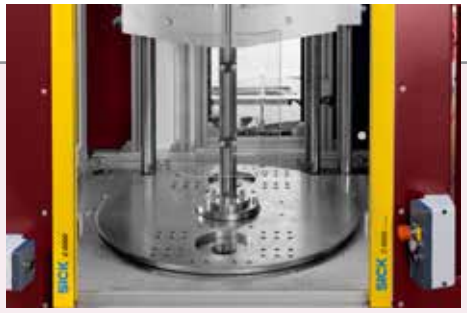
VM R 40 – 300 t
VM 60 – 200 t
CM 40 – 80 t
CM R 40 – 80 t
CM S 40 – 80 t

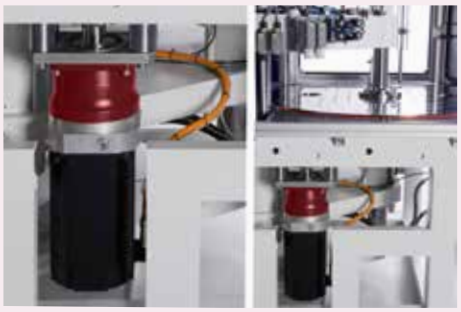
Flexible, automated production

world of innovation

VM AND CM SERIES
The basis for your success

The vertical machines of the VM and CM series are both available in a rotary table version, the CM series can also be supplied with a sliding table. The vertical-machine series with clamping force sizes from 40 to 300 t, equipped with the high-performance Unilog B8 control system and rotary tables ranging from 752 mm to 1755 mm in diameter, represents a benchmark in flexible parts production. It offers first-class precision and quality assurance and can be extended with automation concepts and a wide range of options. The rotary table machine is ideally suited for handling complex requirement profiles, special functions and processes, and for processing special materials as well.





VM and CM series
The system highlights

» **Light curtain**
Safety of the parts insertion and removal area is ensured by means of light curtains as standard. This gives the machine operator optimal access for parts removal and also ideal conditions for further automation concepts.

» **Media distributor oscillating operation**
The supply of media to the molds in 2-station rotary table machines is handled by an easily accessible media distributor offering a high degree of flexibility in the number of cooling and tempering circuits, hydraulic circuits for core pulls, the pneumatic system, mold heating and additional electrical signals.

» **Media distributor rotary operation**
Rotary manifolds distributing various media are available for 3- and 4-station rotary table machines. This type of media distributor offers numerous adjustment options for the hydraulic and pneumatic systems and air supply connections.

» **Servo-electric rotary plate**
The drive of the rotary plate is equipped with a speed-controlled servo motor, which enables extremely fast and precise rotary motion as well as an exact positioning.

» **Energy-saving hydraulic system**
The machine's flexible drive concept, based on the "Drive-on-Demand" system, allows short machine cycle times and parallel movements of ejector and core pulls as part of the VM R standard equipment package.

VM SERIES
Universal precision

Special features

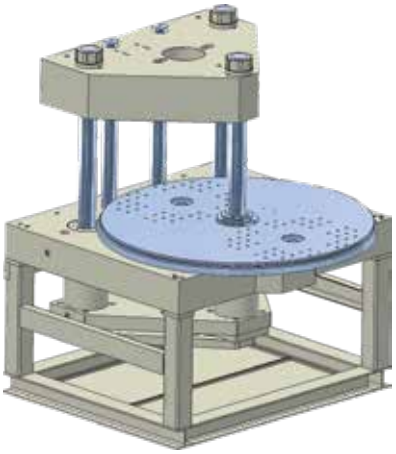
» **Convertible injection units**
Injection units with a uniform 22:1 L/D ratio, up to 3000 bar injection pressure and increased injection and plasticizing performance offer additional scope for the production of injection-molded parts. The injection unit can be arranged vertically (alternating or parallel in 2c operation) or horizontally. Optionally, a version with servo-electric injection unit is also available.

» **Clamping system**
4 symmetrically arranged clamping cylinders ensure fast, evenly distributed clamping force build-up as well as a compact design. A low working height with optimal access to the central ejector provides ergonomic working conditions in semiautomatic operation.

» **Hydraulic systems**
The machine's flexible drive concept, based on the "Drive-on-Demand" system, allows short machine cycle times.

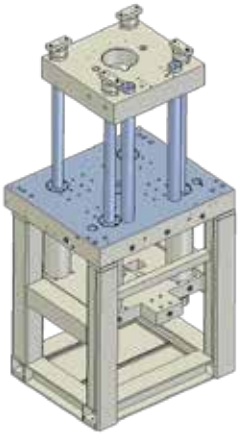
VM R

- Symmetrical 3-point force transmission with below positioned clamping cylinders ensure optimal force distribution in the mold.
- Exact platen parallelism across the entire stroke
- Fully hydraulic clamping concept
- High opening and closing speeds thanks to differential control system and interconnection of both pumps
- Short dry cycle times
- High repeatablility of all parameters
- Ergonomic working height for the operator
- Easy access to mold space and nozzle
- Sensitive mold safety system
- Extensive choice of rotary table diameters
- Fully controlled servo-rotary table drive with precise positioning
- Flexible configuration of rotary table stations
- Low-maintenance and service-friendly design of all components
- Rotary table running on sliding plates made of bronze with graphite inclusions



VM

- Symmetrical 4-point force transmission with below positioned clamping cylinders ensure optimal force distribution in the mold.
- Exact platen parallelism across the entire stroke
- Fully hydraulic clamping concept
- High opening and closing speeds thanks to differential control system and interconnection of both pumps
- Short dry cycle times
- High repeatablility of all parameters
- Ergonomic working height for the operator
- Easy access to mold space and nozzle
- Sensitive mold safety system



CM SERIES
For maximum mold space

Special features

» **Injection units**
Servo valve controlled, vertical injection units from the PowerSeries to process TPE and various conventional thermoplastic resins.

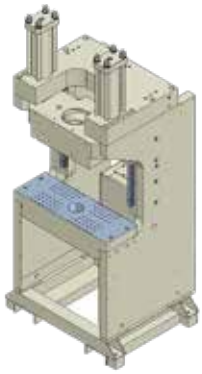
» **Machine concept**
Compact design with small footprint for space saving production.

» **C-frame**
Vertical clamping unit in C-frame design with two symmetrical clamping cylinders. Maximum mold space with optimal accessibility.

» **Ergonomic workstation**
Reduced working height of just 1000 mm for ergonomic working conditions in semi-automatic operation.

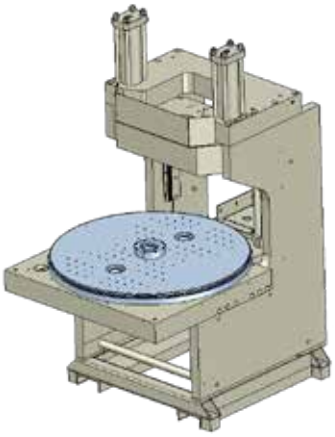
CM

- Vertical clamping unit without tie bars
- Symmetrical 2-point force transmission by means of clamping cylinders mounted above
- Exact platen parallelism across the entire stroke through support via linear guides
- Fully hydraulic clamping concept
- High opening and closing speeds thanks to differential control system and interconnection of both pumps
- Short dry cycle times
- High repeatablility of all parameters
- Ergonomic working height for the operator
- Easy access to mold space and nozzle
- Sensitive mold safety system



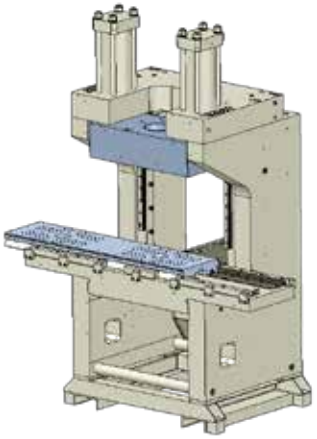
CM R

- Vertical clamping unit without tie bars
- Symmetrical 2-point force transmission by means of clamping cylinders mounted above
- Exact platen parallelism across the entire stroke through support via linear guides
- Fully hydraulic clamping concept
- High opening and closing speeds thanks to differential control system and interconnection of both pumps
- Short dry cycle times
- High repeatablility of all parameters
- Easy access to mold space and nozzle
- Fully controlled servo-rotary table drive with precise positioning
- Flexible configuration of rotary table stations
- Low-maintenance and service-friendly design of all components
- Rotary table running on sliding plates made of bronze with graphite inclusions



CM S

- Vertical clamping unit without tie bars
- Symmetrical 2-point force transmission by means of clamping cylinders mounted above
- Exact platen parallelism across the entire stroke through support via linear guides
- Fully hydraulic clamping concept
- High repeatablility of all parameters
- Fully controlled servo-sliding table drive with precise positioning
- Sliding table running on sliding plates made of bronze with graphite inclusions
- Pinion and rack hardened



INJECTION UNIT
Versatile precision

» **Convertible injection units**
Injection units with a uniform 22:1 L/D ratio, up to 3000 bar injection pressure and increased injection and plasticizing performance offer additional scope for the production of injection-molded parts. The injection unit can be arranged vertically (alternating or parallel in 2c operation) or horizontally. Optionally, a version with servo-electric injection unit is also available.

» **A concept for improved parts quality**
- Optimized melt homogenity thanks to a uniform L/D ratio
- Linear guide systems ensure precise axial movements of the injection unit.
- Carriage cylinders positioned opposite each other provide momentum-free nozzle carriage.

» **Ultimate precision and repeatability**
- Compact design with integrated hydraulic block and easy access to all components
- Direct screw drive via low-speed hydraulic motor with optimal adaptation to individual plasticizing demands
- Ultimate repeatability thanks to a controlled servo-valve

» **Injection units for more flexibility**
- Injection unit also available in electric design
- Short footprint with two pulling cylinders
- Universal compatibility of barrels with different injection units
- High injection rates

Anti-wear options
In addition to the premium-quality standard equipment, an extensive range of options is available to provide extra anti-wear and/or anti-corrosion protection. Predefined option packages and a selection matrix facilitate the selection of the right plasticizing unit.

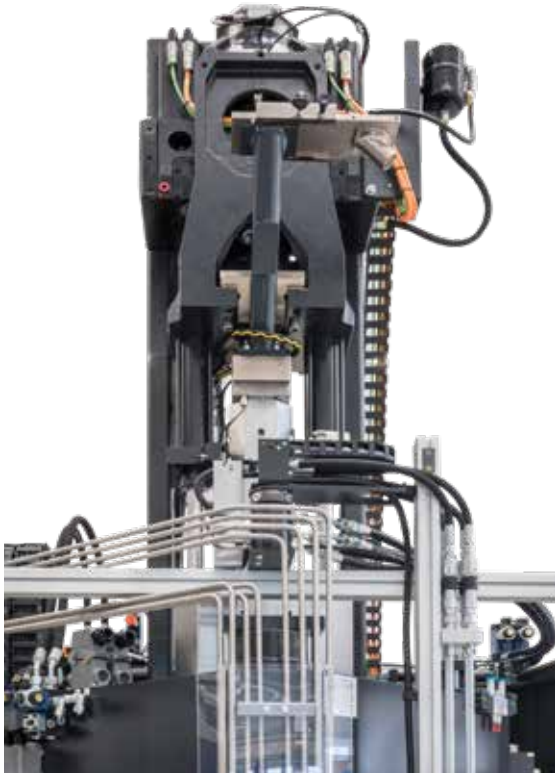
SERVO-DRIVE TECHNOLOGY
High energy efficiency

Servo-electric injection unit
Option

» **Everything to ensure series consistency**
- Plasticizing parallel to clamping unit movements and start of the injection process during clamping force build-up are possible as standard.
- Injection units with a higher injection performance can be supplied as an option.
- Moment-free nozzle contact thanks to axial configuration of traveling cylinders
- Plasticizing units can be mounted to different injection aggregates with identical screw diameters.

» **Optimal operational excellence**
- The complete range of all-electric injection units is designed for quick barrel exchange from above.
- Easy access for changeover work thanks to compact design and sliding guard

» **More productivity and efficiency**
- High-resolution absolute value encoder for precise control
- Low-noise injection spindle with modern ball screw drive and low grease consumption



Servo-hydraulic drive
Fast responding, precise, thrifty

The „Drive-on-Demand" system is available to reduce energy consumption. The servo-hydraulic drive is an innovative combination of a fast-responding, speed-controlled, air-cooled servo motor with a fixed displacement pump. This drive unit is only activated when required by movements and pressure build-up. During cooling times or cycle pauses for parts handling, the servo drive remains switched off and thus consumes no energy. In operation, "Drive-on-Demand" is the basis for highly dynamic, controlled machine movements and short cycle times.

The „Drive-on-Demand" system is standard in the CM series (option in VM series).

UNILOG B8
Complex matters simplified

The Unilog B8 machine control system is the WITTMANN BATTENFELD solution to facilitate the operation of complex processes for human operators. For this purpose, the integrated industrial PC has been equipped with an enlarged intuitive touch screen operator terminal. The visualization screen is the interface to the new Windows® 10 IoT operating system, which offers extensive process control functions. Next to the pivotable monitor screen, a connected panel/handset is mounted on the machine's central console.

Unilog B8
Highlights

» **Operating logic**
with a high degree of self-explanation, similar to modern communication devices

» **2 major operating principles**
- Operating/movement functions via tactile keys
- Process functions on touch screen (access via RFID, key card or key ring)

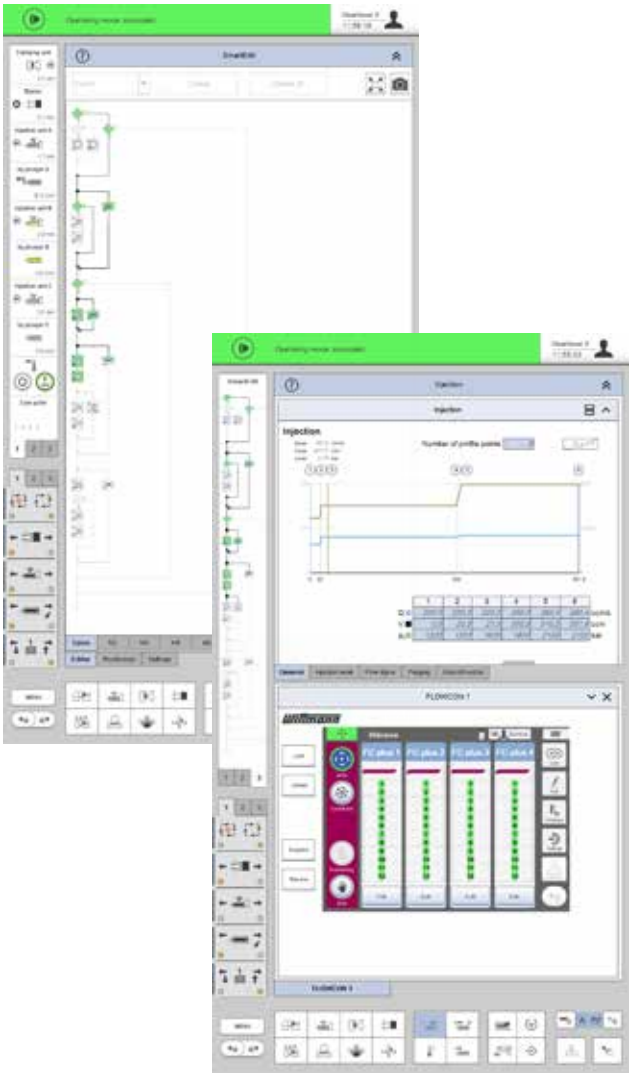
» **Process visualization**
via 21.5" touch screen display (full HD), pivoting laterally

» **New screen functions**
- Uniform layout for all WITTMANN appliances
- Recognition of gestures (wiping and zooming by finger movements)
- Container function – split screen for sub-functions and programs

» **Status visualization**
uniform signaling system across the entire WITTMANN Group
- Headline on the screen with colored status bars and pop-up menus
- AmbiLED display on machine

» **Operator assistance**
- QuickSetup: process parameter setting assistant using an integrated material database and a simple query system to retrieve molded part data with machine settings pre-selection
- Extensive help library integrated

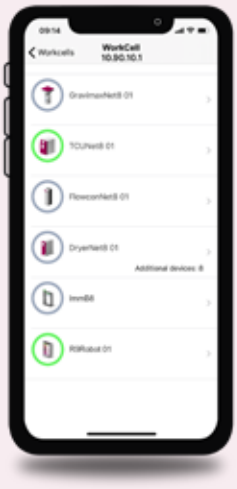
The process in constant view



» **SmartEdit**
SmartEdit is a visual, icon-based cycle sequence programming facility, which enables direct addition of special functions (core pulls, air valves, etc.) based on a standard process via touch operation on the screen. In this way, a total user-defined sequence can be compiled from a sequence menu. This machine cycle, visualized either horizontally or vertically, can be adjusted simply and flexibly to the process requirements by finger touch with "drag & drop" movements.

The advantages
- Icon visualization ensures clarity.
- Clear events sequence through node diagram
- Alterations without consequences through "dry test runs"
- Theoretical process sequence can be quickly implemented in practice.
- Automatic calculation of the automation sequence based on the actual set-up data set without machine movements

» **SmartScreen**
- Partitioning of screen displays to visualize and operate two different functions simultaneously (e.g. machines and auxiliaries)
- Uniform design of the screen pages within the WITTMANN Group
- Max. 3 containers can be addressed simultaneously for the SmartScreen function.
- Adjustments of set values can be effected directly in the set value profile.



Remote communication

» **QuickLook 4.0**
Production status check via smartphone – simple and comfortable:
- Production data and statuses of all essential appliances in a production cell
- Complete overview of the most important production parameters
- Access to production data, error signals and user-defined data
- The production cell overview offers a clear, simple overview of the production cell's general condition and that of its individual Wittmann 4.0 appliances.

» **Global online service network**
- Web-Service 24/7: direct Internet connection to WITTMANN BATTENFELD service
- Web-Training: efficient staff training by means of the virtual training center

WITTMANN 4.0
Communication in and with production cells

With its communication standard Wittmann 4.0, the WITTMANN Group offers a uniform data transfer platform between injection molding machines and auxiliary equipment from WITTMANN. In case of an appliance change, the corresponding visualizations and settings are loaded automatically via an update function, following the principle of "Plug & Produce".

