

INJECTION MOULDING MACHINES

ROMI EN Series

NEW GENERATION

**Precise.
Versatile.
Energy Efficient.**



www.romi.com





MORE
PRODUCTIVITY
AND
PROFITABILITY
FOR YOUR
BUSINESS!

*In the constant transformation of industrial processes, it is crucial to have **differentials that make your products superior to those offered by competitors.***

*In this context, the insertion of new technologies in its production process, mainly by means of **modern, fast and precise machines, raises production performance.***

You get higher quality, productivity, efficiency and the best: higher profits than already achieved in your business!

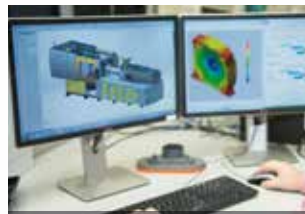
With more than 89 years of history and global presence, we have preserved the values that have made our products recognized worldwide. **We offer the most cost-effective injection moulding machines on the market.** Our commitment to the constant development of new solutions and dedication to innovation, results in robust, high technology and quality equipment.

We guarantee full support at all stages of purchase through our sales and sales engineering teams, customer training, specialized technical assistance and spare parts. **Having a Romi injection moulding machines assures that you have state of the art equipment** combined with a reputation of value, providing a high resale value in the future.

At Romi, you get a complete solution, much more than just equipment: **you have the security and tranquility of our full support at all times, always when you need it.** Ask us to find a suitable solution that your needs. **Our main goal is to make your business even more productive and profitable.**



Ultra Clean room



R & D



Flexible Manufacturing System (FMS)



Specialized technical assistance



Training



Spare parts

ROMI EN Series

New Generation

Energy Efficiency with Precision and Versatility.



The ROMI EN Series - New Generation

line has been designed to provide excellent performance, combining high technology, productivity, and low energy consumption.



ROMI EN 70

Clamping force	70 tonnes
Space between columns	360 x 360 mm
Opening stroke	360 mm
Injection unit EUROMAP	370



ROMI EN 100

Clamping force	100 tonnes
Space between columns	420 x 420 mm
Opening stroke	420 mm
Injection unit EUROMAP	370



ROMI EN 170

Clamping force	170 tonnes
Space between columns	550 x 550 mm
Opening stroke	500 mm
Injection unit EUROMAP	750 and 1000



ROMI EN 220

Clamping force	220 tonnes
Space between columns	620 x 620 mm
Opening stroke	560 mm
Injection unit EUROMAP	750, 1000 and 1300



ROMI EN 300

Clamping force	300 tonnes
Space between columns	730 x 730 mm
Opening stroke	660 mm
Injection unit EUROMAP	1000, 1300 and 2100



ROMI EN 400

Clamping force	400 tonnes
Space between columns	840 x 840 mm
Opening stroke	760 mm
Injection unit EUROMAP	1300, 2100 and 3100



ROMI EN 500

Clamping force	500 tonnes
Space between columns	930 x 930 mm
Opening stroke	1.000 mm
Injection unit EUROMAP	2100, 3100, 4500 and 6000



ROMI EN 650

Clamping force	650 tonnes
Space between columns	1.070 x 1.070 mm
Opening stroke	1170 mm
Injection unit EUROMAP	4500, 6000 and 9100

OPERATING SEGMENTS



Automotive

Precision in the production of technical parts for the automotive segment.



Toys

Precision and efficiency in toy production, prepared for a wide range of applications.



Household Utilities

High-quality application of parts for use in household utilities.



Cleaning

Productivity in the production of parts for the hygiene and cleaning sector, with a mold area free from contaminants.



White Goods

Precision in the application of parts for white goods appliances.



Logistics

Excellent performance in processes that require a high injection ratio, such as pallets and transport crates.

