

ALLROUNDER 370 S

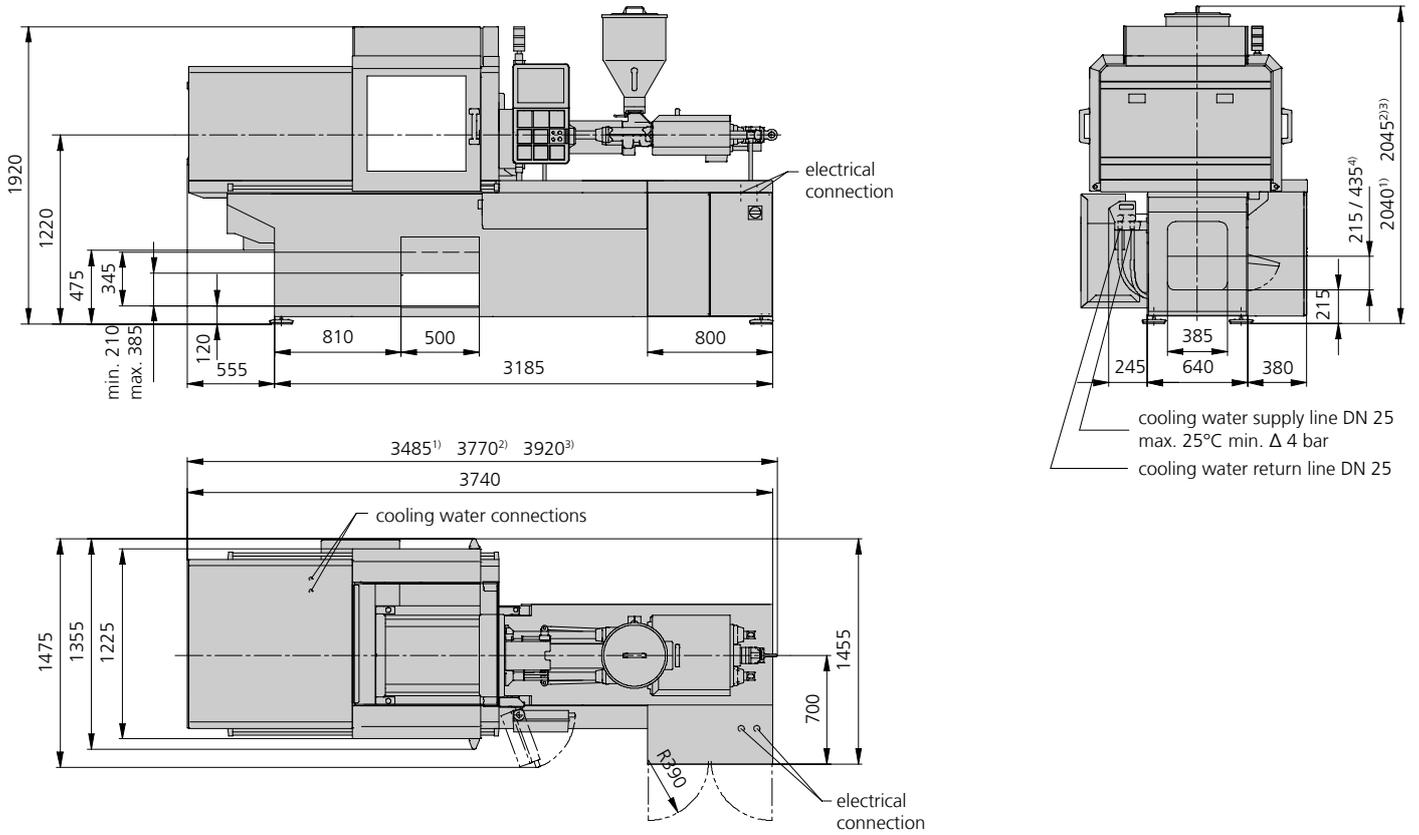
Technical data

Tie bar distance: 370 x 370 mm

Clamping forces: 500, 600, 700 kN

Injection units (according to EUROMAP): 100, 170, 290

ARBURG



- 1) Dimension applies to injection unit 100
- 2) Dimension applies to injection unit 170
- 3) Dimension applies to injection unit 290
- 4) Dimension only valid in conjunction with conveyor belt