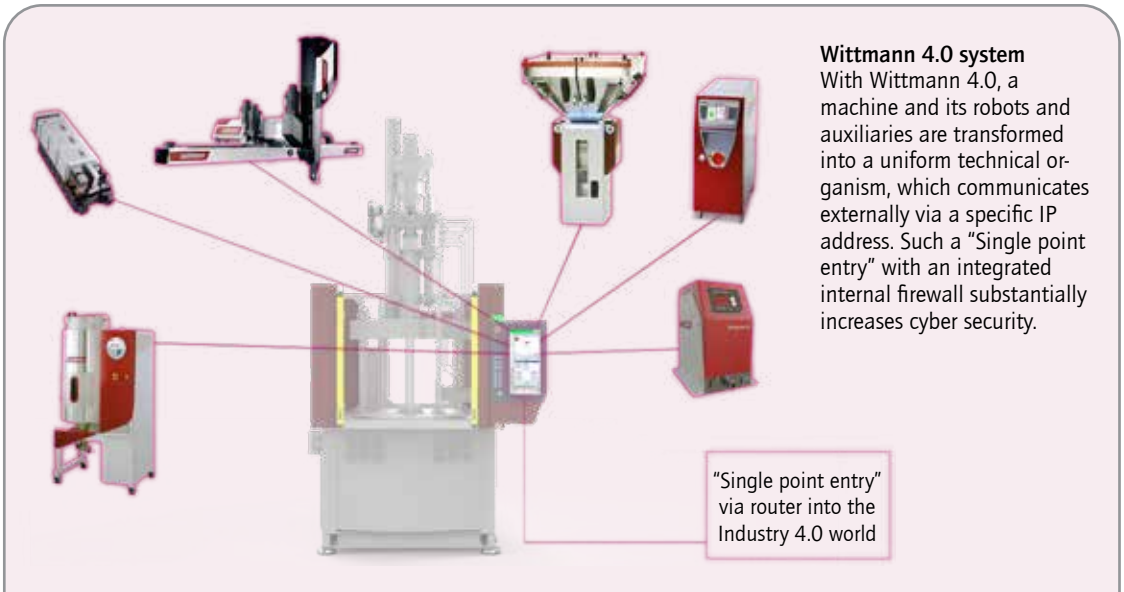
Connection of auxiliaries via Wittmann 4.0

» **WITTMANN Flowcon plus water flow regulator, Gravimax blenders and Aton dryers**
- Units directly addressed and controlled via the machine's control system
- Joint saving of data in the production cell, the machine and in the network via MES

» **WITTMANN robots with R9 control system**
- Operation of robots via the machine's monitor screen
- High-speed communication between machine and robot to synchronize movements
- Important machine movements can be set via the R9 robot control system

» **WITTMANN Tempro plus D temperature controllers**
- Setting and control of temperatures via the machine's control system possible
- All functions can be operated either on the unit or via the machine's control system

Integration in MES system
The integration of machines and complete production cells in an MES system is a prerequisite for an efficient and transparent production facility according to the Industry 4.0 concept.
Depending on customers' requirements, small and medium-sized companies as well as global players are offered a compact MES solution based on TEMI+. Due to the Windows® 10 IoT operating system, it is also possible to have selected status information from all connected machines on the production floor shown under SmartMonitoring on the display screen of every machine.



Wittmann 4.0 system
With Wittmann 4.0, a machine and its robots and auxiliaries are transformed into a uniform technical organism, which communicates externally via a specific IP address. Such a "Single point entry" with an integrated internal firewall substantially increases cyber security.

TECHNICAL DATA
VM R, VM

COMBINATIONS VM R									
Clamping unit	Rotary table	Injection unit							
t	mm	60	130	210	350	525	750	1000	1330
VM R 40	752	•	•						
VM R 60	1040	•	•	•	•				
VM R 75	1040		•	•	•	•			
VM R 110	1280		•	•	•	•			
VM R 150	1280				•	•	•	•	
VM R 150	1520				•	•	•	•	
VM R 200	1520					•	•	•	
VM R 200	1755					•	•	•	
VM R 270	1755					•	•	•	•
VM R 300	1755					•	•	•	•

COMBINATIONS VM							
Clamping unit	Injection unit						
t	60	130	210	350	525	750	1000
VM 60	•	•	•	•			
VM 80		•	•	•	•		
VM 100		•	•	•	•		
VM 150				•	•	•	•
VM 200					•	•	•

Material	Factor
ABS	0.88
CA	1.02
CAB	0.97
PA	0.91
PC	0.97
PE	0.71
PMMA	0.94
POM	1.15
PP	0.73

The maximum shotweights (g) are calculated by multiplying the theoretical shot volume (cm^3) by the above factor.

Material	Factor
PP + 20 % Talc	0.85
PP + 40 % Talc	0.98
PP + 20 % GF	0.85
PS	0.91
PVC hard	1.12
PVC soft	1.02
SAN	0.88
SB	0.88
PF	1.3
UP	1.6

Dark grey boxes = thermosets

DATA VM R 40

Clamping unit		**VM R 40**
Clamping force	kN	400
Rotary table diameter	mm	752
Working height	mm	995
Min. mold height	mm	250
Opening stroke/opening force	mm/kN	250/77
Max. daylight	mm	500
Ejector stroke/ejector force	mm/kN	150/27.5
Cooling circuits/temperature/ nominal size – connecting thread	n/°C/mm	2/120/9 – G3/8"
Angle/time of rotation (servoel.)	°/s	180/1.2
Dry cycle time[1)]	s – mm	2.8 – 150

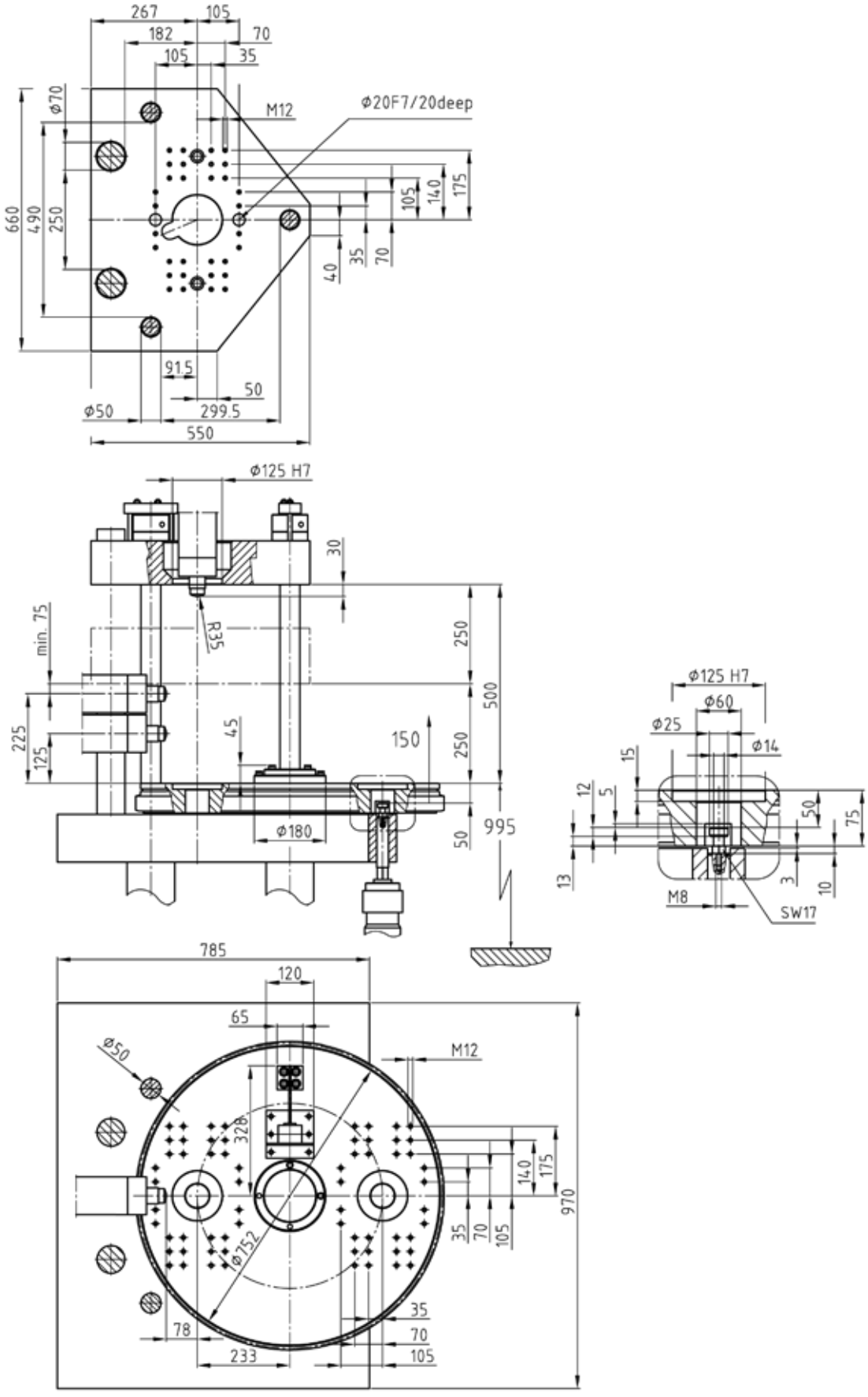
Injection unit		**60 H/V**			**130 H/V**			
Screw diameter	mm	14	18	22	18	22	25	30
Screw stroke	mm	90			110	110	125	125
Screw L/D ratio		20			20	20	22	22
Theoretical shot volume	cm^3	10.8	22.9	34.2	22.9	41.8	61.4	88.4
Specific injection pressure	bar	3000	2593	1736	3000	2864	2218	1540
Max. screw speed	min^{-1}	623			398			
Max. plasticizing rate (PS)[2)]	g/s	1.9	6.2	9	4	5.8	10.5	15.4
Screw torque	Nm	65	120	231	120	238	340	357
Nozzle stroke/contact force	mm/kN	350/47			350/47			
Injection rate into air	cm^3/s	41	68	101	41	61	79	114
Injection rate into air with double pump (option)	cm^3/s	65	108	161	65	98	126	182
Barrel heating power	kW	2.9	5.5	6.3	5.5	6.3	9	10.4
Number of heating zones		4			4			
Energy efficiency class[3)]		4+	5+	4+	5+	4+	4+	5+

Drive			
Drive power	kW	11	11
Oil tank volume	l	180	180
Elect. power supply without options	kVA	20	24
Emission sound pressure level[4)] Standard/with servo	dB(A)	72/70	72/70

Weights, dimensions			
Net weight (exclusive oil)	kg	4300	4400
H – Lenght x width x height[5)]	kg	3.2 x 1.5 x 2.0	3.2 x 1.5 x 2.0
V – Lenght x width x height[5)]	m	3.2 x 1.5 x 3.2	3.2 x 1.5 x 3.5
Max. mold weight[6)]	kg	400	400
Min. mold diameter	mm x mm	200	200

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 752 mm



DATA VM R 60

Clamping unit		**VM R 60**
Clamping force	kN	600
Rotary table diameter	mm	1040
Working height	mm	995
Min. mold height	mm	250
Opening stroke/opening force	mm/kN	250/132
Max. daylight	mm	500
Ejector stroke/ejector force	mm/kN	150/27.5
Cooling circuits/temperature/ nominal size – connecting thread	n/°C/mm	2/120/9 – G3/8"
Angle/time of rotation (servoel.)	°/s	180/1.3
Dry cycle time[1)]	s – mm	3.1 – 150

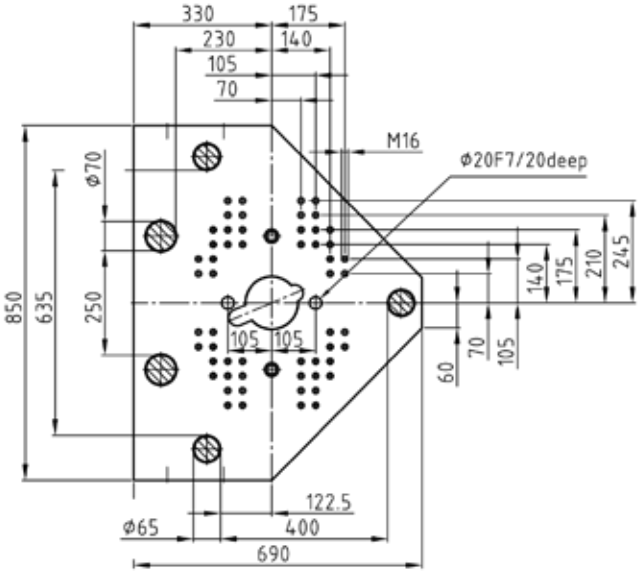
Injection unit		**60 H/V**			**130 H/V**				**210 H/V**			**350 H/V**		
Screw diameter	mm	14	18	22	18	22	25	30	25	30	35	30	35	40
Screw stroke	mm	90			110	110	125	125	150			175		
Screw L/D ratio		20			20	20	22	22	22			22		
Theoretical shot volume	cm^3	10.8	22.9	34.2	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220
Specific injection pressure	bar	3000	2593	1736	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595
Max. screw speed	min^{-1}	623			477				372			298		
Max. plasticizing rate (PS)[2)]	g/s	1.9	6.2	9	4.8	6.9	12.6	18.5	9.9	14.4	22.3	11.6	17.9	28.5
Screw torque	Nm	65	120	231	120	238	340	357	340	490	490	600	621	621
Nozzle stroke/contact force	mm/kN	350/47			350/47				300/86			300/86		
Injection rate into air	cm^3/s	49	81	121	49	73	95	136	71	103	140	74	101	132
Injection rate into air with double pump (option)	cm^3/s	65	108	161	78	116	150	216	113	163	222	117	160	209
Barrel heating power	kW	2.9	5.5	6.3	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9
Number of heating zones		4			4				4			4		
Energy efficiency class[3)]		3+	3+	3+	3+	3+	3+	5+	3+	4+	6+	4+	6+	7+

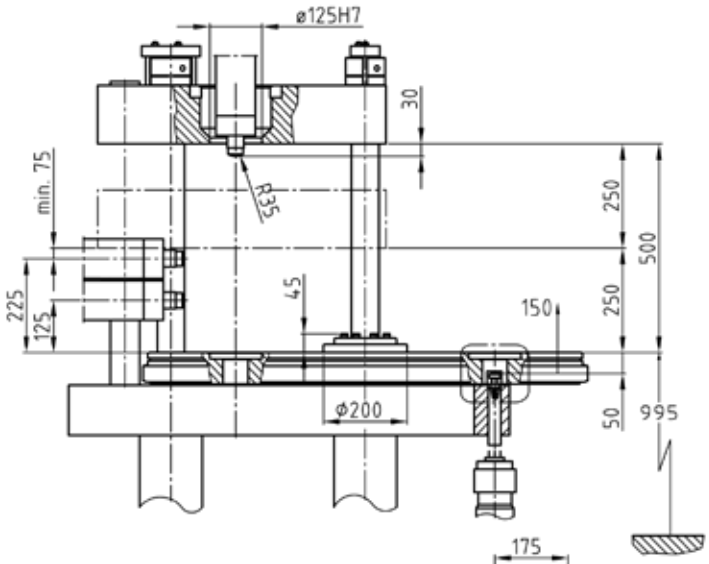
Drive					
Drive power	kW	15	15	15	15
Oil tank volume	l	180	180	180	180
Elect. power supply without options	kVA	28	30	32	34
Emission sound pressure level[4)] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

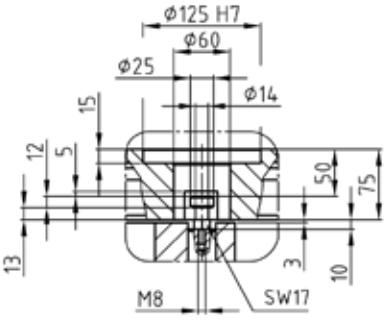
Weights, dimensions					
Net weight (exclusive oil)	kg	5900	6000	6100	6200
H – Lenght x width x height[5)]	kg	3.4 x 1.6 x 2.0	3.4 x 1.6 x 2.0	3.4 x 1.6 x 2.0	3.4 x 1.6 x 2.0
V – Lenght x width x height[5)]	m	3.4 x 1.6 x 3.2	3.4 x 1.6 x 3.5	3.4 x 1.6 x 3.5	3.4 x 1.6 x 3.7
Max. mold weight[6)]	kg	800	800	800	800
Min. mold diameter	mm x mm	250	250	250	250

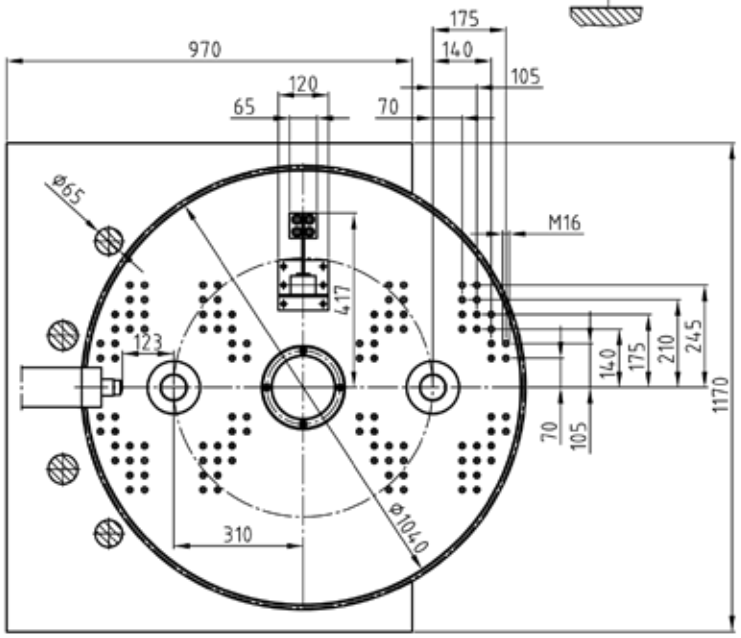
1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 1040 mm









DATA VM R 75

Clamping unit		**VM R 75**
Clamping force	kN	750
Rotary table diameter	mm	1040
Working height	mm	995
Min. mold height	mm	250
Opening stroke/opening force	mm/kN	250/132
Max. daylight	mm	500
Ejector stroke/ejector force	mm/kN	150/27.5
Cooling circuits/temperature/ nominal size – connecting thread	n/°C/mm	2/120/9 – G3/8"
Angle/time of rotation (servoel.)	°/s	180/1.3
Dry cycle time[1)]	s – mm	3.1 – 150