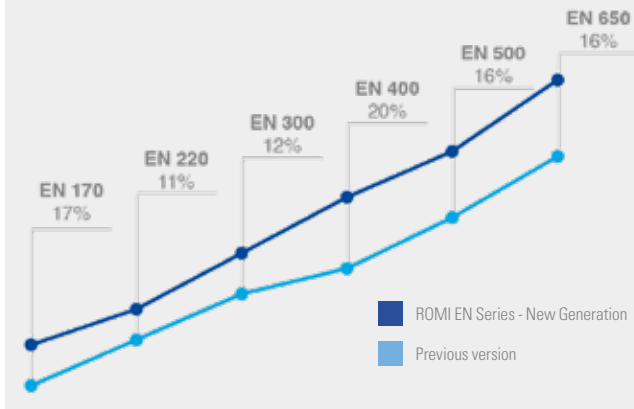
ROMI EN Series

New Generation



- Larger mould area:** the possibility to use larger moulds in line with the machine's tonnage.

Up to a **20% increase in tie-bar spacing***, allowing the use of larger moulds.



- Clean and contaminant-free mould area:** the movable platen does not come into contact with the tie-bars, instead it is supported on linear guides.



- Self-lubricating toggle bushings:** ensuring lower friction and smoother movements.



- Hydraulic ejection with proportional valve:** improved precision and repeatability of the ejection movements.

Clamping Unit



- Optimized toggle mechanism:** enables smooth movements, reduced platen deformation, and even force distribution during mould locking.



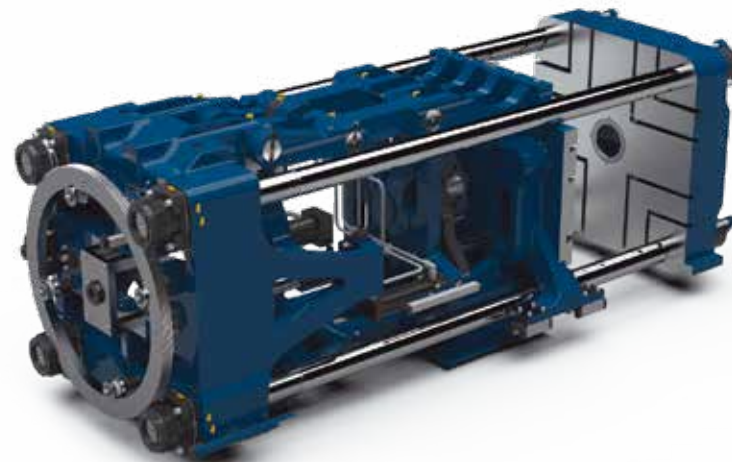
- Automatic mould height and clamping force adjustment:** gear-driven actuation clamp force adjustment.



- Hydraulic cores (optional):** can be installed on either the fixed or movable platen, with pressure relief.



- Clean mould area due to the use of **grease lubrication**.



* In comparison to the previous version, not applicable to ROMI EN 70 and ROMI EN 100.





ROMI EN Series

New Generation

Injection Unit



1

Injection Unit with:

- a) Greater gram weight selection options, ensuring the best possible adaptation to the production process;
- b) Increased injection speed and higher plastification capacity, resulting in a shorter cycle time.



2

Injection Unit supported on linear guides: minimal friction during the retraction movement of the nozzle.