Machine model		370 S	370 S	370 S
EUROMAP size indication ¹⁾		500-100 600-100 700-100	500-170 600-170 700-170	600-290 700-290
Clamping unit				
Clamping force	max. kN	500 600 700	500 600 700	600 700
Closing force	max. kN	38	38	38
Opening force / increased	max. kN	24 / 160	24 / 160	24 / 160
Opening stroke	max. mm	400	400	400
Mould height	min. mm	200	200	200
Daylight	max. mm	600	600	600
Distance between tie bars	mm	370 x 370	370 x 370	370 x 370
Platen size (hor. x vert.)	mm	510 x 510	510 x 510	510 x 510
Weight of mov. mould half	max. kg	360	360	360
Ejector force	max. kN	30	30	30
Ejector stroke	max. mm	125	125	125
Hydraulics, drive, general				
Drive power of the hydraulic pump	kW	11 11 15	11 15 15	15 15
Dry cycle time for opening stroke ⁴⁾	s-mm	2,1 (1,2)-259 2,0 (1,2)-259 1,4 (1,3)-259	2,1 (1,2)-259 1,9 (1,2)-259 1,4 (1,3)-259	1,9 (1,2)-259 1,4 (1,3)-259
Total connected load ²⁾	kW	18,4 18,4 22,4	22,9 26,9 26,9	23,9 23,9
Colour: plastic coated, structure light grey / mint green / canary yellow				
Control cabinet				
Safety standard according to		DIN EN 60204	DIN EN 60204	DIN EN 60204
Socket combination (1 single phase, 1 three-phase)		1 x 16 A	1 x 16 A	1 x 16 A
Injection unit				
		100	170	290
Screw diameter	mm	20 / 25 / 30	25 / 30 / 35	30 / 35 / 40
Effective screw length	L/D	25 / 20 / 16,7	24 / 20 / 17	23,3 / 20 / 17,5
Screw stroke	max. mm	100	120	150
Calculated injection volume	max. cm ³	31 / 49 / 71	59 / 85 / 115	106 / 144 / 188
Shot weight	max. g PS	29 / 45 / 65	54 / 77 / 105	97 / 132 / 172
Material throughput ⁵⁾	max. kg/h PS	5,5 / 8 / 9,5	10 / 13,5 / 16	17 / 20,5 / 24,5
	max. kg/h PA 6.6	2,8 / 4 / 4,9	5 / 7 / 8	8,5 / 10,5 / 12,5
Injection pressure ³⁾	max. bar	2500 / 2000 / 1390	2500 / 2000 / 1470	2500 / 2000 / 1530
Injection flow ³⁾	max. cm ³ /s	64 / 100 / 146 90 / 142 / 204	66 / 96 / 132 94 / 136 / 186	102 / 140 / 182
		90 / 142 / 204	94 / 136 / 186	
Injection flow with accumulator	max. cm ³ /s	172 / 268 / 388	216 / 312 / 424	316 / 430 / 562
Back pressure positive/negative	max. bar	350 / 200	350 / 200	350 / 200
Circumferential screw speed	max. m/min	28 / 35 / 42 39 / 49 / 59 39 / 49 / 59	35 / 42 / 49 49 / 59 / 69 49 / 59 / 69	46 / 54 / 62
Screw torque	max. Nm	120 / 150 / 180	210 / 250 / 290	320 / 380 / 430
Nozzle contact force	max. kN	50	50	60
Nozzle retraction stroke	max. mm	180	210	240
Installed cylinder heating power / heating zones	kW	4,3 / 4	8,8 / 4	5,8 / 4
Installed nozzle heating power	kW	0,6	0,6	0,6
Material hopper capacity	l	50	50	50
Horizontal injection position	max. mm	125	125	125
Machine dimensions and weights of the basic machine				
Oil capacity	l	135	135	135
Net weight	approx. kg	3200	3250	3300
Electrical connection ²⁾	A	63	63 80 80	80

1) 1st figure: clamping force (kN), 2nd figure: max. dosage volume (cm³) x max. injection pressure (kbar)

2) Values refer to 400 V/50 Hz. The load is symmetrically distributed on three phases (observe phase loading when installing new equipment).