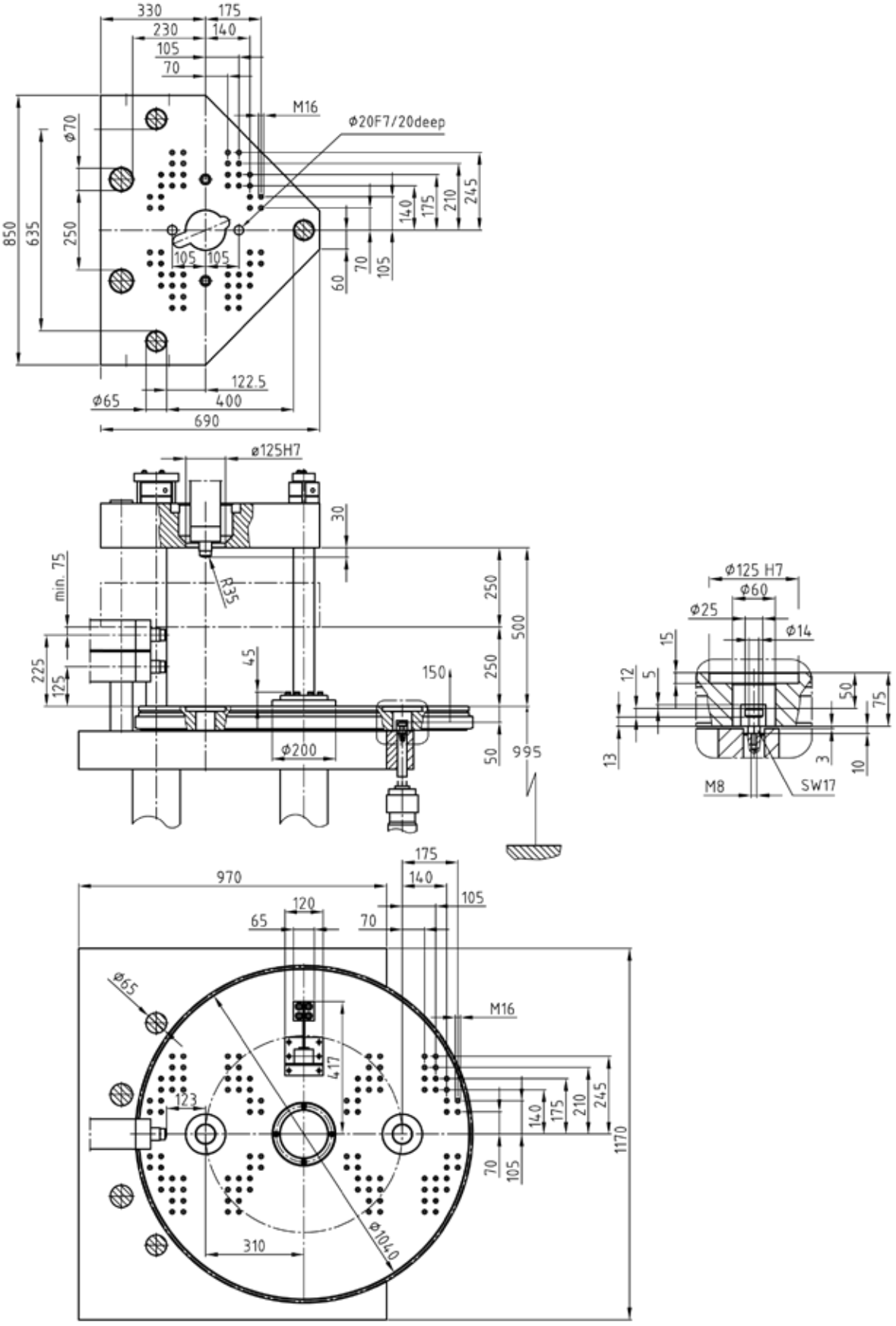
Injection unit		**130 H/V**				**210 H/V**			**350 H/V**			**525 H/V**		
Screw diameter	mm	18	22	25	30	25	30	35	30	35	40	35	40	45
Screw stroke	mm	110	110	125	125	150			175			200		
Screw L/D ratio		20	20	22	22	22			22			22		
Theoretical shot volume	cm^3	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220	168	251	318
Specific injection pressure	bar	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595	2500	2100	1659
Max. screw speed	min^{-1}	477				372			298			318		
Max. plasticizing rate (PS)[2)]	g/s	4.8	6.9	12.6	18.5	9.9	14.4	22.3	11.6	17.9	28.5	19.1	30.4	39.7
Screw torque	Nm	120	238	340	357	340	490	490	600	621	621	770		
Nozzle stroke/contact force	mm/kN	350/47				300/86			300/86			350/86		
Injection rate into air	cm^3/s	49	73	95	136	71	103	140	74	101	132	102	133	169
Injection rate into air with double pump (option)	cm^3/s	78	116	150	216	113	163	222	117	160	209	153	200	253
Barrel heating power	kW	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9	11.5	14	17.3
Number of heating zones		4				4			4			4		
Energy efficiency class[3)]		3+	3+	3+	5+	3+	4+	6+	4+	6+	7+	5+	6+	7+

Drive					
Drive power	kW	15	15	15	18.5
Oil tank volume	l	180	180	180	270
Elect. power supply without options	kVA	30	32	34	38
Emission sound pressure level[4)] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

Weights, dimensions					
Net weight (exclusive oil)	kg	6000	6100	6200	6300
H – Lenght x width x height[5)]	kg	3.4 x 1.6 x 2.0	3.4 x 1.6 x 2.0	3.4 x 1.6 x 2.0	3.5 x 1.6 x 2.0
V – Lenght x width x height[5)]	m	3.4 x 1.6 x 3.5	3.4 x 1.6 x 3.5	3.4 x 1.6 x 3.7	3.4 x 1.6 x 3.9
Max. mold weight[6)]	kg	800	800	800	800
Min. mold diameter	mm x mm	250	250	250	250

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 1040 mm



DATA VM R 110

Clamping unit		**VM R 110**
Clamping force	kN	1100
Rotary table diameter	mm	1280
Working height	mm	1035
Min. mold height	mm	250
Opening stroke/opening force	mm/kN	250/202
Max. daylight	mm	500
Ejector stroke/ejector force	mm/kN	150/27.5
Cooling circuits/temperature/ nominal size – connecting thread	n/°C/mm	2/120/9 – G3/8"
Angle/time of rotation (servoel.)	°/s	180/1.5
Dry cycle time[1)]	s – mm	3.4 – 150

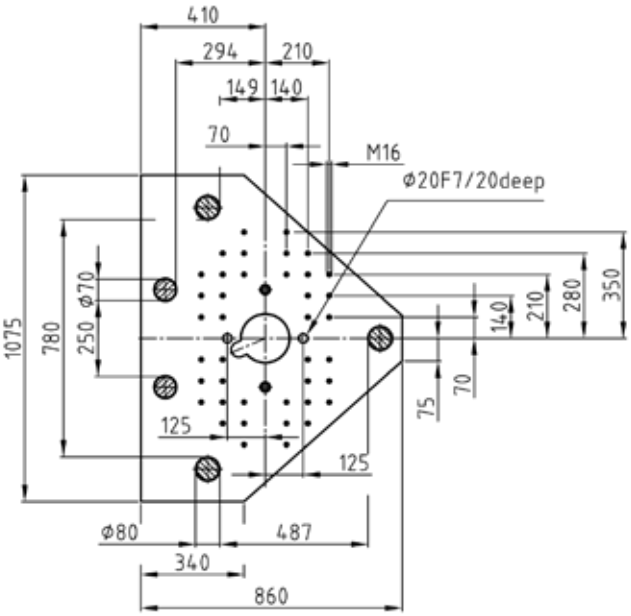
Injection unit		**130 H/V**				**210 H/V**			**350 H/V**			**525 H/V**		
Screw diameter	mm	18	22	25	30	25	30	35	30	35	40	35	40	45
Screw stroke	mm	110	110	125	125	150			175			200		
Screw L/D ratio		20	20	22	22	22			22			22		
Theoretical shot volume	cm^3	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220	168	251	318
Specific injection pressure	bar	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595	2500	2100	1659
Max. screw speed	min^{-1}	477				496			397			318		
Max. plasticizing rate (PS)[2)]	g/s	4.8	6.9	12.6	18.5	13.1	19.2	29.7	15.4	23.8	38	19.1	30.4	39.7
Screw torque	Nm	120	238	340	357	340	490	490	600	621	621	770		
Nozzle stroke/contact force	mm/kN	350/47				300/86			300/86			350/86		
Injection rate into air	cm^3/s	65	98	126	182	95	137	187	99	134	176	102	133	169
Injection rate into air with double pump (option)	cm^3/s	78	116	150	216	143	205	280	148	202	263	153	200	253
Barrel heating power	kW	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9	11.5	14	17.3
Number of heating zones		4				4			4			4		
Energy efficiency class[3)]		2+	2+	2+	4+	2+	4+	5+	3+	5+	6+	5+	6+	7+

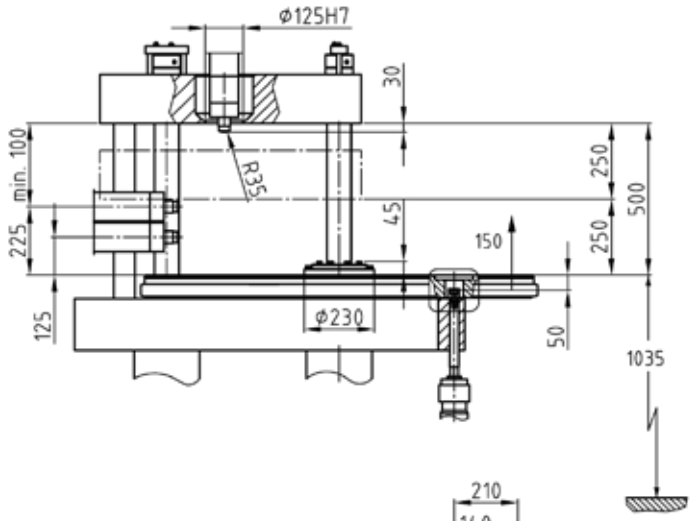
Drive					
Drive power	kW	18.5	18.5	18.5	18.5
Oil tank volume	l	270	270	270	270
Elect. power supply without options	kVA	33	35	37	38
Emission sound pressure level[4)] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

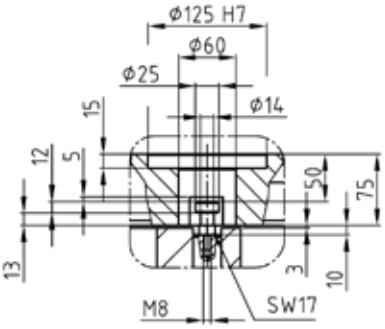
Weights, dimensions					
Net weight (exclusive oil)	kg	8100	8200	8300	8400
H – Lenght x width x height[5)]	kg	3.9 x 1.7 x 2.1	3.9 x 1.7 x 2.1	3.9 x 1.7 x 2.1	3.9 x 1.7 x 2.1
V – Lenght x width x height[5)]	m	3.9 x 1.7 x 3.5	3.9 x 1.7 x 3.5	3.9 x 1.7 x 3.8	3.9 x 1.7 x 4.0
Max. mold weight[6)]	kg	1500	1500	1500	1500
Min. mold diameter	mm x mm	300	300	300	300

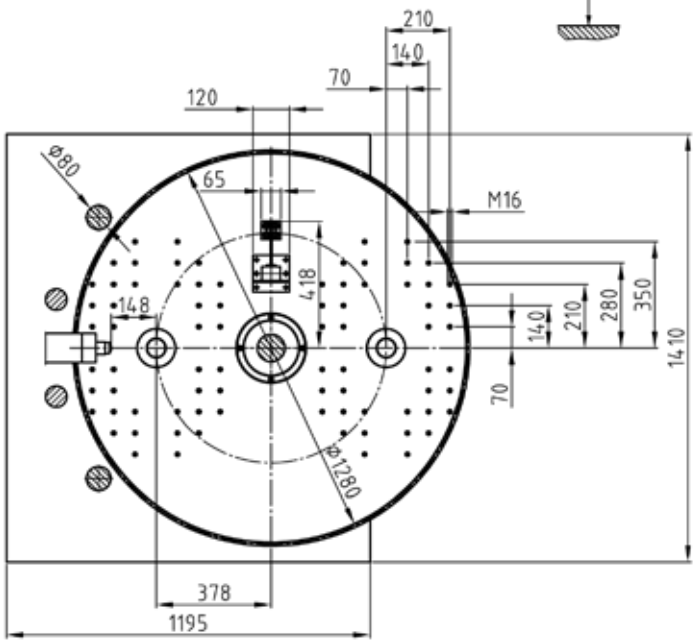
1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 1280 mm









DATA VM R 150

Clamping unit		**VM R 150**
Clamping force	kN	1500
Rotary table diameter	mm	1280
Working height	mm	1065
Min. mold height	mm	300
Opening stroke/opening force	mm/kN	300/277
Max. daylight	mm	600
Ejector stroke/ejector force	mm/kN	150/27.5
Cooling circuits/temperature/ nominal size – connecting thread	n/°C/mm	2/120/9 – G3/8"
Angle/time of rotation (servoel.)	°/s	180/1.5
Dry cycle time[1)]	s – mm	3.6 – 150

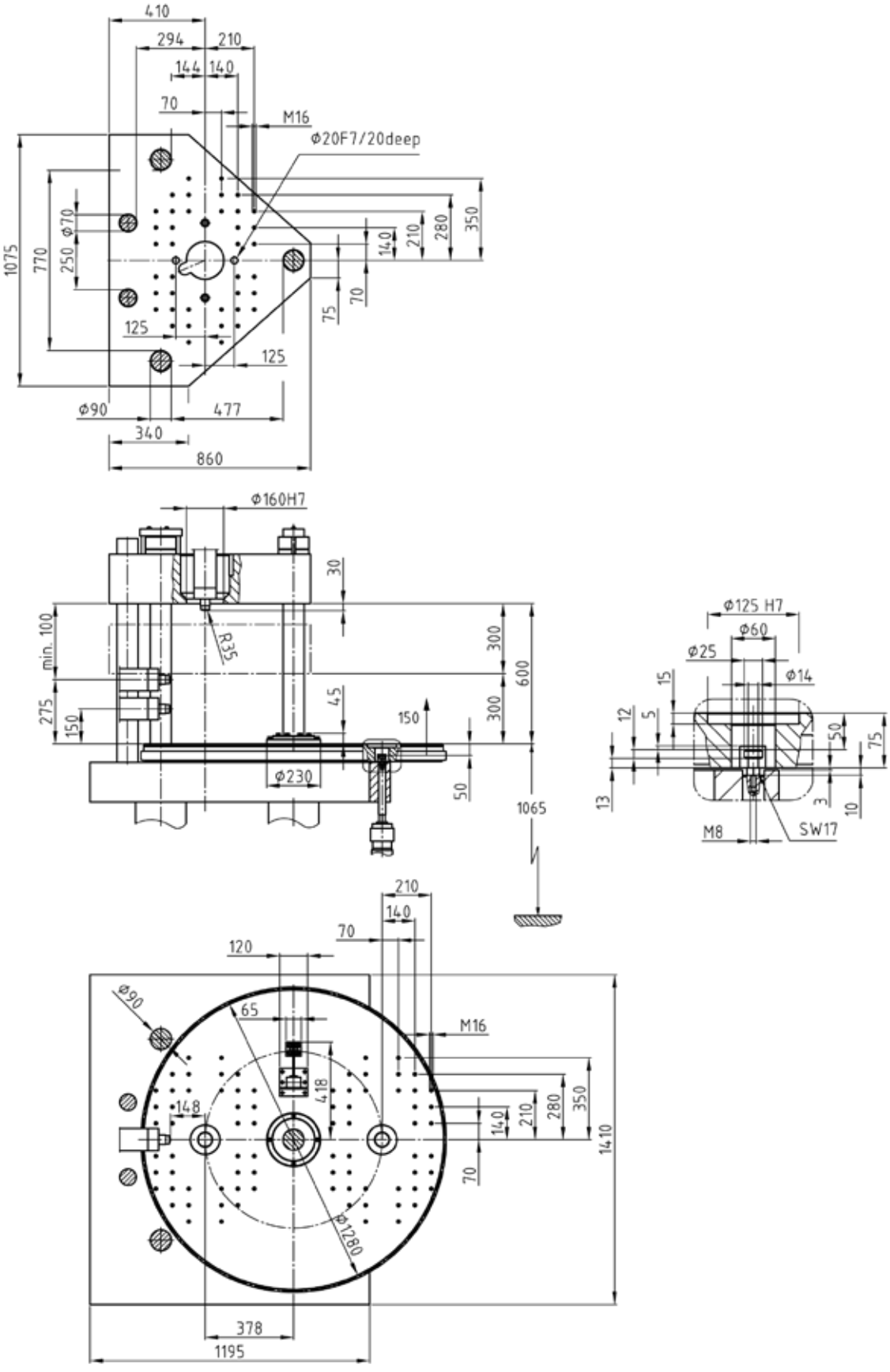
Injection unit		**350 H/V**			**525 H/V**			**750 H/V**			**1000 H/V**		
Screw diameter	mm	30	35	40	35	40	45	40	45	50	45	50	55
Screw stroke	mm	175			200			225			250		
Screw L/D ratio		22			22			22			22		
Theoretical shot volume	cm^3	106	169	220	168	251	318	251	358	442	358	491	594
Specific injection pressure	bar	2835	2083	1595	2500	2100	1659	2500	2116	1714	2490	2016	1666
Max. screw speed	min^{-1}	472			378			291			260		
Max. plasticizing rate (PS)[2)]	g/s	18.3	28.3	45.2	22.7	36.2	47.1	27.9	36.3	43.9	32.4	39.2	48.5
Screw torque	Nm	600	621	621	770			998			1540		
Nozzle stroke/contact force	mm/kN	300/86			350/86			350/86			500/100		
Injection rate into air	cm^3/s	117	160	209	121	158	200	124	157	194	183	226	273
Injection rate into air with double pump (option)	cm^3/s	167	227	296	172	225	285	176	223	276	239	296	357
Barrel heating power	kW	10.4	10.4	12.9	11.5	14	17.3	14	17.3	21.9	17.3	21.9	24.2
Number of heating zones		4			4			4	4	5	4	5	5
Energy efficiency class[3)]		2+	4+	5+	4+	5+	6+	5+	6+	7+	5+	6+	7+

Drive					
Drive power	kW	22	22	22	30
Oil tank volume	l	270	270	270	270
Elect. power supply without options	kVA	41	43	46	57
Emission sound pressure level[4)] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

Weights, dimensions					
Net weight (exclusive oil)	kg	9000	9100	9200	9500
H – Lenght x width x height[5)]	kg	3.9 x 1.8 x 2.1	3.9 x 1.8 x 2.1	3.9 x 1.8 x 2.1	4.0 x 1.8 x 2.1
V – Lenght x width x height[5)]	m	3.9 x 1.8 x 3.9	3.9 x 1.8 x 4.1	3.9 x 1.8 x 4.3	4.2 x 1.8 x 4.7
Max. mold weight[6)]	kg	1500	1500	1500	1500
Min. mold diameter	mm x mm	300	300	300	300

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 1280 mm



DATA VM R 150

Clamping unit		**VM R 150**
Clamping force	kN	1500
Rotary table diameter	mm	1520
Working height	mm	1065
Min. mold height	mm	300
Opening stroke/opening force	mm/kN	300/277
Max. daylight	mm	600
Ejector stroke/ejector force	mm/kN	150/27.5
Cooling circuits/temperature/ nominal size – connecting thread	n/°C/mm	2/120/9 – G3/8"
Angle/time of rotation (servoel.)	°/s	180/2
Dry cycle time[1)]	s – mm	3.6 – 150