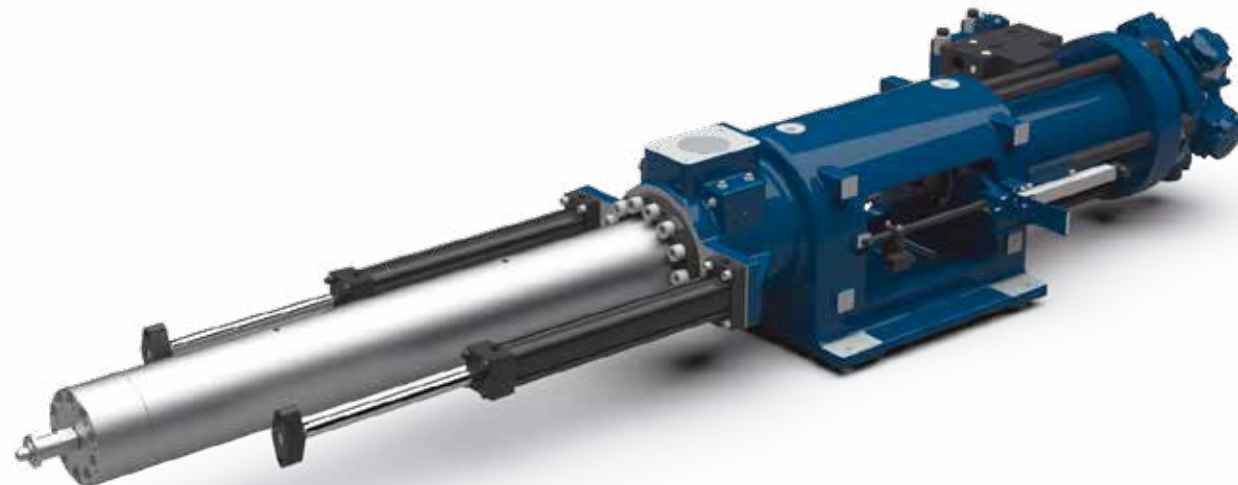
3

Stop and Go System: servo-pump-driven with smooth pressure-to-flow control switchover for repeatability and energy efficiency



4

High-performance and wear-resistant Plastification Assembly: ensuring high plastification performance and long service life.



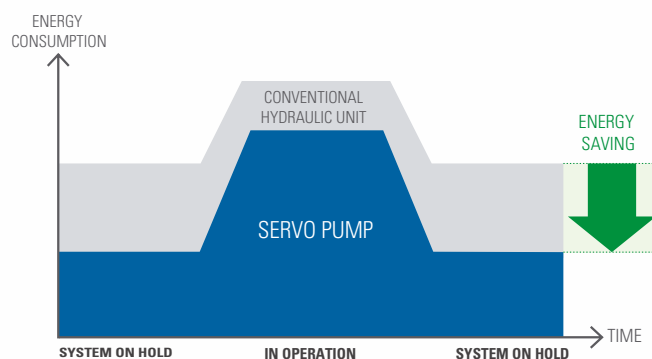
CLAMP UNIT

New dimensions of the clamping unit, designed to accommodate larger moulds that are consistent with the machine's tonnage.

5-point optimized mechanical-hydraulic bi-toggle closing system for smooth mould closing and opening movements, as well as improved force distribution during locking.



ENERGY SAVING PRINCIPLE



STOP AND GO

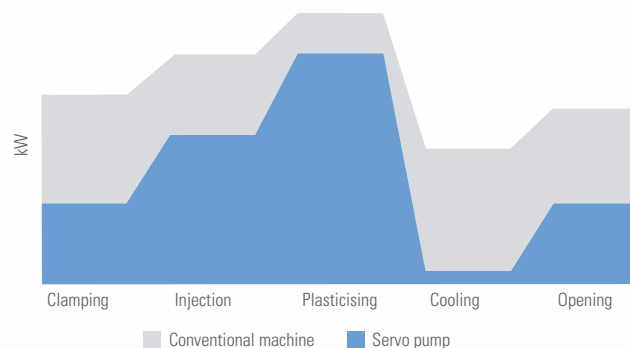
Stop and Go System: A perfect combination of servopump drive technology, high-precision hydraulics, robust mechanics, and intelligent software control.