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

4) According to EUROMAP for the basic machine (values in brackets apply to hydraulic accumulator technology)

5) Deviations are possible depending upon process settings and material type

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

Control system and control cabinet

- SELOGICA direct control system (touchscreen user interface for direct data access)
- Available in different language versions
- Language change
- Operating authorisation via chip card
- Cycle sequence programming with symbols
- Cycle step display in sequence diagram
- Cycle time diagram
- Swivelling monitor unit, central on the operator's side, with colour monitor
- Process graphics for injection speed, screw stroke and injection pressure
- Quality assurance program with fault evaluation and monitoring chart
- Optimisation and operator help, follow-up functions at program end, for freely-programmable parameter pages, choice of segments
- Modular control cabinet design with self-recognition of plug in circuit board system
- Operating modes:
 - Set-up
 - Freely programmed test run
 - Reconfiguration
 - Automatic purging and dosing
- Equipment for switch-over to holding pressure via injection pressure, material pressure with different pressure transducers, or via external switch over signal
- Data record management via Compact Flash
- Visual warning signal (warning lamp)
- Visual / audible warning signal (flashing light / siren)
- Printer interface for hard copy, data record and quality protocol
- Interfaces for: PC keyboard, plotter, robotic system according to EUROMAP 12 or 67, part weighing scale, optical barrier, host processor, AQC, ALLROUNDER®

- web, colouring unit, LSR dosing system, INJESTER, container change, wiper unit (brush), THERMOLIFT, hot runner control unit and temperature control units for moulds and cylinder
- Socket combination 1 CEE, 1 Schuko 230 V
- Socket combination 1 CEE, 1 Schuko or 2 CEE, 2 Schuko 230 V with external supply line
- 1 additional heating regulation circuit for the nozzle
- Electric heating regulation circuits for moulds mounted to the fixed mould platen (adaptive) (3, 6, 9, 12, 15, 18); mould heating fused at 10 A
- Fuses for mould heating 16 A
- 4 or 8 freely programmable inputs / outputs
- Core pull programs in many versions integrated in the SELOGICA control system
- Special processes such as injection coining, mould venting, variot-herm temperature control, intrusion, marbling
- Monitoring: Freely-programmable position monitoring
- Many individual options for special processes

Machine base and hydraulic system

- Free standing machine base on anti-vibration pads
- Ergonomic protection cover with free access to mould and nozzle
- Space for peripheral devices within floor space
- The hydraulic system operates with an energy-saving variable displacement pump and a servo valve for pressure and speed regulation
- Expansion to up to 2 hydraulic control circuits
- Hydraulic accumulator technology for high speeds and simultaneous movements. All axes are servo-regulated

- ARBURG energy saving system AES (rpm changeable for hydraulic pump drive)
- Minimum oil volume, oil change interval every 20,000 hours
- Monitoring of oil level, oil temperature and oil filter contamination
- Fine mesh oil filter in the return line
- Mechanical regulation of hydraulic oil temperature
- Electronic regulation of hydraulic oil temperature. Display and monitoring via screen
- Hydraulic oil preheating program to reduce start-up time
- Separate, continuous oil circulation for additional cooling and filtration
- Manually adjustable, machine-related cooling water circuits with 4 free mould connections
- 6 or 8 free cooling water circuits, manually adjustable
- Programmable, machine and mould-related cooling water circuits
- Maximum of 4 water cooling circuits mounted to the fixed and/or movable mould platen
- 1 or 2 central shut-off valves for cooling water (supply and/or return)
- Conveyor belt (electrically driven), height-adjustable in 3 steps, can be integrated into the machine base with or without sorter unit
- Machine-side mould change device with electric hoist to facilitate mould installation and to swivel or shift the injection unit

Clamping unit

- Compact, centrally applied, fully-hydraulic clamping system with individually removable tie bars
- Vertical support of the movable mould platens
- Swivelling hydraulic clamping unit

- Movement profiles for the mould clamping unit are programmable and regulated. They are serially driven using energy-saving one-circuit pump technology (Technology stage 1)
- Movement profiles for the mould clamping unit are programmable and regulated. They are driven using two-circuit pump technology (Technology stage 2 - servo-regulated). The closing pressure is regulated. Simultaneous movement of nozzle and ejector is possible
- Movement profiles for the mould clamping unit are programmable and regulated and are achieved via pressure accumulators. The locking pressure is servo-regulated. Extended simultaneous movements are possible
- Closing and opening profiles are 2-stage programmable (4-stage with Technology stage 2)
- Intermediate stop possible when closing and opening (standard with T2)
- Regulated hydraulic mould protection with monitoring of mould protection time. Follow-up functions: Open or stop after 1 or 2 activations of mould protection
- Extended mould protection (e.g. for spring loaded moulds). Freely-programmable start and end
- Automatic ramp control during switch-over to a lower speed and during stopping of a movement function
- Hydraulic ejector with quick release coupling is integrated into the clamping system
- Hydraulic ejector: Forces and speeds, multiple stroke (up to 10) and ejector advanced at program end are programmable
- Hydraulic ejector for simultaneous movements regulated with servo valve
- Mould monitoring via ejector platen safety switch
- Electro-mechanical servo drive for ejector system, position controlled for simultaneous drive movements