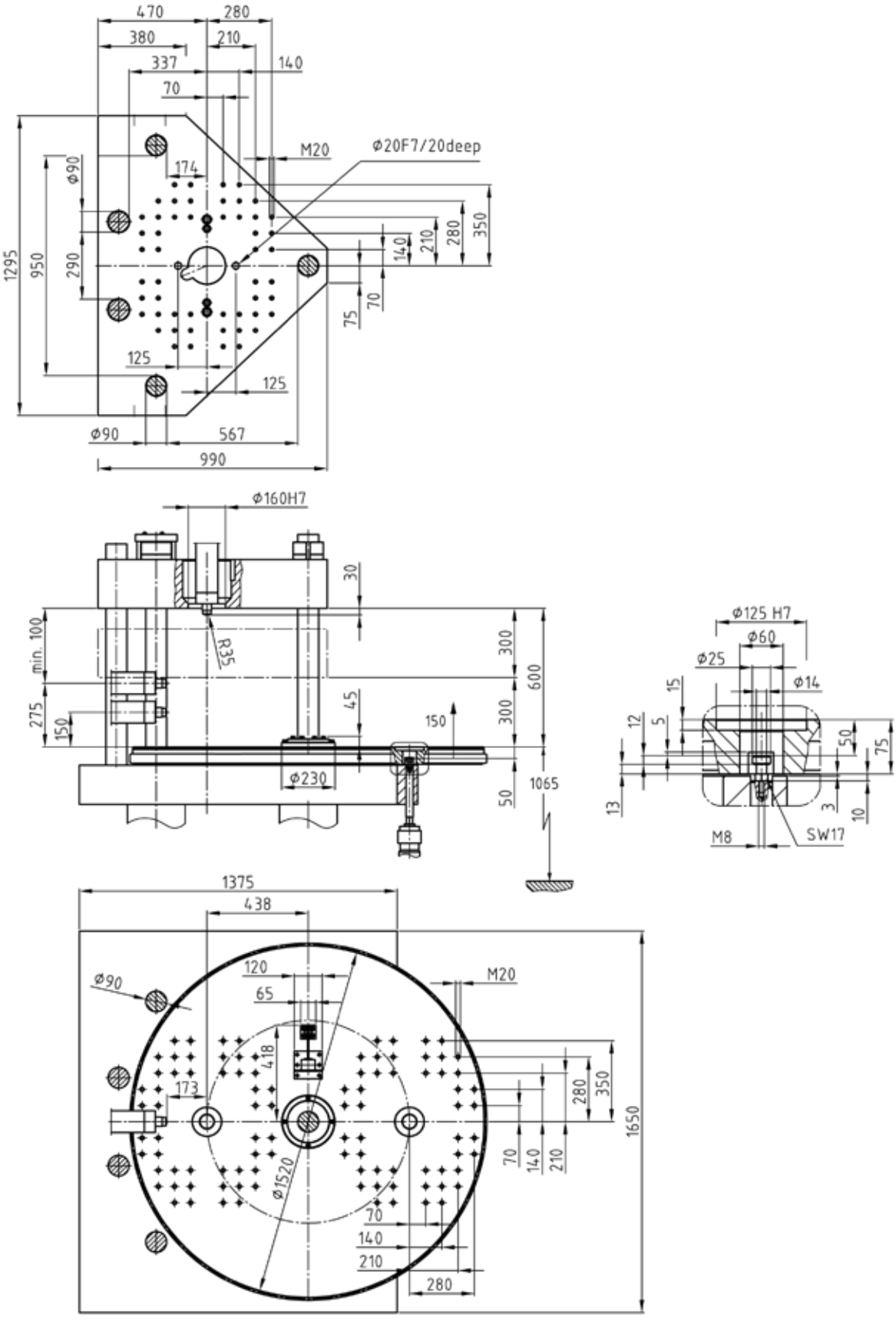
Injection unit		**350 H/V**			**525 H/V**			**750 H/V**			**1000 H/V**		
Screw diameter	mm	30	35	40	35	40	45	40	45	50	45	50	55
Screw stroke	mm	175			200			225			250		
Screw L/D ratio		22			22			22			22		
Theoretical shot volume	cm^3	106	169	220	168	251	318	251	358	442	358	491	594
Specific injection pressure	bar	2835	2083	1595	2500	2100	1659	2500	2116	1714	2490	2016	1666
Max. screw speed	min^{-1}	472			378			291			260		
Max. plasticizing rate (PS)[2)]	g/s	18.3	28.3	45.2	22.7	36.2	47.1	27.9	36.3	43.9	32.4	39.2	48.5
Screw torque	Nm	600	621	621	770			998			1540		
Nozzle stroke/contact force	mm/kN	300/86			350/86			350/86			500/100		
Injection rate into air	cm^3/s	117	160	209	121	158	200	124	157	194	183	226	273
Injection rate into air with double pump (option)	cm^3/s	167	227	296	172	225	285	176	223	276	239	296	357
Barrel heating power	kW	10.4	10.4	12.9	11.5	14	17.3	14	17.3	21.9	17.3	21.9	24.2
Number of heating zones		4			4			4	4	5	4	5	5
Energy efficiency class[3)]		2+	4+	5+	4+	5+	6+	5+	6+	7+	5+	6+	7+

Drive					
Drive power	kW	22	22	22	30
Oil tank volume	l	270	270	270	270
Elect. power supply without options	kVA	41	43	46	57
Emission sound pressure level[4)] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

Weights, dimensions					
Net weight (exclusive oil)	kg	11200	11300	11500	11700
H – Lenght x width x height[5)]	kg	4.2 x 2.0 x 2.1	4.2 x 2.0 x 2.1	4.2 x 2.0 x 2.1	4.2 x 2.0 x 2.1
V – Lenght x width x height[5)]	m	4.2 x 2.0 x 3.9	4.2 x 2.0 x 4.1	4.2 x 2.0 x 4.3	4.2 x 2.0 x 4.7
Max. mold weight[6)]	kg	2400	2400	2400	2400
Min. mold diameter	mm x mm	350	350	350	350

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 1520 mm



DATA VM R 200

Clamping unit		**VM R 200**
Clamping force	kN	2000
Rotary table diameter	mm	1520
Working height	mm	1065
Min. mold height	mm	300
Opening stroke/opening force	mm/kN	300/327
Max. daylight	mm	600
Ejector stroke/ejector force	mm/kN	150/27.5
Cooling circuits/temperature/ nominal size – connecting thread	n/°C/mm	2/120/9 – G3/8"
Angle/time of rotation (servoel.)	°/s	180/2
Dry cycle time[1)]	s – mm	3.9 – 150

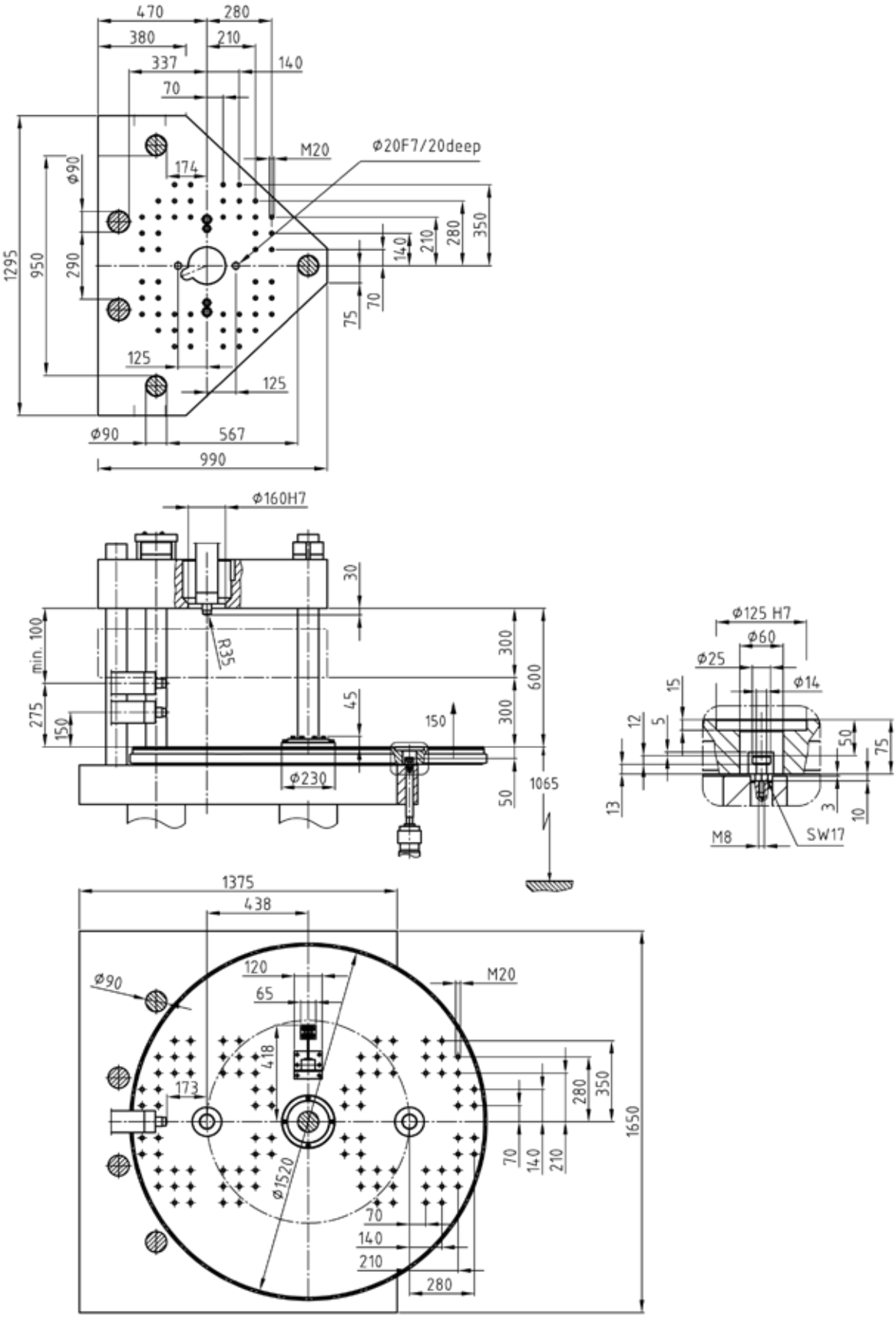
Injection unit		**525 H/V**			**750 H/V**			**1000 H/V**		
Screw diameter	mm	35	40	45	40	45	50	45	50	55
Screw stroke	mm	200			225			250		
Screw L/D ratio		22			22			22		
Theoretical shot volume	cm^3	168	251	318	251	358	442	358	491	594
Specific injection pressure	bar	2500	2100	1659	2500	2116	1714	2490	2016	1666
Max. screw speed	min^{-1}	516			398			260		
Max. plasticizing rate (PS)[2)]	g/s	30	47	63	38.1	49.6	60	32.4	39.2	48.5
Screw torque	Nm	770			998			1540		
Nozzle stroke/contact force	mm/kN	350/86			350/86			500/100		
Injection rate into air	cm^3/s	166	217	274	170	215	265	183	226	273
Injection rate into air with double pump (option)	cm^3/s	217	283	359	222	281	347	239	296	357
Barrel heating power	kW	10.5	12.2	13.9	12.2	13.9	17.5	13.9	17.5	18.4
Number of heating zones		4			4	4	5	4	5	5
Energy efficiency class[3)]		3+	4+	5+	4+	5+	6+	5+	6+	6+

Drive				
Drive power	kW	30	30	30
Oil tank volume	l	270	270	270
Elect. power supply without options	kVA	52	55	57
Emission sound pressure level[4)] Standard/with servo		72/70	72/70	72/70

Weights, dimensions				
Net weight (exclusive oil)	kg	12200	12300	12500
H – Lenght x width x height[5)]	kg	4.2 x 2.0 x 2.1	4.2 x 2.0 x 2.1	4.2 x 2.0 x 2.1
V – Lenght x width x height[5)]	m	4.2 x 2.0 x 4.1	4.2 x 2.0 x 4.3	4.2 x 2.0 x 4.7
Max. mold weight[6)]	kg	2400	2400	2400
Min. mold diameter	mm x mm	350	350	350

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 1520 mm



DATA VM R 200

Clamping unit		**VM R 200**
Clamping force	kN	2000
Rotary table diameter	mm	1755
Working height	mm	1075
Min. mold height	mm	290
Opening stroke/opening force	mm/kN	300/327
Max. daylight	mm	590
Ejector stroke/ejector force	mm/kN	150/27.5
Cooling circuits/temperature/ nominal size – connecting thread	n/°C/mm	2/120/9 – G3/8"
Angle/time of rotation (servoel.)	°/s	180/2.4
Dry cycle time[1)]	s – mm	3.9 – 150

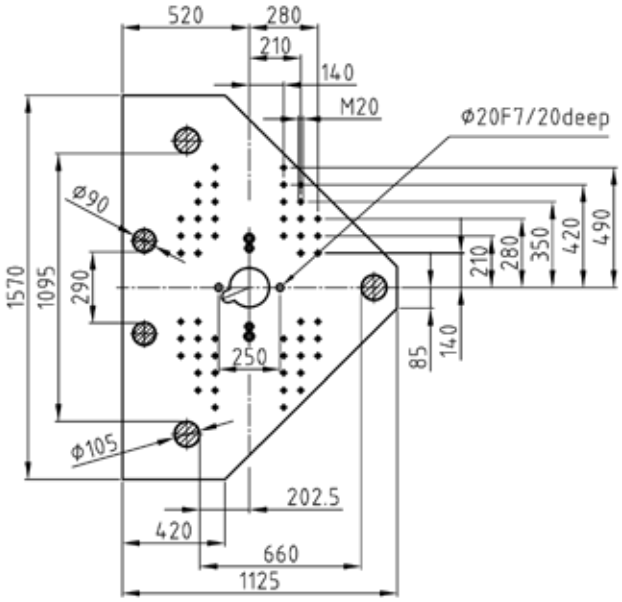
Injection unit		**525 H/V**			**750 H/V**			**1000 H/V**		
Screw diameter	mm	35	40	45	40	45	50	45	50	55
Screw stroke	mm	200			225			250		
Screw L/D ratio		22			22			22		
Theoretical shot volume	cm^3	168	251	318	251	358	442	358	491	594
Specific injection pressure	bar	2500	2100	1659	2500	2116	1714	2490	2016	1666
Max. screw speed	min^{-1}	516			398			260		
Max. plasticizing rate (PS)[2)]	g/s	30	47	63	38.1	49.6	60	32.4	39.2	48.5
Screw torque	Nm	770			998			1540		
Nozzle stroke/contact force	mm/kN	350/86			350/86			500/100		
Injection rate into air	cm^3/s	166	217	274	170	215	265	183	226	273
Injection rate into air with double pump (Option)	cm^3/s	217	283	359	222	281	347	239	296	357
Barrel heating power	kW	10.5	12.2	13.9	12.2	13.9	17.5	13.9	17.5	18.4
Number of heating zones		4			4	4	5	4	5	5
Energy efficiency class[3)]		3+	4+	5+	4+	5+	6+	5+	6+	6+

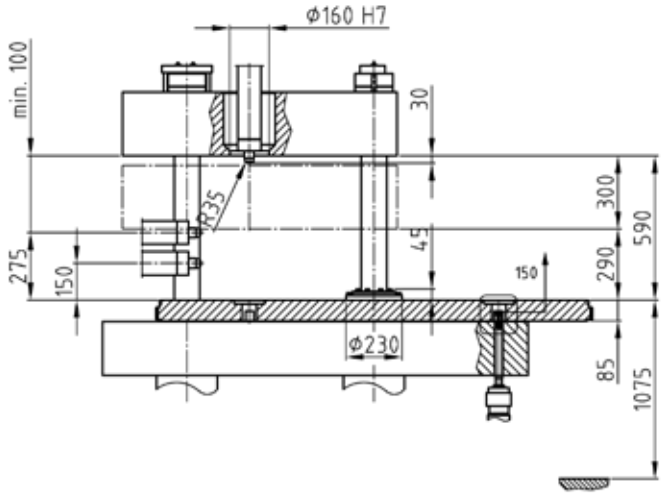
Drive				
Drive power	kW	30	30	30
Oil tank volume	l	270	270	270
Elect. power supply without options	kVA	52	55	57
Emission sound pressure level[4)] Standard/with servo	dB(A)	72/70	72/70	72/70

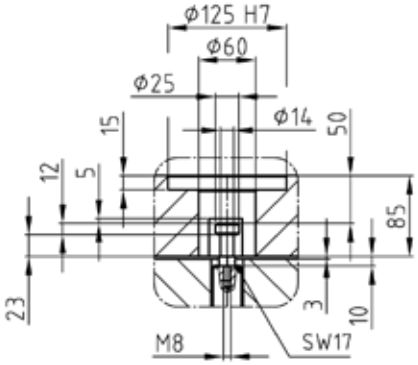
Weights, dimensions				
Net weight (exclusive oil)	kg	15400	15500	15700
H – Lenght x width x height[5)]	kg	4.4 x 2.2 x 2.1	4.4 x 2.2 x 2.1	4.4 x 2.2 x 2.1
V – Lenght x width x height[5)]	m	4.4 x 2.2 x 4.1	4.4 x 2.2 x 4.3	4.4 x 2.2 x 4.7
Max. mold weight[6)]	kg	2800	2800	2800
Min. mold diameter	mm x mm	400	400	400

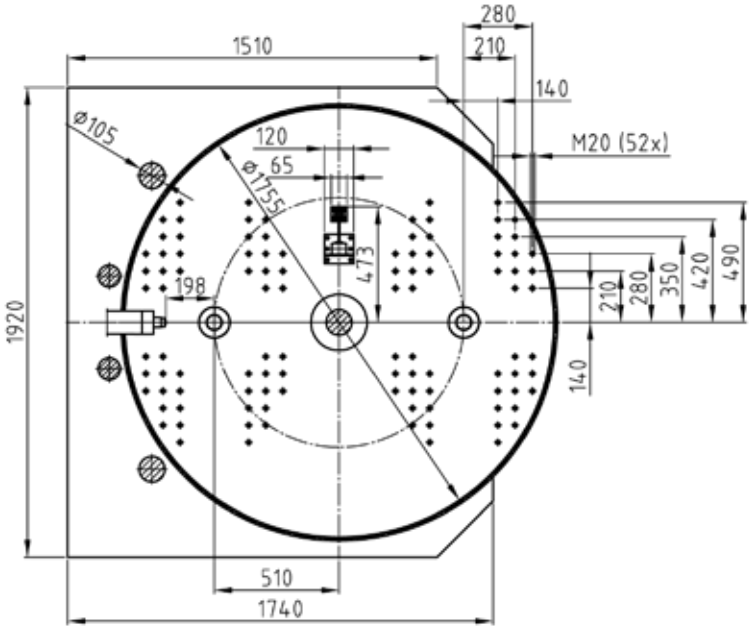
1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 1755 mm









DATA VM R 270

Clamping unit		**VM R 270**
Clamping force	kN	2700
Rotary table diameter	mm	1755
Working height	mm	1325
Min. mold height	mm	400
Opening stroke/opening force	mm/kN	400/445
Max. daylight	mm	800
Ejector stroke/ejector force	mm/kN	150/27.5
Cooling circuits/temperature/ nominal size – connecting thread	n/°C/mm	2/120/9 – G3/8"
Angle/time of rotation (servoel.)	°/s	180/2.4
Dry cycle time[1)]	s – mm	4.3 – 150