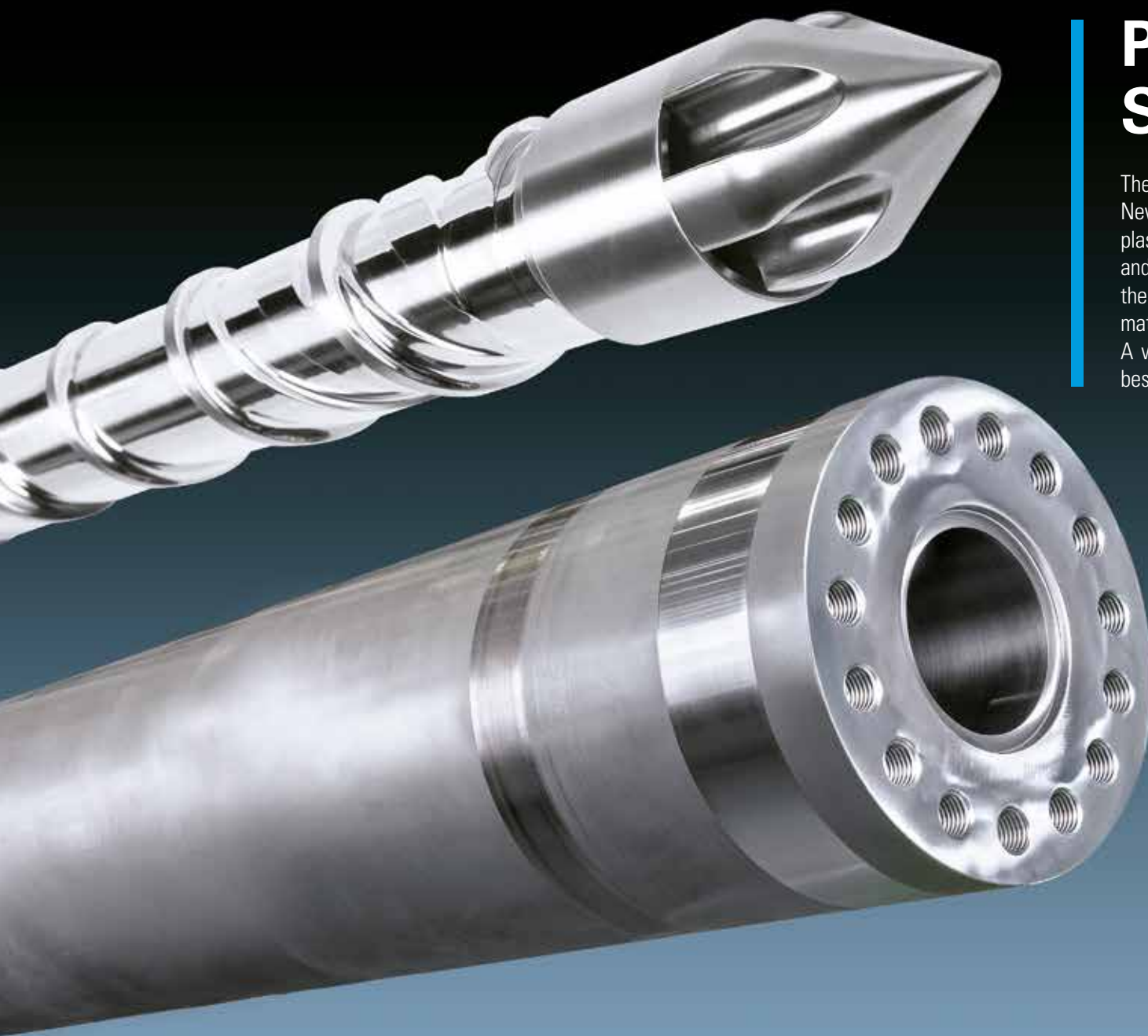
This system ensures minimal energy consumption and extended equipment durability, along with exceptional precision in movements. Energy consumption is proportional to the demand for hydraulic pressure and speed in movements.

ENERGY SAVING

The hydraulic system of the ROMI EN Series - New Generation machines ensures minimal energy consumption thanks to the flow and pressure control loop being directly integrated into the servopump drive. Energy consumption is close to zero during static phases of the process (cooling and part ejection). Excellent precision and repeatability result in an exceptionally low standard deviation of part weight, potentially leading to material cost savings of up to 2.5%.

Energy consumption - Conventional machine x Servo pump





PLASTICIZING SET

The plasticizing assembly of the ROMI EN Series - New Generation machines uses bimetallic-coated plasticizing screws, providing increased wear resistance and ensuring a long service life when processing thermoplastic materials with fillers and recycled materials.

A wide range of plasticizing assembly options for the best fit to the production process.



Equipped with raw material hopper.

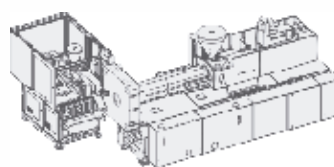
VERSIONS FOR THERMOSET, PVC, AND PET

Technology, Productivity, and Efficiency in the Production of Thermoset, PVC, and PET Bottle Preforms.

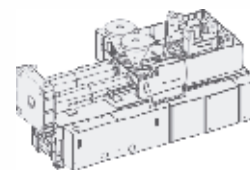
MULTICOMPONENT LINE

Developed specifically for the injection of multi-component and multi-colour parts.