- Hydraulic core pulls with rapid connect coupling on the movable mould platen
- Hydraulic core pull movement profiles programmable and regulated
- Core holding pressure manually adjustable
- Hydraulic core pull, simultaneous movements regulated
- Hydraulic unscrewing units for threaded cores in one or two directions of rotation for mounting on fixed or movable clamping platen. Restricted ejector stroke
- Unscrewing unit with electro-mechanical servo drive for 2-direction threaded cores for installation on the movable clamping platen for ultra-precise positioning and reproducibility. Restricted ejector stroke
- Attachment option for robotic handling device
- Mechanical rapid clamping system with mould support to facilitate mould installation
- Enlarged guarding on opposite side to the operating side, open-top
- Power-operated safety gate, programmable opening time
- Mould blow unit with pressure relief valve
- Sorter unit (SELECTRON)
- Mechanical mould closing protection

Injection unit

- Central injection unit, can be re-positioned and swivelled as a complete assembly
- Horizontally displaceable injection unit (VARIO principle)
- Adapter for parting line injection
- Plasticising module with universal screw, central coupling and adaptive temperature regulation, available in different diameters
- Thermoplastic cylinder with universal screw in wear resistant execution
- Thermoplastic cylinder complete with very high wear resistant equipment

- Plasticising module for processing thermoset, elastomer and silicone materials
- Thermoplast screws for special applications, e.g. self-dyeing (mixing section), PVC (shear-sensitive), POM, PA (semi-crystalline)
- Programmable nozzle speeds (advance 2, retract 1 stage) and advance and retract delay
- Monitored nozzle contact
- Continuous nozzle contact during the complete cycle
- Programmable nozzle contact force
- Regulated nozzle contact force
- Regulated injection speed profile, 2 steps programmable with injection delay
- Hydraulic accumulator technology for very fast injection
- Position-regulated screw (forced movement of injection axis)
- Injection process control with external sensor
- Measurement, display and monitoring of the injection time, switchover volume and switchover pressure
- 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
- Programmable delay times for all movements
- Screw circumferential speed display
- Positively and negatively programmable back pressure
- Dosage time display with programmable dosage time monitoring
- Dosage possible before or after nozzle retraction
- Material decompression with programmable decompression speed
- Dosage with electro-mechanical servo drive, energy-saving
- Open nozzle with screw-in tip
- Needle type shut off nozzle, spring force actuated
- Needle type shut off nozzle, hydraulically actuated

- Zone-dependent monitoring of heating circuits for continuity, short circuit and defective sensors
- Temperature monitoring with release tolerance range and zone-dependent monitoring tolerance
- Automatic temperature sink can be selected on error or after automatic switch off
- 50-litre corrosion proof stainless steel material hopper, movable to shut off and discharge position
- Granulate feed zone temperature programmable and regulated with monitoring

Extended functions

- Extended monitoring of the mechanical sequence of mould and machine for complex applications
- Extended drive movements: Increase in number of movement stages, intermediate stop functions and extended locking force program
- 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