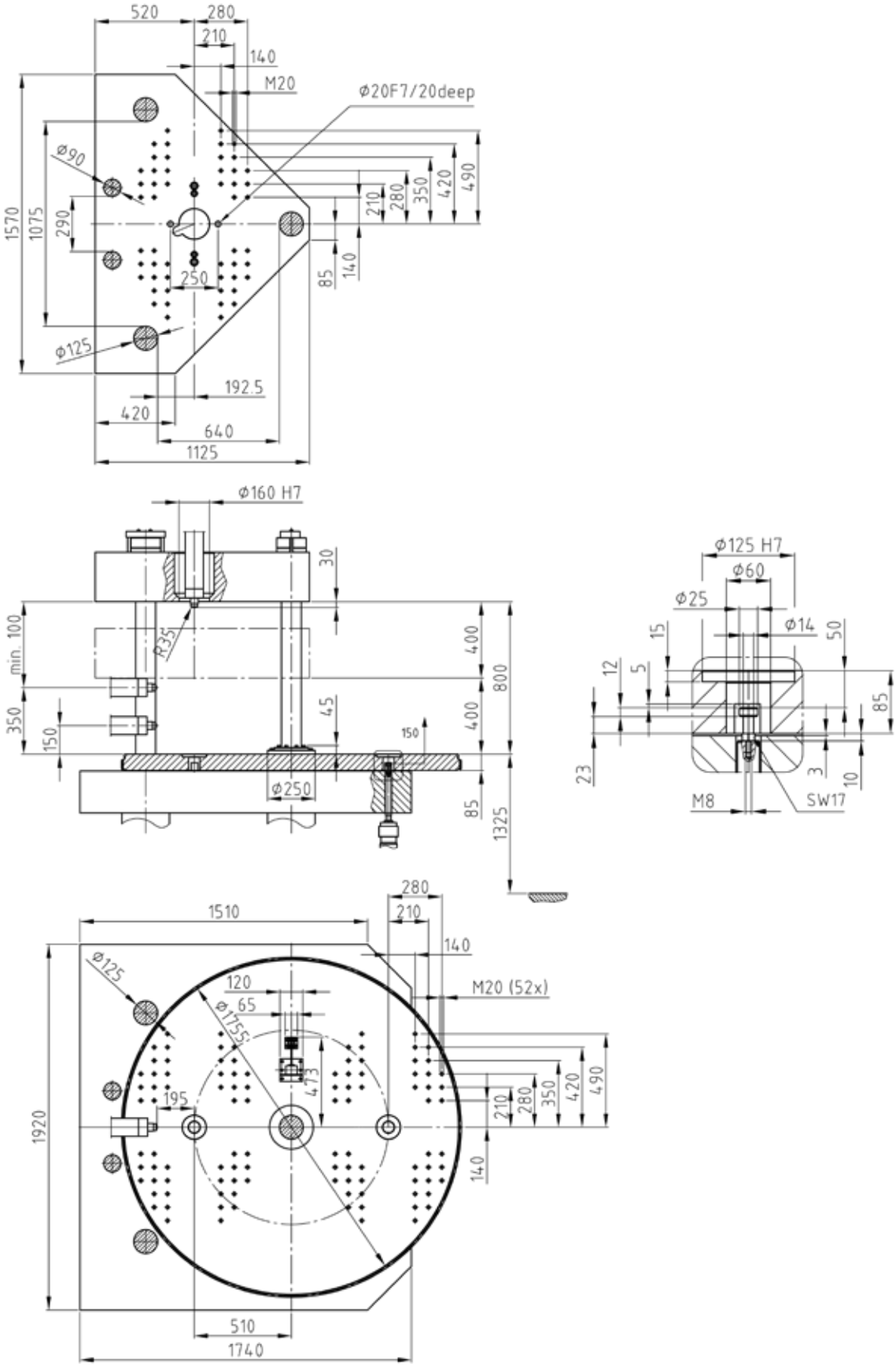
Injection unit		**525 H/V**			**750 H/V**			**1000 H/V**			**1330 H/V**		
Screw diameter	mm	35	40	45	40	45	50	45	50	55	50	55	65
Screw stroke	mm	200			225			250			275		
Screw L/D ratio		22			22			22			22		
Theoretical shot volume	cm^3	168	251	318	251	358	442	358	491	594	491	653	913
Specific injection pressure	bar	2500	2100	1659	2500	2116	1714	2490	2016	1666	2470	2041	1461
Max. screw speed	min^{-1}	516			398			350			318		
Max. plasticizing rate (PS)[2)]	g/s	30	47	63	38.1	49.6	60	44	53	65	48	59.3	70.9
Screw torque	Nm	770			998			1540			1940		
Nozzle stroke/contact force	mm/kN	350/86			350/86			500/100			500/100		
Injection rate into air	cm^3/s	223	292	369	229	289	357	246	304	368	248	300	419
Injection rate into air with double pump (option)	cm^3/s	299	392	496	307	389	480	330	408	494	333	403	563
Barrel heating power	kW	10.5	12.2	13.9	12.2	13.9	17.5	13.9	17.5	18.4	17.5	18.4	21
Number of heating zones		4			4	4	5	4	5	5	5		
Energy efficiency class[3)]		1+	3+	4+	2+	4+	5+	4+	5+	5+	4+	5+	7+

Drive					
Drive power	kW	45	45	45	45
Oil tank volume	l	400	400	400	400
Elect. power supply without options	kVA	72	74	75	78
Emission sound pressure level[4)] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

Weights, dimensions					
Net weight (exclusive oil)	kg	20400	20500	20700	20900
H – Lenght x width x height[5)]	kg	4.6 x 2.2 x 2.6	4.6 x 2.2 x 2.6	4.8 x 2.2 x 2.6	5.0 x 2.2 x 2.6
V – Lenght x width x height[5)]	m	4.6 x 2.2 x 4.6	4.6 x 2.2 x 4.8	4.6 x 2.2 x 5.2	4.6 x 2.2 x 6.3
Max. mold weight[6)]	kg	2800	2800	2800	2800
Min. mold diameter	mm x mm	400	400	400	400

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 1755 mm



DATA VM R 300

Clamping unit		**VM R 300**
Clamping force	kN	3000
Rotary table diameter	mm	1755
Working height	mm	1325
Min. mold height	mm	400
Opening stroke/opening force	mm/kN	400/586
Max. daylight	mm	800
Ejector stroke/ejector force	mm/kN	150/27.5
Cooling circuits/temperature/ nominal size – connecting thread	n/°C/mm	2/120/9 – G3/8"
Angle/time of rotation (servoel.)	°/s	180/2.4
Dry cycle time[1)]	s – mm	4.5 – 150

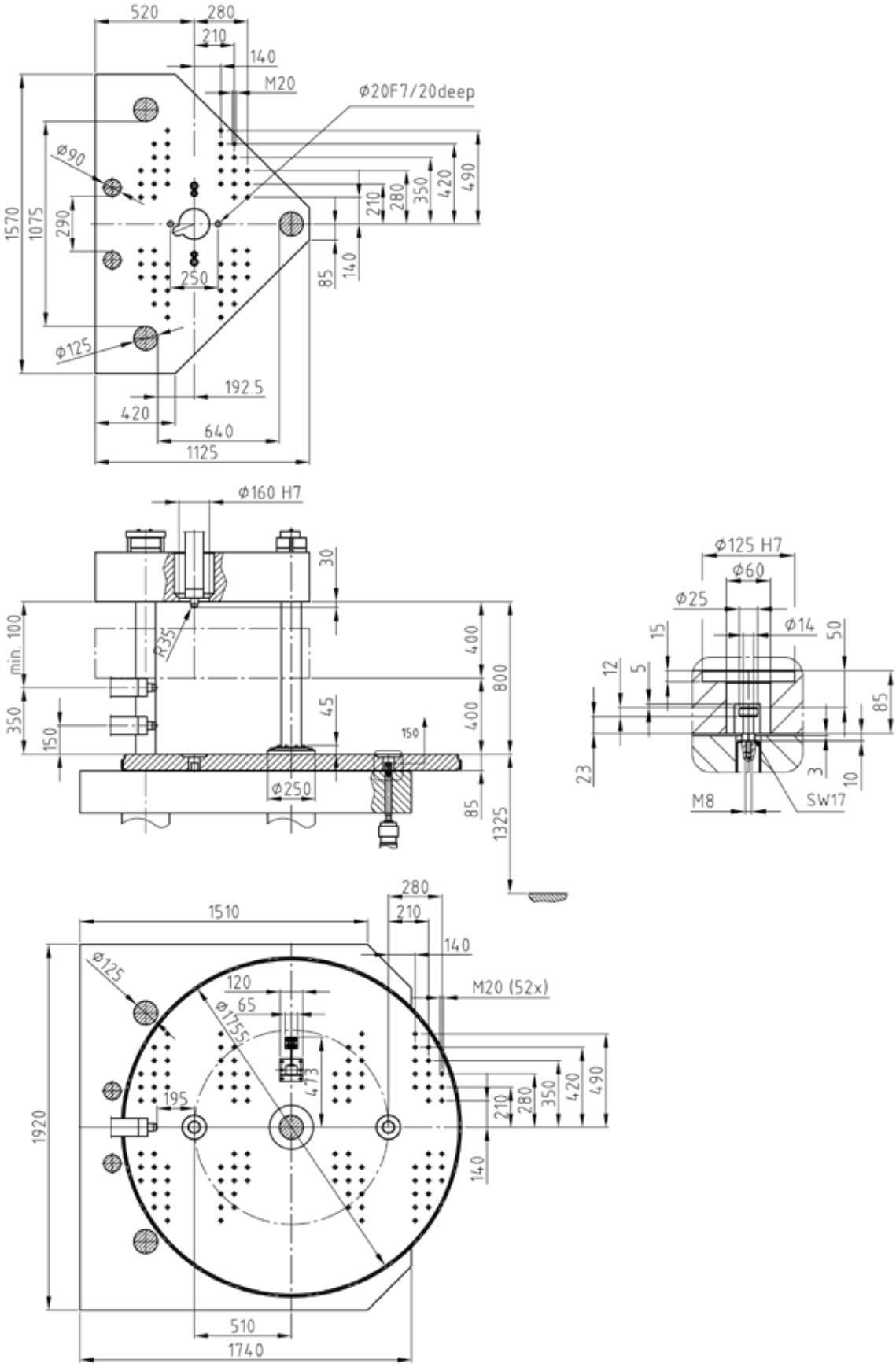
Injection unit		**525 H/V**			**750 H/V**			**1000 H/V**			**1330 H/V**		
Screw diameter	mm	35	40	45	40	45	50	45	50	55	50	55	65
Screw stroke	mm	200			225			250			275		
Screw L/D ratio		22			22			22			22		
Theoretical shot volume	cm^3	168	251	318	251	358	442	358	491	594	491	653	913
Specific injection pressure	bar	2500	2100	1659	2500	2116	1714	2490	2016	1666	2470	2041	1461
Max. screw speed	min^{-1}	516			398			350			318		
Max. plasticizing rate (PS)[2)]	g/s	30	47	63	38.1	49.6	60	44	53	65	48	59.3	70.9
Screw torque	Nm	770			998			1540			1940		
Nozzle stroke/contact force	mm/kN	350/86			350/86			500/100			500/100		
Injection rate into air	cm^3/s	223	292	369	229	289	357	246	304	368	248	300	419
Injection rate into air with double pump (option)	cm^3/s	299	392	496	307	389	480	330	408	494	333	403	563
Barrel heating power	kW	10.5	12.2	13.9	12.2	13.9	17.5	13.9	17.5	18.4	17.5	18.4	21
Number of heating zones		4			4	4	5	4	5	5	5		
Energy efficiency class[3)]		1+	3+	4+	2+	4+	3/5+	4+	5+	5+	4+	5+	7+

Drive					
Drive power	kW	45	45	45	45
Oil tank volume	l	400	400	400	400
Elect. power supply without options	kVA	72	74	75	78
Emission sound pressure level[4)] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

Weights, dimensions					
Net weight (exclusive oil)	kg	20400	20500	20700	20900
H – Lenght x width x height[5)]	kg	4.6 x 2.2 x 2.6	4.6 x 2.2 x 2.6	4.8 x 2.2x 2.6	5.0 x 2.2 x 2.6
V – Lenght x width x height[5)]	m	4.6 x 2.2 x 4.6	4.6 x 2.2 x 4.8	4.6 x 2.2 x 5.2	4.6 x 2.2 x 6.3
Max. mold weight[6)]	kg	2800	2800	2800	2800
Min. mold diameter	mm x mm	400	400	400	400

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 1755 mm



DATA VM 60

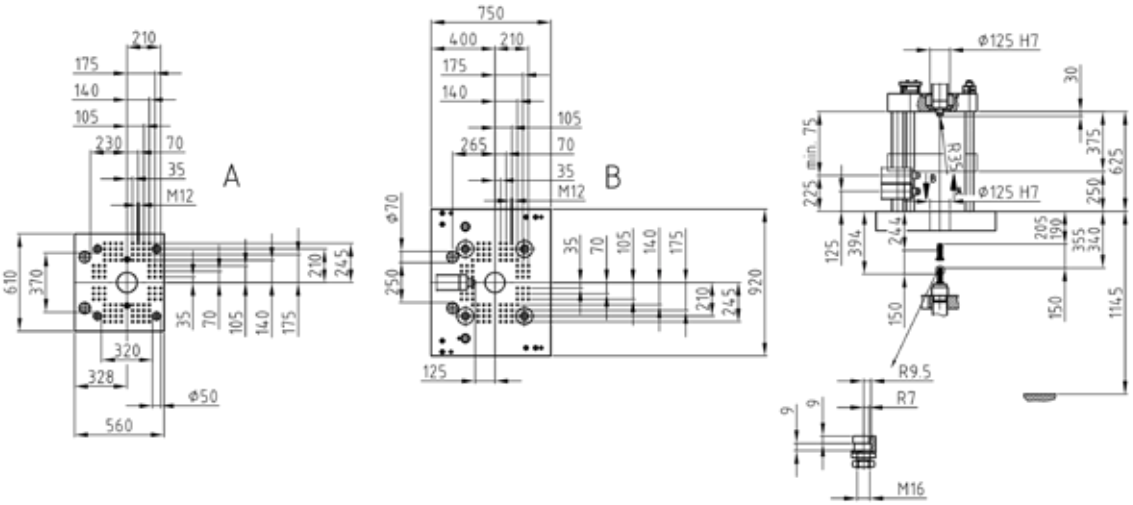
Clamping unit		**VM 60**
Clamping force	kN	600
Distance between tie bars	mm x mm	370 x 320
Working height	mm	1145
Min. mold height	mm	250
Opening stroke/opening force	mm/kN	375/102
Max. daylight	mm	625
Ejector stroke/ejector force	mm/kN	150/27.5
Dry cycle time[1]	s – mm	3.1 – 150

Injection unit		**60 H/V**			**130 H/V**				**210 H/V**			**350 H/V**		
Screw diameter	mm	14	18	22	18	22	25	30	25	30	35	30	35	40
Screw stroke	mm	90			110	110	125	125	150			175		
Screw L/D ratio		20			20	20	22	22	22			22		
Theoretical shot volume	cm^3	10.8	22.9	34.2	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220
Specific injection pressure	bar	3000	2593	1736	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595
Max. screw speed	min^{-1}	623			398				310			298		
Max. plasticizing rate (PS)[2]	g/s	1.9	6.2	9	4	5.8	10.5	15.4	8.2	12	18.6	11.6	17.9	28.5
Screw torque	Nm	65	120	231	120	238	340	357	340	490	490	600	621	621
Nozzle stroke/contact force	mm/kN	350/47			350/47				300/86			300/86		
Injection rate into air	cm^3/s	40.9	67.6	101	40.9	61.1	78.9	114	59.5	85.7	117	74.1	101	132
Injection rate into air with double pump (option)	cm^3/s	65	108	161	65.5	97.8	126	182	95.2	137	187	117	160	209
Barrel heating power	kW	2.9	5.5	6.3	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9
Number of heating zones		4			4				4			4		
Energy efficiency class[3]		3+	3+	3+	3+	3+	3+	5+	3+	4+	6+	4+	5+	6+

Drive					
Drive power	kW	11	11	11	15
Oil tank volume	l	180	180	180	180
Elect. power supply without options	kVA	20	24	27	34
Emission sound pressure level[4] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

Weights, dimensions					
Net weight (exclusive oil)	kg	3750	3800	3850	3900
H – Lenght x width x height[5]	m	3.0 x 1.4 x 2.2	3.0 x 1.4 x 2.2	3.0 x 1.4 x 2.2	3.0 x 1.4 x 2.2
V – Lenght x width x height[5]	m	3.0 x 1.4 x 3.5	3.0 x 1.4 x 3.5	3.0 x 1.4 x 3.8	3.0 x 1.4 x 4.0
Max. mold weight[6]	kg	600	600	600	600
Min. mold diameter	mm x mm	250	250	250	250

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen



DATA VM 80

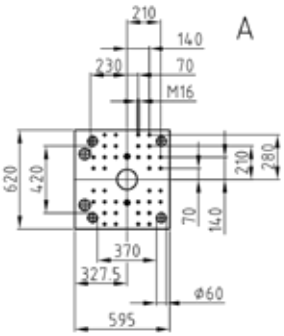
Clamping unit		**VM 80**
Clamping force	kN	800
Distance between tie bars	mm x mm	420 x 370
Working height	mm	1145
Min. mold height	mm	300
Opening stroke/opening force	mm/kN	375/158
Max. daylight	mm	675
Ejector stroke/ejector force	mm/kN	150/27.5
Dry cycle time[1]	s – mm	3.1 – 150

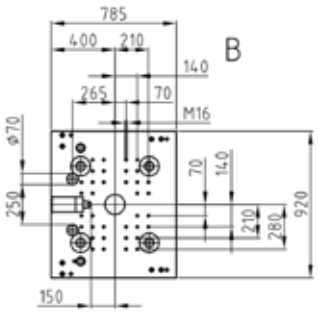
Injection unit		**130 H/V**				**210 H/V**			**350 H/V**			**525 H/V**		
Screw diameter	mm	18	22	25	30	25	30	35	30	35	40	35	40	45
Screw stroke	mm	110	110	125	125	150			175			200		
Screw L/D ratio		20	20	22	22	22			22			22		
Theoretical shot volume	cm^3	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220	168	251	318
Specific injection pressure	bar	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595	2500	2100	1659
Max. screw speed	min^{-1}	477				496			298			318		
Max. plasticizing rate (PS)[2]	g/s	4.8	6.9	12.6	18.5	13.1	19.2	29.7	11.6	17.9	28.5	19.1	30.4	39.7
Screw torque	Nm	120	238	340	357	340	490	490	600	621	621	770		
Nozzle stroke/contact force	mm/kN	350/47				300/86			300/86			350/86		
Injection rate into air	cm^3/s	49.1	73.4	94.7	136	95.2	137	187	74.1	101	132	102	133	169
Injection rate into air with double pump (option)	cm^3/s	78	116	150	216	113	163	222	117	160	209	153	200	253
Barrel heating power	kW	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9	11.5	14	17.3
Number of heating zones		4				4			4			4		
Energy efficiency class[3]		2+	2+	2+	4+	2+	4+	5+	4+	5+	6+	5+	6+	7+

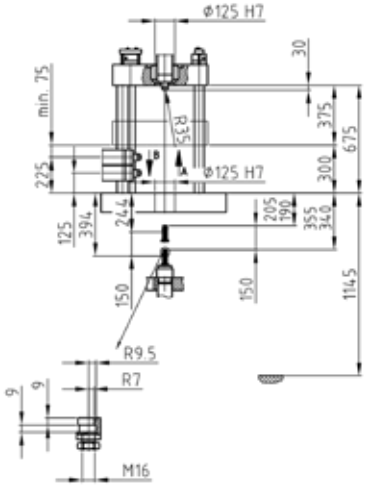
Drive					
Drive power	kW	15	15	15	18.5
Oil tank volume	l	180	180	180	180
Elect. power supply without options	kVA	30	32	34	38
Emission sound pressure level[4] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

Weights, dimensions					
Net weight (exclusive oil)	kg	4300	4350	4400	4500
H – Lenght x width x height[5]	m	3.1 x 1.4 x 2.2	3.1 x 1.4 x 2.2	3.1 x 1.4 x 2.2	3.2 x 1.4 x 2.2
V – Lenght x width x height[5]	m	3.1 x 1.4 x 3.8	3.1 x 1.4 x 3.9	3.1 x 1.4 x 4.1	3.1 x 1.4 x 4.3
Max. mold weight[6]	kg	800	800	800	800
Min. mold diameter	mm x mm	315	315	315	315

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen







DATA VM 100

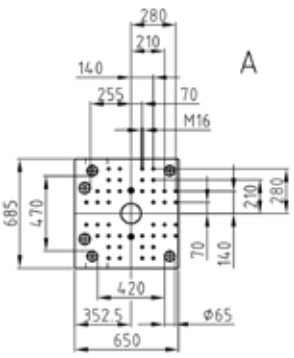
Clamping unit		**VM 100**
Clamping force	kN	1000
Distance between tie bars	mm x mm	470 x 420
Working height	mm	1145
Min. mold height	mm	300
Opening stroke/opening force	mm/kN	375/176
Max. daylight	mm	675
Ejector stroke/ejector force	mm/kN	150/27.5
Dry cycle time[1]	s – mm	3.4 – 150