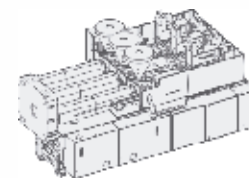
Examples of injector unit configurations:



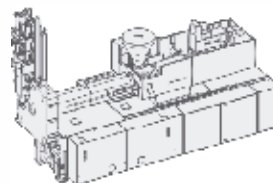
Side mounted



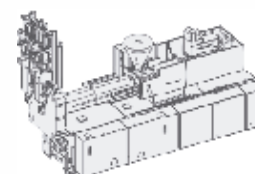
Double parallel



Treble parallel



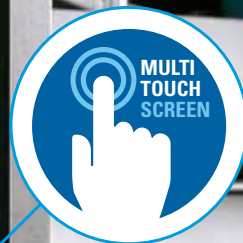
Vertical



Double vertical plus
main horizontal



Rotating plate



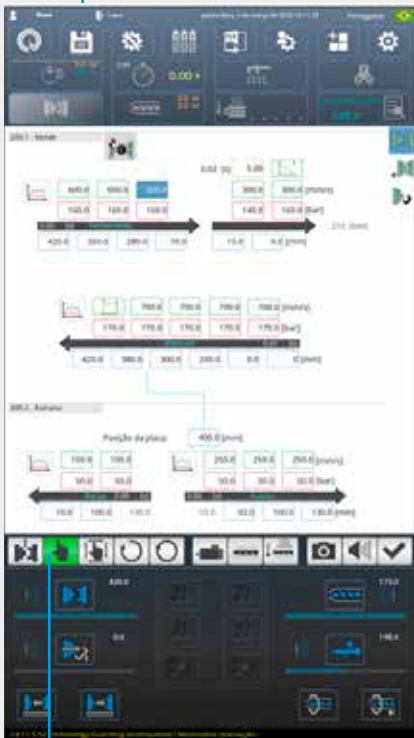
CM20 *PLUS* CONTROL

NEW GENERATION

- Full HD 19" Touchscreen Display
- 2.2 GHz Dual-Core Processor
- 8GB RAM Memory
- 32GB C-FAST Storage
- USB and TCP/IP Interface Ports
- Peripheral Connectivity
- Statistical Process Control
- Production Control
- Integration with MES Systems
- Remote Maintenance and Support (Optional)
- Viewing via Mobile Devices (Webserver/VNC)
- Easy and Intuitive Programming
- Multi User level access control

MMI FEATURES

New navigation system:
Machine and process variables visible on all pages



New Manual Axis Control Mode - Multi-Touch



Automatic Mould Protection:
Increased Sensitivity



Automatic Screw Rotation Adjustment: Improved Performance and Reduced Energy Consumption

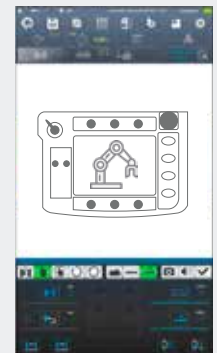
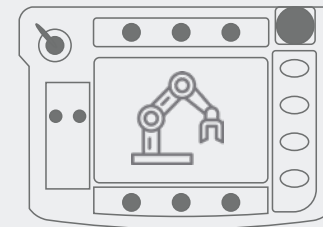
INTELLIGENT INJECTION CONTROL

This Machine Learning feature adds adaptive injection control, simplifying adjustments and enhancing process stability, reducing up to 3 times the variation in the weight of injected parts by up to up to 3 times.



PERIPHERAL INTEGRATION

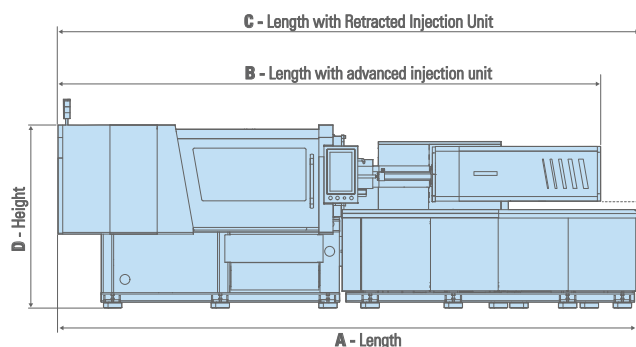
Mirroring the graphical interface of devices via VNC.