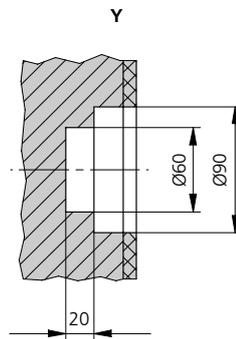
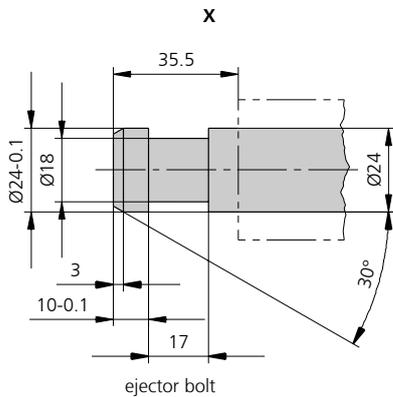
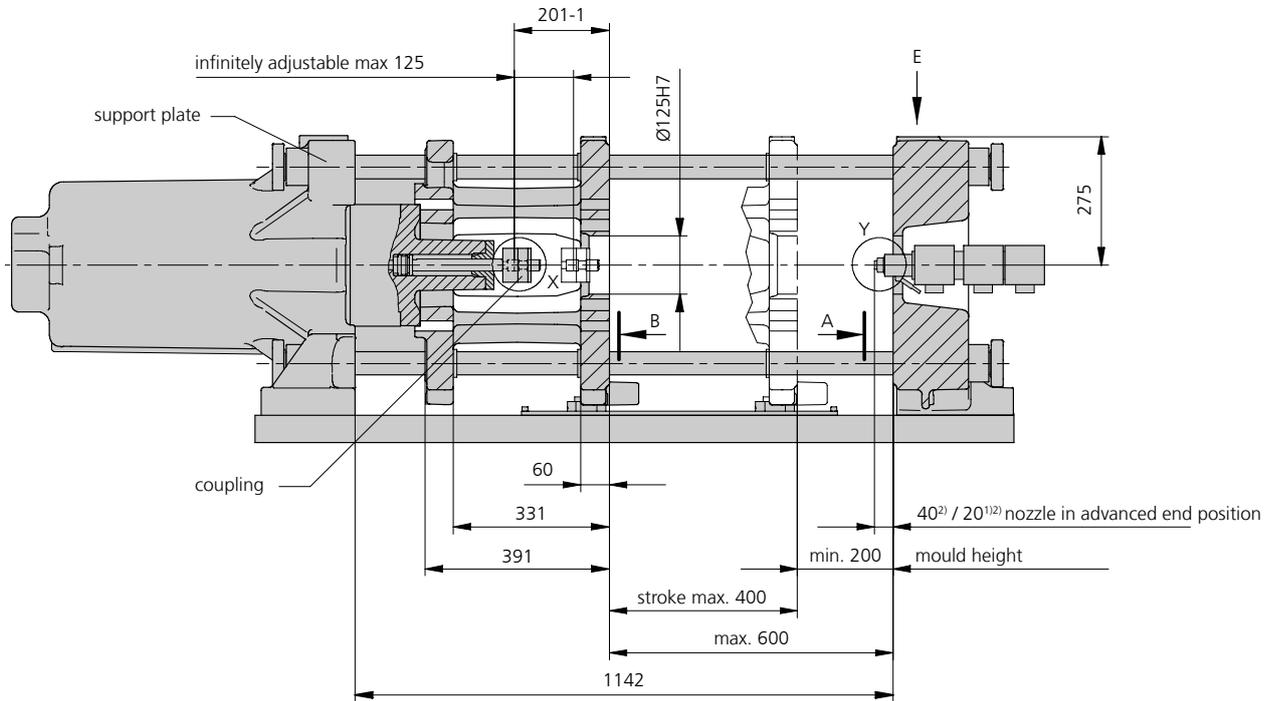
- Control cabinet temperature
- Hydraulic oil temperature
- Plasticising cylinder temperature (adaptive)
- Screw rotation speed
- Injection flow or injection speed
- Holding pressure
- Movements and force of mould, nozzle and ejector
- Ramp control sequence for mould, ejector and nozzle end position
- Back pressure
- Electrical mould heating circuits (adaptive)
- Mould cooling circuits
- Internal cavity pressure or screw chamber pressure (external sensor)
- Nozzle contact force

- Screw position
- Granulate feed zone temperature
- Ejection force for simultaneous movements

