to 320 S. For 270 S - option

5) Dimensions apply for machines with thermoset versions and injection unit 7.4 oz

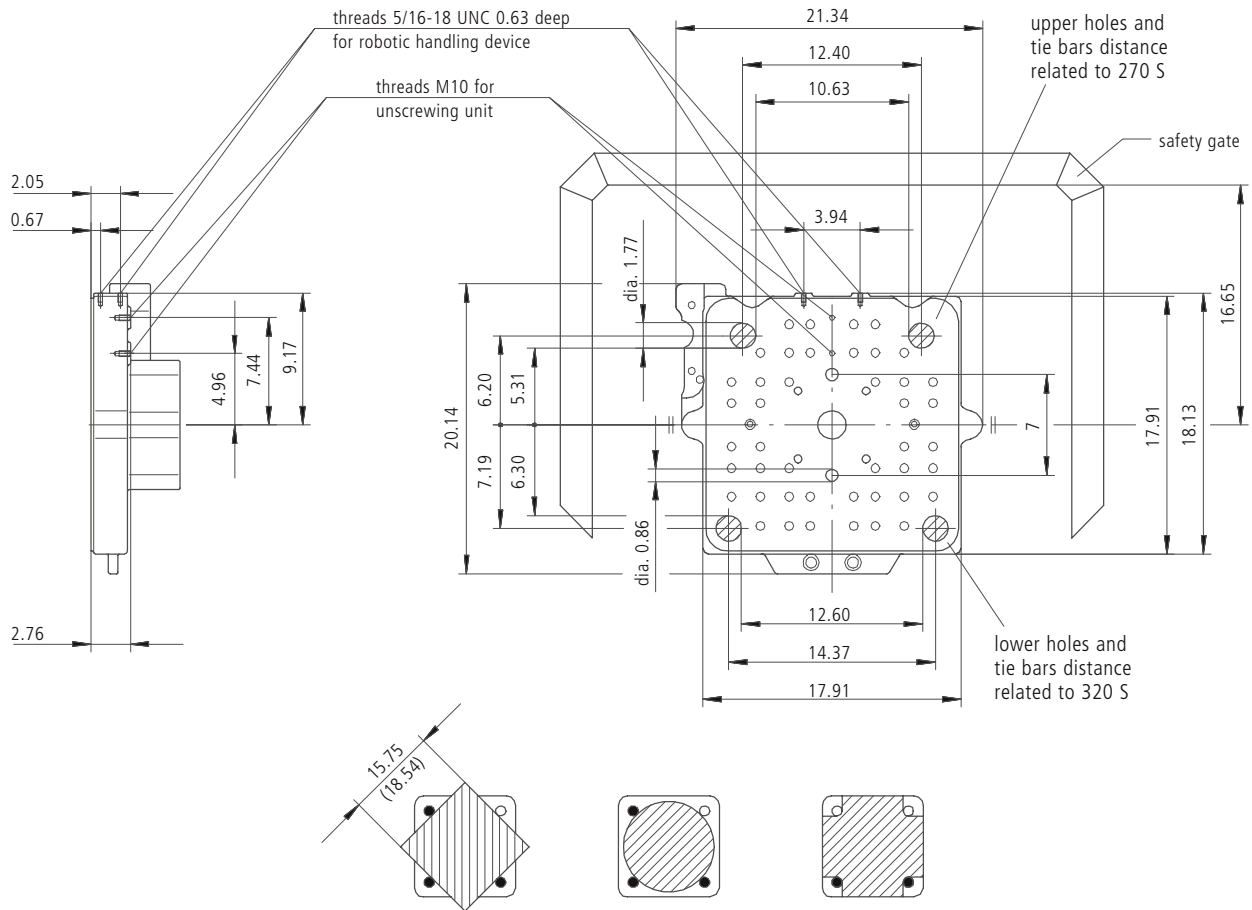
6) Not available with thermoset machines

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

Fixed platen View A



Movable platen View B



Usable mounting surface with tie bars removed

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

Injection units		1.3 oz			3.4 oz			7.4 oz		
Screw diameter	in.	0.71	0.87	0.98	0.98	1.18	1.38	1.38	1.57	1.77
	mm	18	22	25	25	30	35	35	40	45
Polystyrene	PS	0.6	1.0	1.3	1.7	2.5	3.4	4.5	5.9	7.4
Styrene heteropolymerizates	SB	0.6	1.0	1.2	1.7	2.5	3.4	4.4	5.7	7.2
	SAN, ABS ¹⁾	0.6	0.9	1.2	1.7	2.4	3.3	4.3	5.6	7.1
Cellulose acetate	CA ¹⁾	0.7	1.1	1.5	2.0	2.8	3.8	5.0	6.6	8.4
Celluloseacetobutyrate	CAB ¹⁾	0.7	1.0	1.3	1.8	2.6	3.6	4.7	6.1	7.7
Polymethyl methacrylate	PMMA	0.7	1.0	1.3	1.8	2.6	3.5	4.7	6.1	7.7
Polyphenylene oxide, mod.	PPO	0.6	0.9	1.2	1.6	2.3	3.2	4.2	5.4	6.9
Polycarbonate	PC	0.7	1.1	1.4	1.8	2.6	3.6	4.7	6.2	7.8
Polysulphone	PSU	0.7	1.1	1.4	1.9	2.7	3.7	4.8	6.4	8.1
Polyamide	PA 6.6, PA 6 ¹⁾	0.6	1.0	1.2	1.7	2.5	3.4	4.5	5.8	7.4
	PA 6.10, PA 11 ¹⁾	0.6	0.9	1.2	1.6	2.3	3.2	4.2	5.4	6.9
Polyoxymethylene (Polyacetal)	POM	0.8	1.2	1.6	2.2	3.1	4.2	5.5	7.2	9.2
Polyethylene terephthalate	PET	0.8	1.2	1.5	2.1	3.0	4.1	5.4	7.0	8.8
Polyethylene	PE soft	0.5	0.7	1.0	1.3	1.9	2.6	3.4	4.4	5.6
	PE hard	0.5	0.7	1.0	1.3	2.0	2.7	3.5	4.6	5.8
Polypropylene	PP	0.5	0.8	1.0	1.4	2.0	2.7	3.6	4.7	5.9
Fluoropolymerides	FEP, PTFE ¹⁾	1.1	1.6	2.0	2.8	4.0	5.5	7.2	9.4	11.9
	ETFE	0.9	1.4	1.8	2.4	3.5	4.8	6.3	8.2	10.4
Polyvinyl chloride	PVC hard	0.8	1.2	1.5	2.1	3.0	4.1	5.4	7.1	8.9
	PVC soft ¹⁾	0.7	1.1	1.5	1.9	2.8	3.8	5.0	6.6	8.3

1) average value



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

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