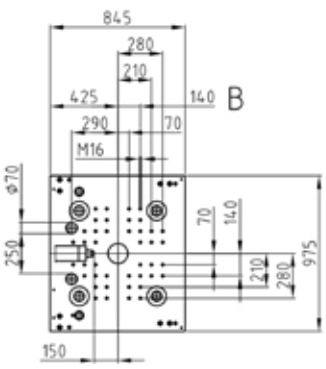
Injection unit		**130 H/V**				**210 H/V**			**350 H/V**			**525 H/V**		
Screw diameter	mm	18	22	25	30	25	30	35	30	35	40	35	40	45
Screw stroke	mm	110	110	125	125	150			175			200		
Screw L/D ratio		20	20	22	22	22			22			22		
Theoretical shot volume	cm^3	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220	168	251	318
Specific injection pressure	bar	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595	2500	2100	1659
Max. screw speed	min^{-1}	477				496			397			318		
Max. plasticizing rate (PS)[2]	g/s	4.8	6.9	12.6	18.5	13.1	19.2	29.7	15.4	23.8	38	19.1	30.4	39.7
Screw torque	Nm	120	238	340	357	340	490	490	600	621	621	770		
Nozzle stroke/contact force	mm/kN	350/47				300/86			300/86			350/86		
Injection rate into air	cm^3/s	65	98	126	182	95	137	187	99	134	176	102	133	169
Injection rate into air with double pump (option)	cm^3/s	78	116	150	216	143	205	280	148	202	263	153	200	253
Barrel heating power	kW	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9	11.5	14	17.3
Number of heating zones		4				4			4			4		
Energy efficiency class[3]		1+	1+	1+	3+	1+	3+	4+	3+	4+	6+	4+	5+	6+

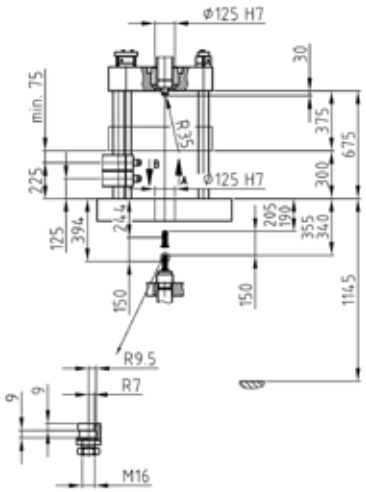
Drive					
Drive power	kW	18.5	18.5	18.5	18.5
Oil tank volume	l	180	180	180	180
Elect. power supply without options	kVA	33	35	37	38
Emission sound pressure level[4] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

Weights, dimensions					
Net weight (exclusive oil)	kg	5300	5400	5450	5550
H – Lenght x width x height[5]	m	3.1 x 1.5 x 2.2	3.1 x 1.5 x 2.2	3.1 x 1.5 x 2.2	3.2 x 1.5 x 2.2
V – Lenght x width x height[5]	m	3.1 x 1.5 x 3.8	3.1 x 1.5 x 3.9	3.1 x 1.5 x 4.1	3.1 x 1.5 x 4.3
Max. mold weight[6]	kg	800	1000	1000	1000
Min. mold diameter	mm x mm	315	315	315	315

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen







DATA VM 150

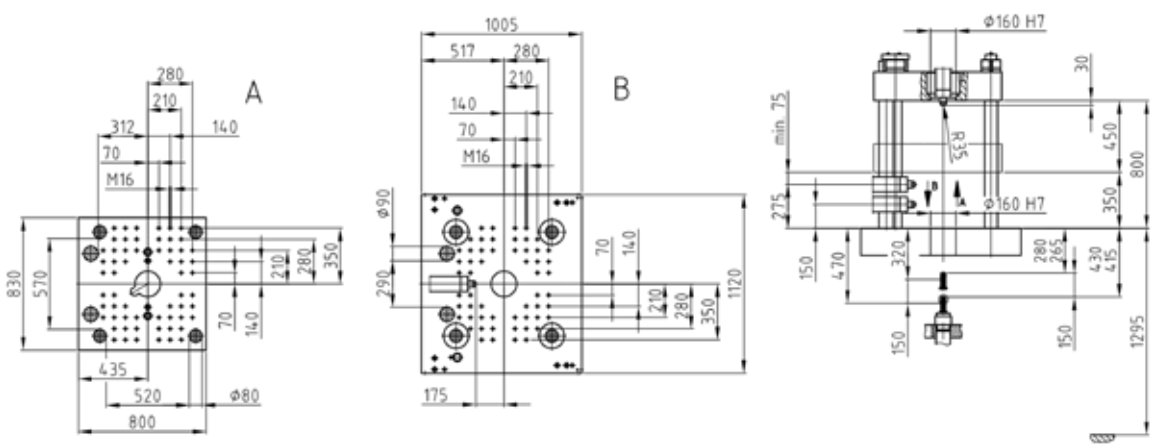
Clamping unit		**VM 150**
Clamping force	kN	1500
Distance between tie bars	mm x mm	570 x 520
Working height	mm	1295
Min. mold height	mm	350
Opening stroke/opening force	mm/kN	450/270
Max. daylight	mm	800
Ejector stroke/ejector force	mm/kN	150/27.5
Dry cycle time[1]	s – mm	3.6 – 150

Injection unit		**350 H/V**			**525 H/V**			**750 H/V**			**1000 H/V**		
Screw diameter	mm	30	35	40	35	40	45	40	45	50	45	50	55
Screw stroke	mm	175			200			225			250		
Screw L/D ratio		22			22			22			22		
Theoretical shot volume	cm^3	106	169	220	168	251	318	251	358	442	358	491	594
Specific injection pressure	bar	2835	2083	1595	2500	2100	1659	2500	2116	1714	2490	2016	1666
Max. screw speed	min^{-1}	472			378			291			260		
Max. plasticizing rate (PS)[2]	g/s	18.3	28.3	45.2	22.7	36.2	47.1	27.9	36.3	43.9	32.4	39.2	48.5
Screw torque	Nm	600	621	621	770			998			1540		
Nozzle stroke/contact force	mm/kN	300/86			350/86			350/86			500/100		
Injection rate into air	cm^3/s	117	160	209	121	158	200	124	157	194	183	226	273
Injection rate into air with double pump (option)	cm^3/s	167	227	296	172	225	285	176	223	276	239	296	357
Barrel heating power	kW	10.4	10.4	12.9	11.5	14	17.3	14	17.3	21.9	17.3	21.9	24.2
Number of heating zones		4			4			4	4	5	4	5	5
Energy efficiency class[3]		2+	3+	5+	3+	5+	6+	4+	5+	6+	5+	6+	7+

Drive					
Drive power	kW	22	22	22	30
Oil tank volume	l	270	270	270	270
Elect. power supply without options	kVA	41	43	46	57
Emission sound pressure level[4] Standard/with servo	dB(A)	72/70	72/70	72/70	72/70

Weights, dimensions					
Net weight (exclusive oil)	kg	5800	5900	6000	6400
H – Lenght x width x height[5]	m	3.5 x 1.6 x 2.5	3.5 x 1.6 x 2.5	3.5 x 1.6 x 2.5	3.9 x 1.6 x 2.5
V – Lenght x width x height[5]	m	3.5 x 1.6 x 4.3	3.5 x 1.6 x 4.5	3.5 x 1.6 x 4.7	3.5 x 1.6 x 5.1
Max. mold weight[6]	kg	1800	1800	1800	1800
Min. mold diameter	mm x mm	400	400	400	400

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen



DATA VM 200

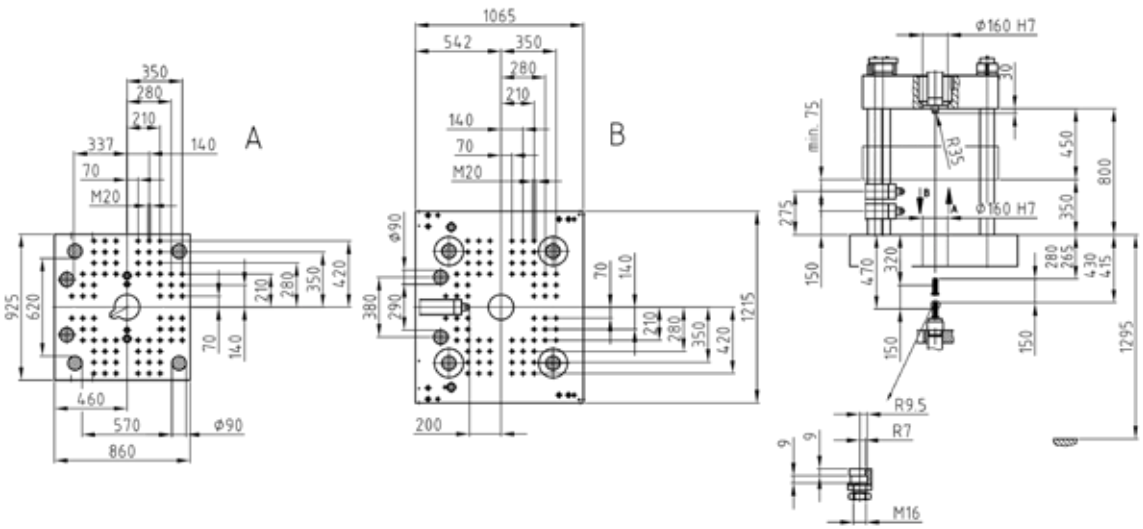
Clamping unit		**VM 200**
Clamping force	kN	2000
Distance between tie bars	mm x mm	620 x 570
Working height	mm	1295
Min. mold height	mm	350
Opening stroke/opening force	mm/kN	450/370
Max. daylight	mm	800
Ejector stroke/ejector force	mm/kN	150/27.5
Dry cycle time[1]	s – mm	3.9 – 150

Injection unit		**525 H/V**			**750 H/V**			**1000 H/V**		
Screw diameter	mm	35	40	45	40	45	50	45	50	55
Screw stroke	mm	200			225			250		
Screw L/D ratio		22			22			22		
Theoretical shot volume	cm^3	168	251	318	251	358	442	358	491	594
Specific injection pressure	bar	2500	2100	1659	2500	2116	1714	2490	2016	1666
Max. screw speed	min^{-1}	516			398			260		
Max. plasticizing rate (PS)[2]	g/s	30	47	63	38.1	49.6	60	32.4	39.2	48.5
Screw torque	Nm	770			998			1540		
Nozzle stroke/contact force	mm/kN	350/86			350/86			500/100		
Injection rate into air	cm^3/s	166	217	274	170	215	265	183	226	273
Injection rate into air with double pump (option)	cm^3/s	217	283	359	222	281	347	239	296	357
Barrel heating power	kW	10.5	12.2	13.9	12.2	13.9	17.5	13.9	17.5	18.4
Number of heating zones		4			4	4	5	4	5	5
Energy efficiency class[3]		2+	3+	4+	3+	4+	5+	4+	5+	6+

Drive				
Drive power	kW	30	30	30
Oil tank volume	l	270	270	270
Elect. power supply without options	kVA	52	55	57
Emission sound pressure level[4] Standard/with servo	dB(A)	72/70	72/70	72/70

Weights, dimensions				
Net weight (exclusive oil)	kg	8100	8200	8600
H – Lenght x width x height[5]	m	3.5 x 1.7 x 2.5	3.6 x 1.7 x 2.5	4.0 x 1.7 x 2.5
V – Lenght x width x height[5]	m	3.5 x 1.7 x 4.5	3.5 x 1.7 x 4.7	3.5 x 1.7 x 5.1
Max. mold weight[6]	kg	2400	2400	2400
Min. mold diameter	mm x mm	500	500	500

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen



COMBINATIONS CM							
Clamping unit	Injection unit						
t	60	130	210	350	525	750	1000
CM 40	•	•	•	•			
CM 80		•	•	•	•	•	

COMBINATIONS CM R							
Clamping unit	Rotary table	Injection unit					
t	mm	60	130	210	350	525	750
CM R 40	752	•	•	•	•		
CM R 40	1280	•	•	•	•		
CM R 80	1520		•	•	•	•	•

COMBINATIONS CM S							
Clamping unit	Injection unit						
t	60	130	210	350	525	750	1000
CM S 40	•	•	•	•			
CM S 80		•	•	•	•	•	

Material	Factor
ABS	0.88
CA	1.02
CAB	0.97
PA	0.91
PC	0.97
PE	0.71
PMMA	0.94
POM	1.15
PP	0.73

The maximum shotweights (g) are calculated by multiplying the theoretical shot volume (cm^3) by the above factor.

Material	Factor
PP + 20 % Talc	0.85
PP + 40 % Talc	0.98
PP + 20 % GF	0.85
PS	0.91
PVC hard	1.12
PVC soft	1.02
SAN	0.88
SB	0.88
PF	1.3
UP	1.6

Dark grey boxes = thermosets

DATA CM 40

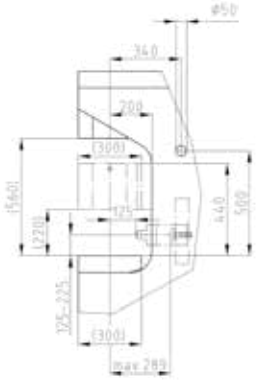
Clamping unit		**CM 40**
Clamping force	kN	400
Platen size	mm x mm	740 x 300
Working height	mm	1000
Min. mold height	mm	220
Opening stroke/opening force	mm/kN	340/90
Max. daylight	mm	560
Ejector stroke/ejector force	mm/kN	150/27.5
Dry cycle time[1]	s – mm	2.5 – 150

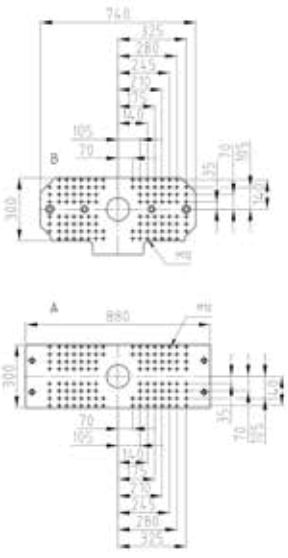
Injection unit		**60 H/V**			**130 H/V**				**210 H/V**			**350 H/V**		
Screw diameter	mm	14	18	22	18	22	25	30	25	30	35	30	35	40
Screw stroke	mm	90			110	110	125	125	150			175		
Screw L/D ratio		20			20	20	22	22	22			22		
Theoretical shot volume	cm^3	10.8	22.9	34.2	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220
Specific injection pressure	bar	3000	2593	1736	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595
Max. screw speed	min^{-1}	623			477				372			298		
Max. plasticizing rate (PS)[2]	g/s	1.9	6.2	9	4.8	6.9	12.6	18.5	9.9	14.4	22.3	11.6	17.9	28.5
Screw torque	Nm	65	120	231	120	238	340	357	340	490	490	600	621	621
Nozzle stroke/contact force	mm/kN	350/47			350/47				300/86			300/86		
Injection rate into air	cm^3/s	49	81	121	49	73	95	136	71	103	140	74	101	132
Injection rate into air with double pump (option)	cm^3/s	65	108	161	65	98	126	182	95	137	187	99	134	176
Barrel heating power	kW	2.9	5.5	6.3	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9
Number of heating zones		4			4				4			4		
Energy efficiency class[3]		3+	4+	4+	4+	4+	4+	5+	3+	4+	6+	4+	5+	6+

Drive					
Drive power	kW	15	15	15	15
Oil tank volume	l	175	175	175	175
Elect. power supply without options	kVA	28	30	32	34
Emission sound pressure level[4]	dB(A)	70	70	70	70

Weights, dimensions					
Net weight (exclusive oil)	kg	3900	4000	4100	4200
H – Lenght x width x height[5]	m	2.7 x 1.7 x 2.6	2.7 x 1.7 x 2.6	3.0 x 1.7 x 2.6	3.0 x 1.7 x 2.6
V – Lenght x width x height[5]	m	2.1 x 1.7 x 3.6	2.1 x 1.7 x 3.7	2.1 x 1.7 x 3.8	2.1 x 1.7 x 3.9
Max. mold weight[6]	kg	600	600	600	600
Min. mold diameter	mm x mm	250	250	250	250

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen





DATA CM 80

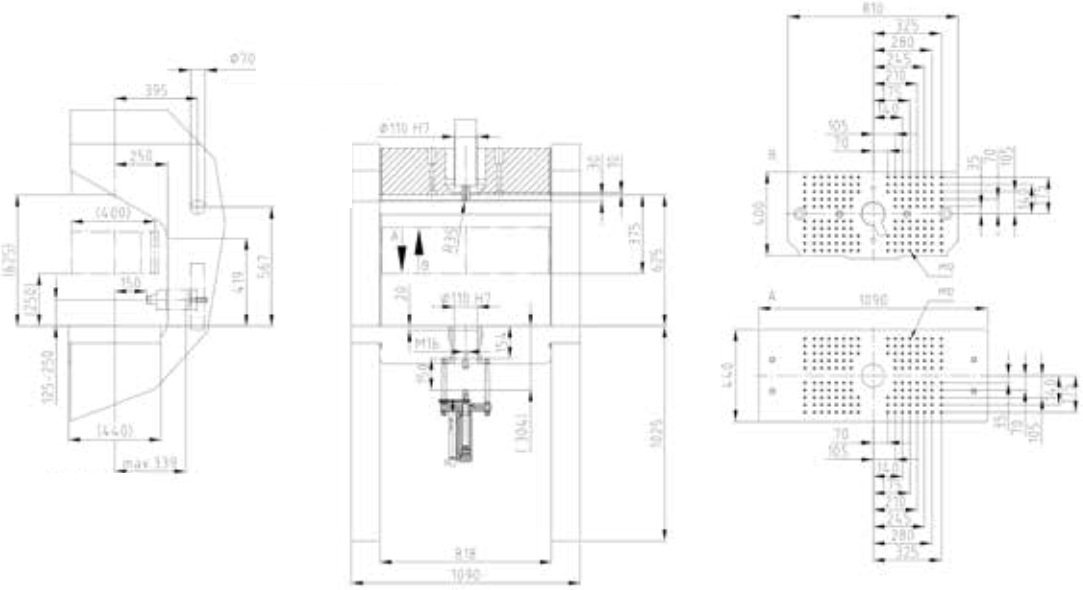
Clamping unit		**CM 80**
Clamping force	kN	800
Platen size	mm x mm	810 x 400
Working height	mm	1025
Min. mold height	mm	250
Opening stroke/opening force	mm/kN	375/232
Max. daylight	mm	625
Ejector stroke/ejector force	mm/kN	150/27.5
Dry cycle time[1]	s – mm	3 – 150

Injection unit		**130 H/V**				**210 H/V**			**350 H/V**			**525 H/V**			**750 H/V**		
Screw diameter	mm	18	22	25	30	25	30	35	30	35	40	35	40	45	40	45	50
Screw stroke	mm	110	110	125	125	150			175			200			225		
Screw L/D ratio		20	20	22	22	22			22			22			22		
Theoretical shot volume	cm^3	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220	168	251	318	251	358	442
Specific injection pressure	bar	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595	2500	2100	1659	2500	2116	1714
Max. screw speed	min^{-1}	477				496			397			377			291		
Max. plasticizing rate (PS)[2]	g/s	4.8	6.9	12.6	18.5	13.1	19.2	29.7	15.4	23.8	38	22.6	36	47	27.9	36.3	43.9
Screw torque	Nm	120	238	340	357	340	490	490	600	621	621	770			998		
Nozzle stroke/contact force	mm/kN	350/47				300/86			300/86			350/86			350/86		
Injection rate into air	cm^3/s	65	98	126	182	95	137	187	117	160	209	121	158	200	124	157	194
Injection rate into air with double pump (option)	cm^3/s	78	116	150	216	137	197	268	160	219	286	166	216	274	170	215	266
Barrel heating power	kW	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9	11.5	14	17.3	14	17.3	21.9
Number of heating zones		4				4			4			4			4	4	5
Energy efficiency class[3]		3+	3+	3+	4+	3+	4+	5+	4+	5+	6+	5+	6+	7+	6+	7+	7+

Drive						
Drive power	kW	37	37	37	37	37
Oil tank volume	l	300	300	300	300	300
Elect. power supply without options	kVA	54	56	58	60	62
Emission sound pressure level[4]	dB(A)	70	70	70	70	70