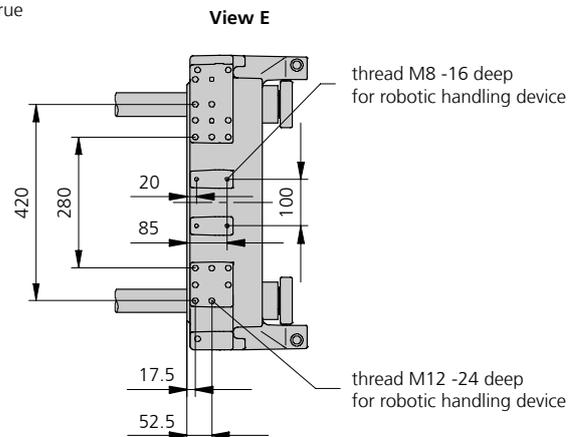
Robotic systems

- INTEGRALPICKER H: sprue picker operating horizontally from the rear of the machine under the protection cover; pneumatic drive
- INTEGRALPICKER V: vertical sprue picker operating from above, pneumatic drive
- MULTILIFT H: robotic system operating horizontally from the rear of the machine with servo-electric Z-axis (other axes driven pneumatically)
- MULTILIFT SELECT: pre-configured robotic system operating vertically from above with three servo-electrically driven axes
- MULTILIFT V: versatile robotic system operating vertically from above with three servo-electrically driven axes (longitudinal and transverse installation possible)
- Six-axis robotic system with SELOGICA user interface: Fully integrated, flexible part management

- Basic machine
- Options

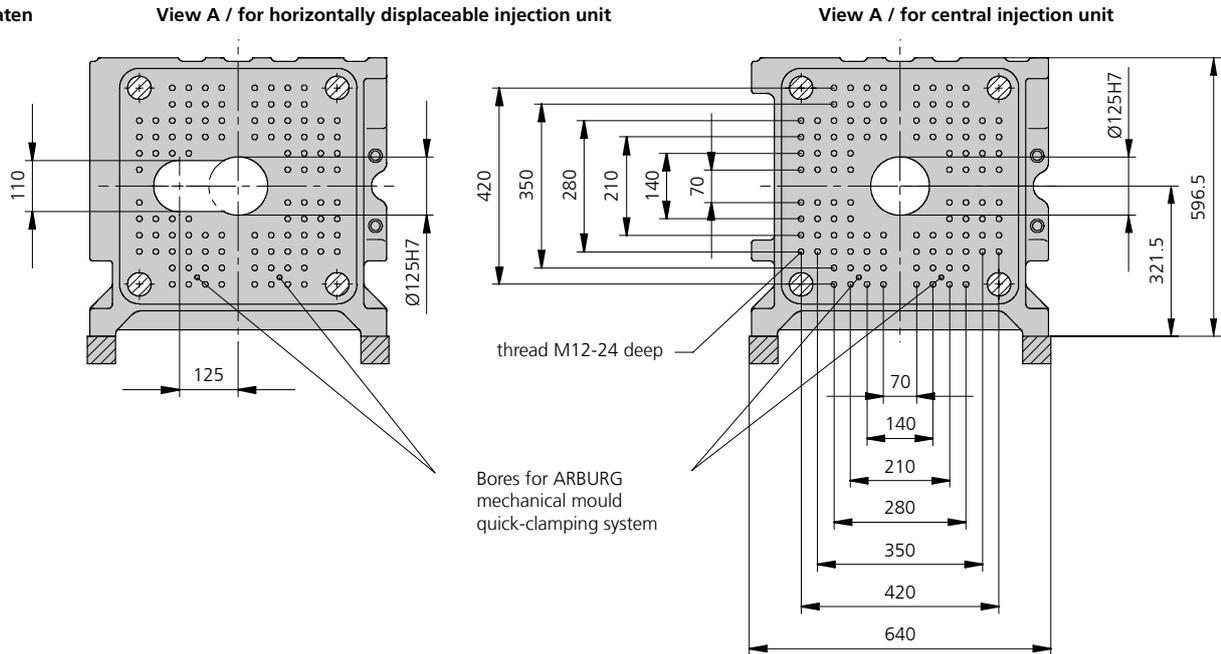


counter bore in the mould required only for short sprue

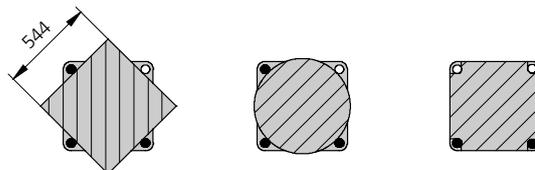
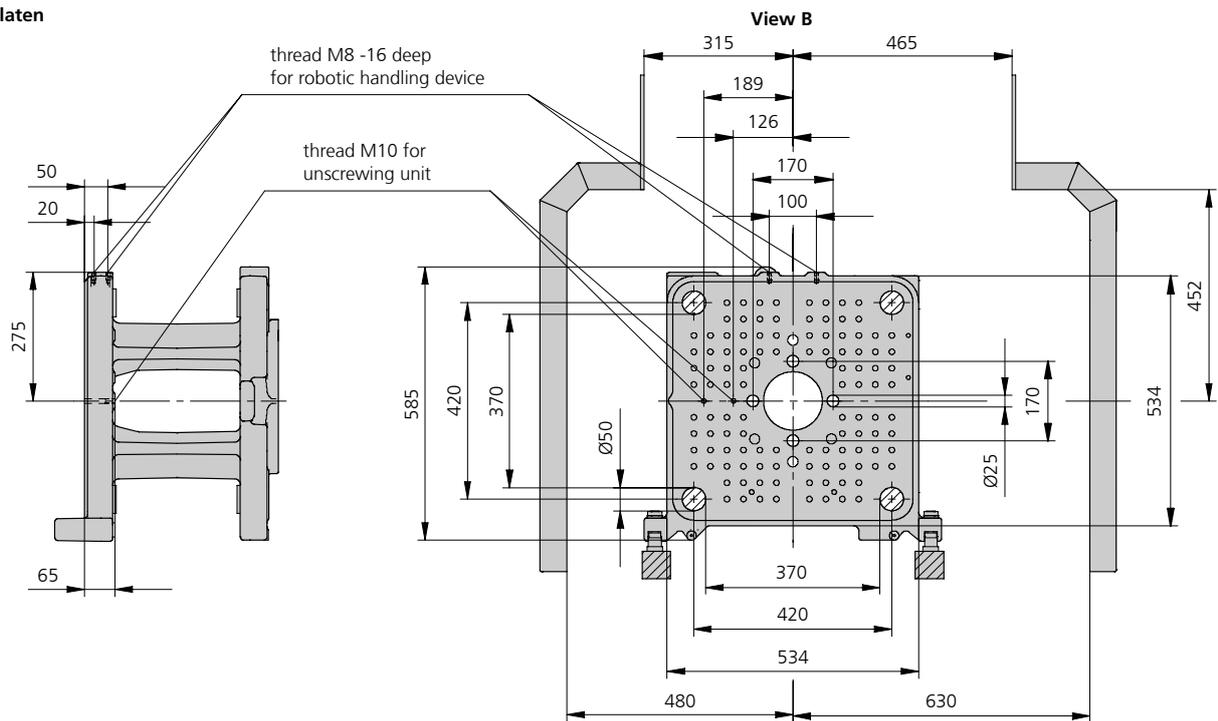


1) Dimensions are valid for thermoset moulds
 2) Dimensions for horizontally displaceable injection unit reduced by 20 mm
 For parting line device see separate dimension sheet (on request)

Fixed platen



Movable platen



Usable mounting surface with tie bars removed

Maximum theoretical shot weights for the most important injection moulding materials (in grams)										
Injection units according to EUROMAP		100			170			290		
Screw diameter	mm	20	25	30	25	30	35	30	35	40
Polystyrene	PS	29	45	65	54	77	105	97	132	172
Styrene heteropolymerizates	SB	28	44	63	53	76	103	95	129	168
	SAN, ABS ¹⁾	27	43	62	52	74	101	93	126	165
Cellulose acetate	CA ¹⁾	32	50	73	61	87	119	109	148	194
Celluloseacetobutyrate	CAB ¹⁾	30	47	68	56	81	110	101	138	180
Polymethyl methacrylate	PMMA	30	46	67	56	80	109	100	136	178
Polyphenylene ether, mod.	PPE	27	42	60	50	72	98	90	122	160
Polycarbonate	PC	30	47	68	57	81	111	102	139	181
Polysulphone	PSU	31	49	70	58	84	115	105	143	187
Polyamides	PA 6.6, PA 6 ¹⁾	28	44	64	53	77	104	96	131	171
	PA 6.10, PA 11 ¹⁾	26	41	60	50	72	98	90	122	160
Polyoximethylene (Polyacetal)	POM	35	55	80	66	96	130	120	163	213
Polyethylene terephthalate	PET	34	53	77	64	92	126	115	157	205
Polyethylene	PE-LD	22	34	49	41	59	80	73	100	130
	PE-HD	22	35	50	42	60	82	76	103	134
Polypropylene	PP	23	36	51	43	62	84	77	105	137
Fluoropolymerides	FEP, PFA, PCTFE ¹⁾	46	72	103	86	124	169	155	211	276
	ETFE	40	63	91	76	109	148	136	185	242
Polyvinyl chloride	PVC-U	35	54	78	65	94	127	117	159	208
	PVC-P ¹⁾	32	50	72	60	87	118	108	147	192

1) average value

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