Weights, dimensions						
Net weight (exclusive oil)	kg	7100	7200	7300	7400	7500
H – Lenght x width x height[5]	m	3.2 x 1.7 x 2.7	3.2 x 1.7 x 2.7	3.3 x 1.7 x 2.7	3.4 x 1.7 x 2.7	3.5 x 1.7 x 2.7
V – Lenght x width x height[5]	m	3.1 x 1.7 x 3.8	3.1 x 1.7 x 3.9	3.1 x 1.7 x 4.1	3.1 x 1.7 x 4.3	3.1 x 1.7 x 4.7
Max. mold weight[6]	kg	800	800	800	800	800
Min. mold diameter	mm x mm	300	300	300	300	300

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen



DATA CM R 40

Clamping unit		**CM R 40**
Clamping force	kN	400
Platen size	mm x mm	840 x 300
Rotary table diameter	mm	752
Working height	mm	1000
Min. mold height	mm	220
Opening stroke/opening force	mm/kN	340/90
Max. daylight	mm	560
Ejector stroke/ejector force	mm/kN	150 / 27.5
Dry cycle time[1]	s – mm	2.5 – 150

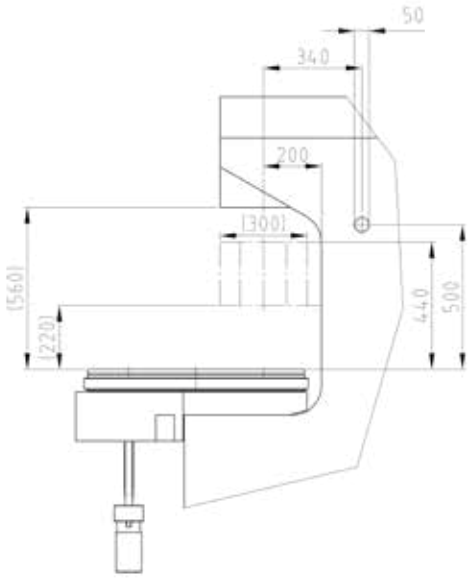
Injection unit		**60 H/V**			**130 H/V**				**210 H/V**			**350 H/V**		
Screw diameter	mm	14	18	22	18	22	25	30	25	30	35	30	35	40
Screw stroke	mm	90			110	110	125	125	150			175		
Screw L/D ratio		20			20	20	22	22	22			22		
Theoretical shot volume	cm^3	10.8	22.9	34.2	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220
Specific injection pressure	bar	3000	2593	1736	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595
Max. screw speed	min^{-1}	623			477				372			298		
Max. plasticizing rate (PS)[2]	g/s	1.9	6.2	9	4.8	6.9	12.6	18.5	9.9	14.4	22.3	11.6	17.9	28.5
Screw torque	Nm	65	120	231	120	238	340	357	340	490	490	600	621	621
Nozzle stroke/contact force	mm/kN	350/47			350/47				300/86			300/86		
Injection rate into air	cm^3/s	49	81	121	49	73	95	136	71	103	140	74	101	132
Injection rate into air with double pump (option)	cm^3/s	65	108	161	65	98	126	182	95	137	187	99	134	176
Barrel heating power	kW	2.9	5.5	6.3	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9
Number of heating zones		4			4				4			4		
Energy efficiency class[3]		3+			3+	3+	3+	5+	3+	4+	6+	4+	6+	7+

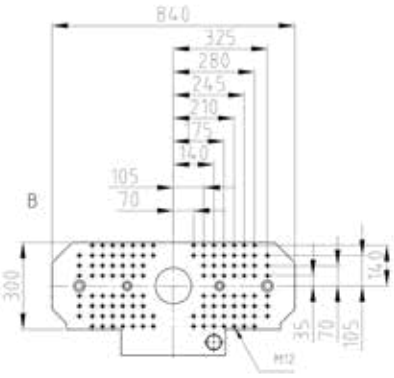
Drive					
Drive power	kW	15	15	15	15
Oil tank volume	l	175	175	175	175
Elect. power supply without options	kVA	28	30	32	34
Emission sound pressure level[4]	dB(A)	70	70	70	70

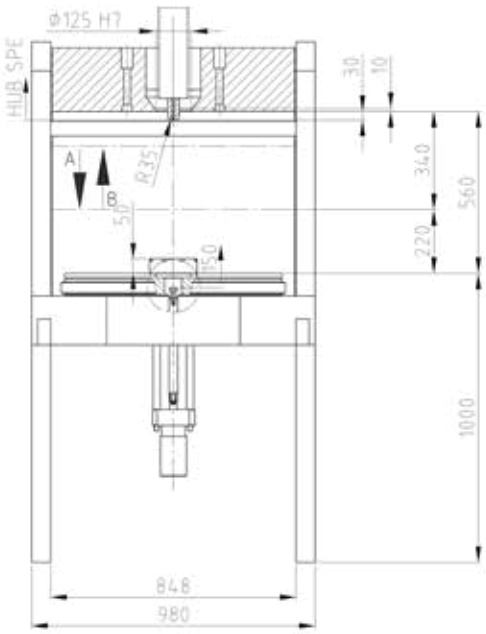
Weights, dimensions					
Net weight (exclusive oil)	kg	5400	5500	5600	5700
H – Lenght x width x height[5]	kg	3.0 x 1.8 x 2.6	3.0 x 1.8 x 2.6	3.3 x 1.8 x 2.6	3.3 x 1.8 x 2.6
V – Lenght x width x height[5]	m	2.4 x 1.8 x 3.6	2.4 x 1.8 x 3.7	2.4 x 1.8 x 3.8	2.4 x 1.8 x 3.9
Max. mold weight[6]	kg	600	600	600	600
Min. mold diameter	mm	250	250	250	250

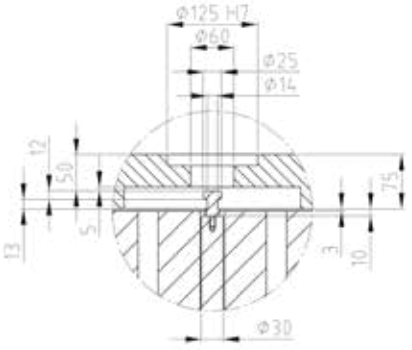
1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

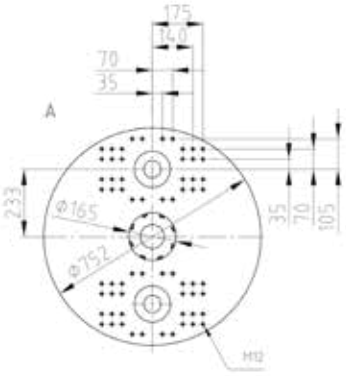
Rotary table diameter 752 mm











DATA CM R 40

Clamping unit		**CM R 40**
Clamping force	kN	400
Platen size	mm x mm	940 x 300
Rotary table diameter	mm	1280
Working height	mm	1000
Min. mold height	mm	220
Opening stroke/opening force	mm/kN	340/90
Max. daylight	mm	560
Ejector stroke/ejector force	mm/kN	150 / 27.5
Dry cycle time[1]	s – mm	2.5 – 150

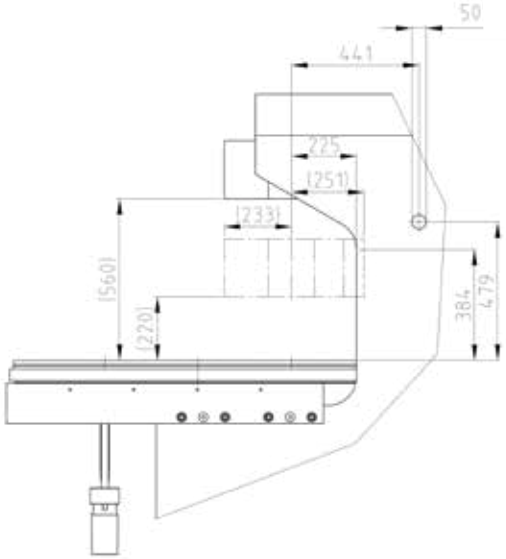
Injection unit		**60 H/V**			**130 H/V**				**210 H/V**			**350 H/V**		
Screw diameter	mm	14	18	22	18	22	25	30	25	30	35	30	35	40
Screw stroke	mm	90			110	110	125	125	150			175		
Screw L/D ratio		20			20	20	22	22	22			22		
Theoretical shot volume	cm^3	10.8	22.9	34.2	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220
Specific injection pressure	bar	3000	2593	1736	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595
Max. screw speed	min^{-1}	623			477				372			298		
Max. plasticizing rate (PS)[2]	g/s	1.9	6.2	9	4.8	6.9	12.6	18.5	9.9	14.4	22.3	11.6	17.9	28.5
Screw torque	Nm	65	120	231	120	238	340	357	340	490	490	600	621	621
Nozzle stroke/contact force	mm/kN	350/47			350/47				300/86			300/86		
Injection rate into air	cm^3/s	49	81	121	49	73	95	136	71	103	140	74	101	132
Injection rate into air with double pump (option)	cm^3/s	65	108	161	65	98	126	182	95	137	187	99	134	176
Barrel heating power	kW	2.9	5.5	6.3	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9
Number of heating zones		4			4				4			4		
Energy efficiency class[3]		3+			3+	3+	3+	5+	3+	4+	6+	4+	6+	7+

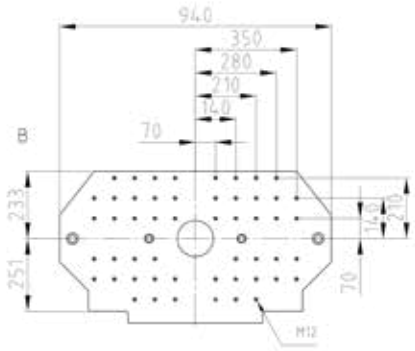
Drive					
Drive power	kW	15	15	15	15
Oil tank volume	l	175	175	175	175
Elect. power supply without options	kVA	28	30	32	34
Emission sound pressure level[4]	dB(A)	70	70	70	70

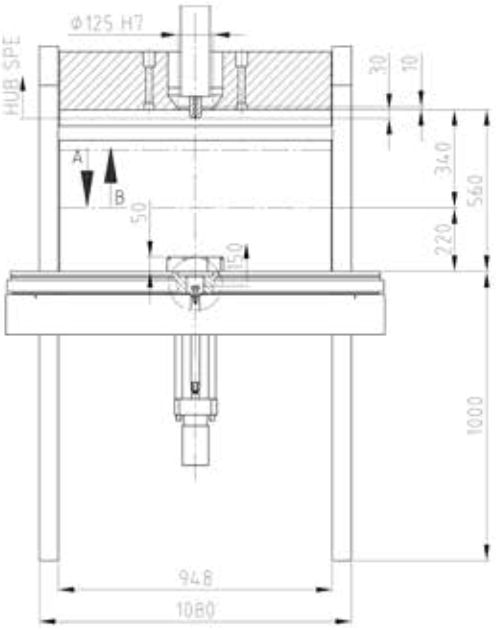
Weights, dimensions					
Net weight (exclusive oil)	kg	8200	8300	8400	8500
H – Lenght x width x height[5]	kg	3.6 x 2.0 x 2.6	3.6 x 2.0 x 2.6	3.9 x 2.0 x 2.6	3.9 x 2.0 x 2.6
V – Lenght x width x height[5]	m	3.0 x 2.0 x 3.6	3.0 x 2.0 x 3.7	3.0 x 2.0 x 3.8	3.0 x 2.0 x 3.9
Max. mold weight[6]	kg	600	600	600	600
Min. mold diameter	mm	250	250	250	250

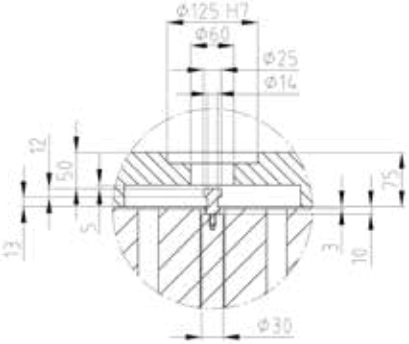
1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

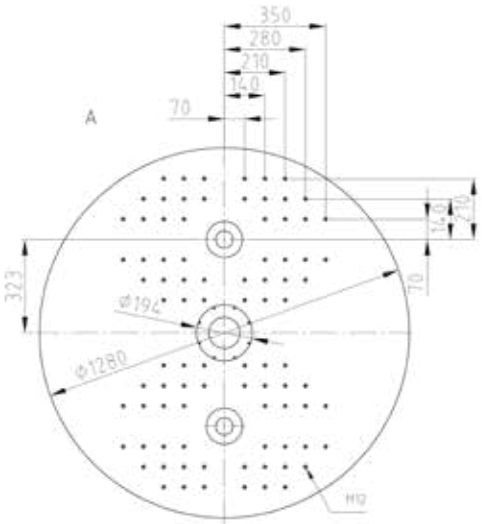
Rotary table diameter 1280 mm











DATA CM R 80

Clamping unit		**CM R 80**
Clamping force	kN	800
Platen size	mm x mm	910 x 400
Rotary table diameter	mm	1520
Working height	mm	1025
Min. mold height	mm	250
Opening stroke/opening force	mm/kN	375/232
Max. daylight	mm	625
Ejector stroke/ejector force	mm/kN	150 / 27.5
Dry cycle time[1]	s – mm	3 – 150

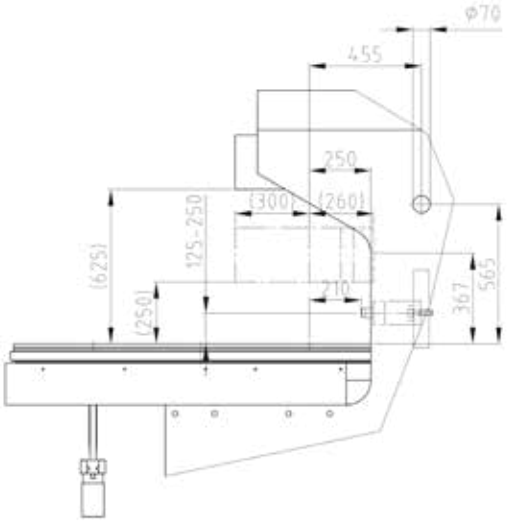
Injection unit		**130 H/V**				**210 H/V**			**350 H/V**			**525 H/V**			**750 H/V**		
Screw diameter	mm	18	22	25	30	25	30	35	30	35	40	35	40	45	40	45	50
Screw stroke	mm	110	110	125	125	150			175			200			225		
Screw L/D ratio		20	20	22	22	22			22			22			22		
Theoretical shot volume	cm^3	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220	168	251	318	251	358	442
Specific injection pressure	bar	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595	2500	2100	1659	2500	2116	1714
Max. screw speed	min^{-1}	477				496			397			377			291		
Max. plasticizing rate (PS)[2]	g/s	4.8	6.9	12.6	18.5	13.1	19.2	29.7	15.4	23.8	38	22.6	36	47	27.9	36.3	43.9
Screw torque	Nm	120	238	340	357	340	490	490	600	621	621	770			998		
Nozzle stroke/contact force	mm/kN	350/47				300/86			300/86			350/86			350/86		
Injection rate into air	cm^3/s	65	98	126	182	95	137	187	117	160	209	121	158	200	124	157	194
Injection rate into air with double pump (option)	cm^3/s	78	116	150	216	137	197	268	160	219	286	166	216	274	170	215	266
Barrel heating power	kW	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9	11.5	14	17.3	14	17.3	21.9
Number of heating zones		4				4			4			4			4	4	5
Energy efficiency class[3]		2+	2+	2+	4+	2+	4+	5+	4+	5+	6+	5+	6+	7+	6+	7+	8+

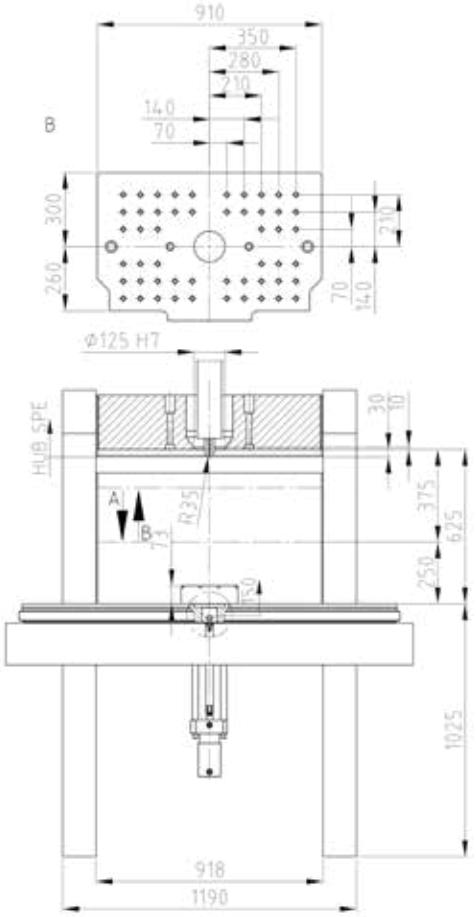
Drive						
Drive power	kW	37	37	37	37	37
Oil tank volume	l	300	300	300	300	300
Elect. power supply without options	kVA	54	56	58	60	62
Emission sound pressure level[4]	dB(A)	70	70	70	70	70

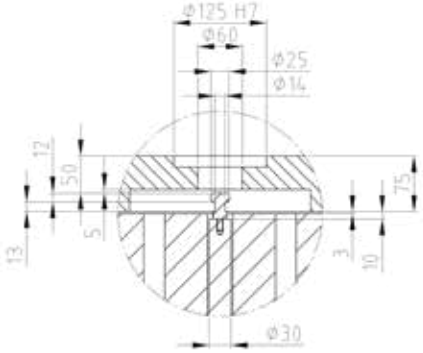
Weights, dimensions						
Net weight (exclusive oil)	kg	13500	13600	13700	13800	13900
H – Lenght x width x height[5]	kg	4.5 x 2.4 x 2.7	4.5 x 2.4 x 2.7	4.6 x 2.4 x 2.7	4.7 x 2.4 x 2.7	4.8 x 2.4 x 2.7
V – Lenght x width x height[5]	m	4.4 x 2.4 x 3.8	4.4 x 2.4 x 3.9	4.4 x 2.4 x 4.1	4.4 x 2.4 x 4.3	4.4 x 2.4 x 4.7
Max. mold weight[6]	kg	800	800	800	800	800
Min. mold diameter	mm	300	300	300	300	300

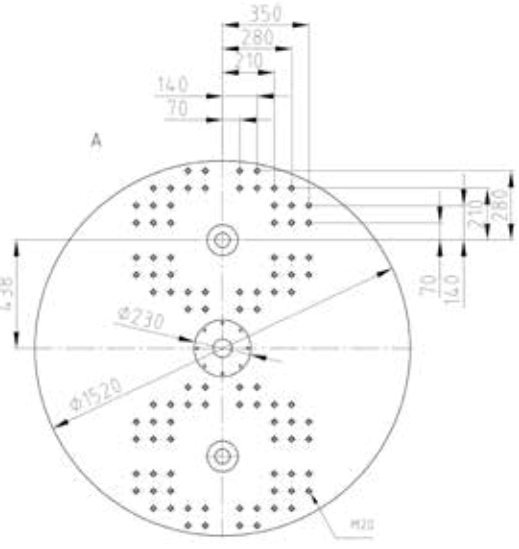
1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen

Rotary table diameter 1520 mm









DATA CM S 40

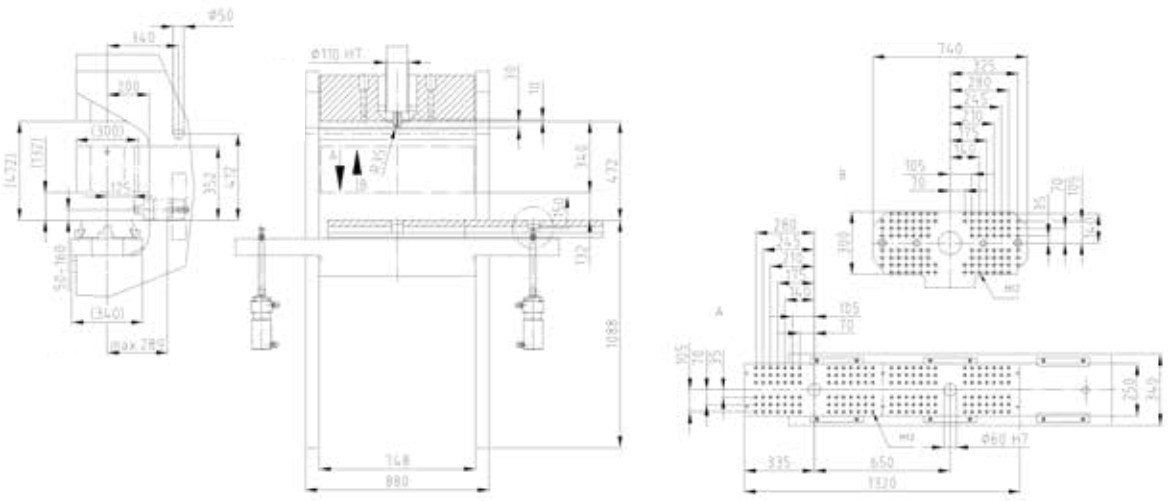
Clamping unit		**CM S 40**
Clamping force	kN	400
Platen size	mm x mm	740 x 300
Sliding table stroke	mm	650
Working height	mm	1088
Min. mold height	mm	132
Opening stroke/opening force	mm/kN	340/90
Max. daylight	mm	472
Ejector stroke/ejector force	mm/kN	150/27.5
Dry cycle time[1]	s – mm	2.5 – 150

Injection unit		**60 H/V**			**130 H/V**				**210 H/V**			**350 H/V**		
Screw diameter	mm	14	18	22	18	22	25	30	25	30	35	30	35	40
Screw stroke	mm		90		110	110	125	125		150			175	
Screw L/D ratio			20		20	20	22	22		22			22	
Theoretical shot volume	cm^3	10.8	22.9	34.2	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220
Specific injection pressure	bar	3000	2593	1736	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595
Max. screw speed	min^{-1}		623			477				372			298	
Max. plasticizing rate (PS)[2]	g/s	1.9	6.2	9	4.8	6.9	12.6	18.5	9.9	14.4	22.3	11.6	17.9	28.5
Screw torque	Nm	65	120	231	120	238	340	357	340	490	490	600	621	621
Nozzle stroke/contact force	mm/kN		350/47			350/47				300/86			300/86	
Injection rate into air	cm^3/s	49	81	121	49	73	95	136	71	103	140	74	101	132
Injection rate into air with double pump (option)	cm^3/s	65	108	161	65	98	126	182	95	137	187	99	134	176
Barrel heating power	kW	2.9	5.5	6.3	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9
Number of heating zones			4			4				4			4	
Energy efficiency class[3]			3+		3+	3+	3+	5+	3+	4+	6+	4+	5+	6+

Drive					
Drive power	kW	15	15	15	15
Oil tank volume	l	175	175	175	175
Elect. power supply without options	kVA	28	30	32	34
Emission sound pressure level[4]	dB(A)	70	70	70	70

Weights, dimensions					
Net weight (exclusive oil)	kg	4400	4500	4600	4700
H – Lenght x width x height[5]	m	2.7 x 3.2 x 2.6	2.7 x 3.2 x 2.6	3.0 x 3.2 x 2.6	3.0 x 3.2 x 2.6
V – Lenght x width x height[5]	m	2.1 x 3.2 x 3.6	2.1 x 3.2 x 3.7	2.1 x 3.2 x 3.8	2.1 x 3.2 x 3.9
Max. mold weight[6]	kg	600	600	600	600
Min. mold diameter	mm x mm	250	250	250	250

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen



DATA CM S 80

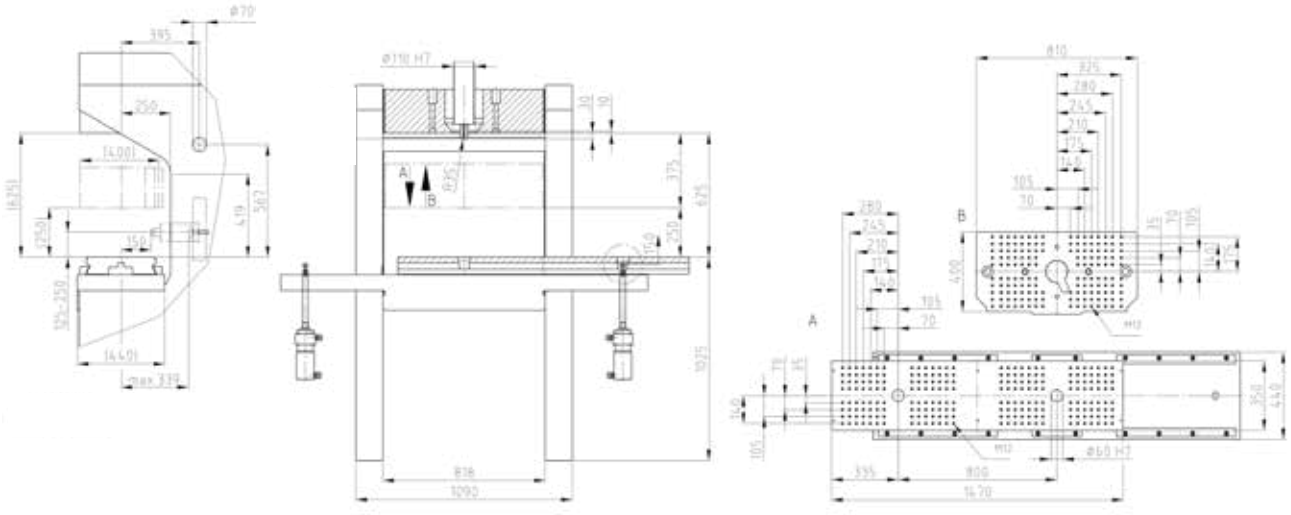
Clamping unit		**CM S 80**
Clamping force	kN	800
Platen size	mm x mm	810 x 400
Sliding table stroke	mm	800
Working height	mm	1025
Min. mold height	mm	250
Opening stroke/opening force	mm/kN	375/232
Max. daylight	mm	625
Ejector stroke/ejector force	mm/kN	150/27.5
Dry cycle time[1]	s – mm	3 - 150

Injection unit		**130 H/V**				**210 H/V**			**350 H/V**			**525 H/V**			**750 H/V**		
Screw diameter	mm	18	22	25	30	25	30	35	30	35	40	35	40	45	40	45	50
Screw stroke	mm	110	110	125	125	150			175			200			225		
Screw L/D ratio		20	20	22	22	22			22			22			22		
Theoretical shot volume	cm^3	22.9	41.8	61.4	88.4	61.4	106	144	106	169	220	168	251	318	251	358	442
Specific injection pressure	bar	3000	2864	2218	1540	2940	2042	1500	2835	2083	1595	2500	2100	1659	2500	2116	1714
Max. screw speed	min^{-1}	477				496			397			377			291		
Max. plasticizing rate (PS)[2]	g/s	4.8	6.9	12.6	18.5	13.1	19.2	29.7	15.4	23.8	38	22.6	36	47	27.9	36.3	43.9
Screw torque	Nm	120	238	340	357	340	490	490	600	621	621	770			998		
Nozzle stroke/contact force	mm/kN	350/47				300/86			300/86			350/86			350/86		
Injection rate into air	cm^3/s	65	98	126	182	95	137	187	117	160	209	121	158	200	124	157	194
Injection rate into air with double pump (option)	cm^3/s	78	116	150	216	137	197	268	160	219	286	166	216	274	170	215	266
Barrel heating power	kW	5.5	6.3	9	10.4	9	10.4	10.4	10.4	10.4	12.9	11.5	14	17.3	14	17.3	21.9
Number of heating zones		4				4			4			4			4	4	5
Energy efficiency class[3]		2+	2+	2+	4+	2+	4+	5+	4+	5+	6+	5+	6+	7+	6+	7+	7+

Drive						
Drive power	kW	37	37	37	37	37
Oil tank volume	l	300	300	300	300	300
Elect. power supply without options	kVA	54	56	58	60	62
Emission sound pressure level[4]	dB(A)	70	70	70	70	70

Weights, dimensions						
Net weight (exclusive oil)	kg	8500	8600	8700	8800	8900
H – Lenght x width x height[5]	m	3.2 x 3.4 x 2.7	3.2 x 3.4 x 2.7	3.3 x 3.4x 2.7	3.4 x 3.4 x 2.7	3.5 x 3.4 x 2.7
V – Lenght x width x height[5]	m	3.1 x 3.4 x 3.8	3.1 x 3.4 x 3.9	3.1 x 3.4 x 4.1	3.1 x 3.4 x 4.3	3.1 x 3.4 x 4.7
Max. mold weight[6]	kg	800	800	800	800	800
Min. mold diameter	mm x mm	300	300	300	300	300

1) theoretical according to EUROMAP 6 2) according to WITTMANN BATTENFELD norm 3) calculated according to Euromap 60.1 (Cycle I)
4) according to ÖNORM EN 201:2010 annex K 5) Length with medium screw diameter in rearmost operating position 6) max. ½ on fixed platen || max. ⅔ on moving platen



STANDARD

• Standard o Option – not available

Hydraulics	VMR| CMR	VM | CM, CMS
Speed-controlled servo motor for hydr. pump	•	•| –
Oil filtration by fine flow filter with electr. clogging indicator	•	•
Oil level indicator with alarm	•	•
Closed-loop oil temperature control with oil pre-heating	•	•
Oil temperature monitoring	•	•
Oil tank with connections for external oil filtration	•	•
Seperate hand keys for core pulls	•	•
Display of actual pump system pressure via touch screen	•	•

Clamping unit		
Clamping force adjustable via touch screen	•	•
Closing and opening speed adjustable	•	•
Closing and opening force adjustable	•	•
Mold safety program	•	•
Bolt pattern and mold centering via EUROMAP	•	•
Hydraulic mold close inhibit, electr. monitored	•	•
Mechanical mold safety mechanism for vertical clamp incl. electr. supervision	•	•
Hydraulic ejector in operating position, several ejector programs, multiple strokes and parallel movements during machine cycle	•	–
Rotary table with 2 stations, oscillating 180°	•	–
Hardened rotary table gear ring	•	–
Mechanical indexation for final positioning of rotary table	•	–
Rotary table covered by stainless steel	•	–
Rotary table on sliding plates: bronze with graphite inclusions	•	–
Central lubrication for rotary table: sliding plates and gear ring	•	–
Rotary table speed adjustable via touch screen	•	–
Rotary table position visualization via touch screen	•	–
Pre-sel. of activ mold lower parts (1 or 2) for prod. process	•	–
Servo-electrical rotary drive	•	–

Injection unit		
Screw L/D = 22 with check valve, screw and barrel nitrated	•	•
Thermocouple failure monitor	•	•
Maximum temperature supervision	•	•
Plugable cylinder heater bands and thermocouple	•	•
Temperature control of feed throat integrated	•	•
Open nozzle	•	•
Relief valve for nozzle pressure control	•	•
Injection unit mounted either in horizontal or vertical position (except CM)	•	•
Purge guard	•	•
Hopper MH 206 WITTMANN	•	•
Selectable barrel stand-by temperature	•	•
Physical units – bar, ccm, mm/s etc.	•	•
Screw protection	•	•
Linear bearings for the injection unit	•	•
Adjustable height (of horizontal injection unit only)	•	•

Safety gate		
Safety gate left, right and behind clamp unit with electr. and hydr. monitoring, CE	•	•
Infrared light curtain in operating station	•	•

Cooling/conditioning		
2 cooling water circuits up to 120 °C on rotary table via medium distributor (oscil. operation)	•	–

Electrical components/Control system	VMR| CMR	VM | CM, CMS
Control zone for nozzle heater band 230 V	•	•
Fuse protection for sockets	•	•
Switch cabinet cooling – circulation fan for environment temperature to 30 °C	•	•
Emergency stop switch button	•	•
Printer socket	•	•
USB – 1 x operating unit	•	•
1 Ethernet interface (switch cabinet)	•	•
Printer via USB connection or network	•	•
Control system Unilog B8 – 21,5" multi-touch screen (full HD)	•	•
Control panel with selectable haptic keys	•	•
Software for operating hours counter	•	•
Closing/Opening – 5 profile steps	•	•
Ejection forward/back – 3 profile steps	•	•
Nozzle forward/back – 3 profile steps	•	•
Injection/Holding pressure – 10 profile steps	•	•
Screw speed/Back pressure – 6 profile steps	•	•
Parts counter with good/bad part evaluation	•	•
Purging program through open mold (only with 2-station VM R machines activated in standard)	•	•
Stroke zero offset settings	•	•
Start-up program	•	•
Switchover to holding pressure MASTER/SLAVE by injection time, screw stroke/injection volume and injection pressure	•	•
Self-teaching temperature controller	•	•
Display of temperature inside electrical cabinet	•	•
Seven-day timer	•	•
Access authorization via USB interface, password system and RFID authorization system (1 x check card IT-level-15, 1 x token customer level-30 and 1 x token customer service level-20 are included in delivery)	•	•
Freely configurable status bar	•	•
Physical, process-related units	•	•
Automatic dimming	•	•
Logbook with filter function	•	•
User programming system (APS)	•	•
Userpage	•	•
Note pad function	•	•
Cycle time analysis	•	•
Hardcopy function	•	•
Internal data storage via USB connection or network	•	•
Online language selection	•	•
Online selection of imperial or metric units	•	•
Time monitoring	•	•
Basic Quality Monitoring (1 freely configurable network connection, quality table with 1000 storage depth, events protocol (logbook) for 1000 events, actual value graphics with 5 curves, 1 envelope curves monitoring)	•	•
Injection integral supervision	•	•
Metering integral supervision	•	•
Alarm message via e-mail	•	•
SmartEdit – sequence editor	•	–
QuickSetup – assistance program for initial parameter setting	•	–

Accessories		
Paint RAL 7047 telegrey 4/RAL 3004 crimson	•	•

OPTIONS

Hydraulics	VMR| CMR	VM | CM, CMS
Extra large oil cooler	o	o
Core pull movement and parallel ejection with double pump	•	o
Core pull movement and parallel ejection incl. fast injection with double pump	o	o
Hydraulic core pull	o	o
Pneumatic core pull	o	o
Pneum. hydraul. block for mold shut-off nozzle control	o	o
Core pull pressure release functions	o	o
Filter in water inlet of oil cooler	o	o
Adapter with ball valve on the oil tank for oil maintenance	o	o
Separate bypass filtration unit	o	o

Clamping unit		
Non-standard mold hight as per customer request	o	o
Non-standard opening stroke as per customer request	o	o
Non-standard layout of fastening bores in platen	o	o
T-slots in mold platen	–	o
Cooling of moving and fixed platen	o	o
SPI mold centering and bolt pattern	o	o
Ejector cross as per EUROMAP/SPI	o	o
Increased ejector force	o	o
Ejector platen safety device	o	o
Double check valve to keep ejector in end-position	o	o
Ejector location choosable with 3 and 4 stationed machines	o	–
Mechanical ejector couple	o	o
Ejector back via 2-hand operation with activated safety device	o	o
Air valve, activated travel- and time-dependent	o	o
Rotary table with 3 stat., 120°; 4 stat., 90°; servo motor	o	–
Quick clamping system, hydr. or mechanical	o	o

Injection unit		
Add. injection unit (V/H) plugable	o| –	o| –
Prep. for mount. a 2nd plugable injection unit, for altern. use	o	o
High revolution screw motor	o	o
Adjust. height of horiz. injection unit incl. stroke measur. device	•	o
Grooves in the feeding zone	o	o
High torque screw motor in lieu of standard	o	o
High temperature heater bands 450 °C	o	o
Screw drive by a.c. servo motor	o	o
Ball type screw tip (from ∅ 30 mm)	o	o
Needle type shutoff nozzle spring, pneum. or hydr. operated	o	o
Melt temperature or pressure sensor in cylinder head	o	o
Open Airmould nozzle, pressure controlled	o	o
Barrel isolation	o	o
Pneum. purging guard for horizontal injection units	o| –	o| –
Pneum. purging tray for vertical injection units	o	o
Wear resistant screw and barrel AK+	o	o
Screw with mixing section or barrier section	o	o
Application package processing thermosets	o	o
Application package processing liquid silicone rubber (LSR)	o	o
Application package processing PIM (MIM/CIM)	o	o
2-component meter mix pump	o	o
Vacuum pump	o	o
Magnet in material hopper	o	o
Hopper loader UNIFEED A1 in lieu of material hopper	o	o
Closed injection loop controlled via servo valve	o	o
29 liter stainless steel hopper, can be shut and emptied	o	o

Safety gate	VMR| CMR	VM | CM, CMS
Add. operation station incl. infrared curtain and a small manual desk (cycle start and emergency stop)	o	–
Extended execution for manual part removal	o	o
Clamping unit protected by add. light curtain	o	–
Pneum. safety gate at the operator side	o	o
Preparation for add. automation systems incl. safety related interfaces	o	o
Complete covering for horizontal injection unit	o	o

Cooling/conditioning		
Cooling water battery with temperature gauges	o	o
Shut-off valve for cooling water battery	o	o
Venting valve for cooling water battery	o	o
Filter in water inlet of cooling circuit	o	o
Hosting of cooling circuits on fixed and moving nozzle platen	o	o
Rotary distributor for condit., hydr., pneum., electr. circuits	o	–

Electrical components/Control system		
Clamp force display and supervision	o	o
Temperature control zone for hot runner	o	o
Non-contact stroke transducers	o	o
Special voltage	o	o
Control cabinet cooler	o	o
Closed-loop temperature control of platen and mold	o	o
Additional socket	o	o
Interface for handling equipment	o	o
Energy consumption analysis	o	o
Interface for RJG-Insight system	o	o
Switch over to holding pressure by cavity or melt pressure	o	o
Switch over to holding pressure by external signal	o	o
Cavity pressure/cavity surface temperature display	o	o
Injection compression program/venting program	o	o
Melt cushion control	o	o
Audible alarm	o	o
Temperature control interface digital, serial 20 mA TTY protocol	o	o
CAN-Bus-interface for temperature controller EUROMAP 66-2	o	o
Interface for extended mold supervision on upper mold and lower mold	o	o
Mobile Airmould interface	o	o
Interface for robots as per EUROMAP 67	–	o
Interface for robots as per EUROMAP 67.1	o	–
Host computer interface/PDA as per EUROMAP 63	o	o
Potential-free contact parallel to plasticizing	o	o
Machine fault (potential-free contact)	o	o
BNC-connectors for injection process analysis	o	o
Interface for full integration of robot	o	o
Interface for brushing device	o	o
Interface for vacuum pump	o	o
Injection parameter switchover during starting phase	o	o
Web- and remote-service	o	o
SmartMonitoring MES software packages	o	o
HiQ packages	o	o
Integration package Wittmann 4.0	o	o

Accessories		
Lighting in mold space and tool kit	o	o
Special paint/touch-up kit	o	o
Webcam	o	o
Leveling elements	o	o

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