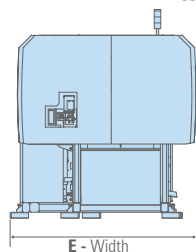
Technical Specifications		ROMI EN 70	ROMI EN 100	ROMI EN 170	ROMI EN 220	ROMI EN 300	ROMI EN 400	ROMI EN 500	ROMI EN 650
CLAMPING UNIT									
Mould clamping force	t	70	100	170	220	300	400	500	650
Maximum opening stroke	mm	360	420	500	560	660	760	1.000	1.170
Mould height (maximum x minimum)	mm	360 - 130	460 - 160	550 - 220	650 - 260	750 - 300	840 - 340	1.000 - 370	1.170 x 400
Minimum mould size (square)	mm	265 x 265	300 x 300	345 x 345	415 x 415	480 x 480	520 x 520	590 x 590	650 x 650
Maximum mould size	mm	540 x 360	640 x 420	780 x 550	890 x 620	1.040 x 730	1.200 x 840	1.350 x 930	1.560 x 1.070
Plates size (horizontal x vertical)	mm	540 x 540	640 x 640	780 x 780	890 x 890	1.040 x 1.040	1.200 x 1.200	1.350 x 1.350	1.560 x 1.560
Space between columns (horiz. x vert.)	mm	360 x 360	420 x 420	550 x 550	620 x 620	730 x 730	840 x 840	930 x 930	1.070 x 1.070
Maximum opening stroke	mm	720	880	1.050	1.210	1.410	1.600	2.000	2.340
Hydraulic Ejector	Ejection force	t	3,5	3,5	7,1	7,1	11,2	11,2	18,1
	Stroke	mm	100	130	180	180	250	250	360

Machine Dimensions

FRONT VIEW



SIDE VIEW



		EN 70		EN 100		EN 170		EN 220			EN 300			EN 400			EN 500				EN 650		
EUROMAP	type	370	370	750	1000	750	1000	1300	1000	1300	2100	1300	2100	3100	2100	3100	2100	3100	4500	6000	4500	6000	9100
A - Length	m	4,25	4,60	5,75	5,95	5,95	6,15	6,30	6,60	6,70	6,70	7,20	7,20	7,95	8,50	9,20	9,90	10,30	10,55	11,00	11,00		
B - Length with advanced injection unit	m	4,20	4,40	5,30	5,30	5,55	5,75	5,90	6,15	6,30	6,75	6,70	7,20	7,65	8,53	8,83	9,30	10,40	9,97	11,20	11,40		
C - Length with Retracted Injection Unit	m	4,50	4,73	5,75	6,00	6,00	6,20	6,30	6,60	6,75	7,30	7,20	7,75	8,20	9,00	9,50	9,90	11,00	10,60	11,70	12,10		
D - Height	m	1,80	1,90	1,90		1,95				2,10			2,25			2,40					2,50		
E - Width	m	1,50	1,50	1,70		2,00				2,10			2,20			2,47					2,75		
Weight	t	3,7	5,1	7,6	8,5	8,7	9	9,4	12,95	14,55	15	13	14	15	29	30,5	32	33	34,7	36,7	38,2		

EUROMAP Classification		370			750				1.000			1.300				2.100			3.100			4.500			6.000			9.100								
INJECTION UNIT																																				
Screw Diameter	mm	35	40	45	40	45	50	55	50	55	60	55	60	70	60	70	80	70	80	90	80	90	100	90	100	115	100	115	125							
Screw Ratio	L/D	22,0	20,0	18,0	23,0	22,2	20,0	18,2	22,0	20,0	18,3	21,8	20,0	17,1	23,3	20,0	17,5	22,9	20,0	17,8	22,5	20,0	18,0	22,2	20,0	17,4	23,0	20,0	18,4							
Maximum Injection Volume	cm³	173	226	286	251	318	393	475	432	523	622	570	679	924	792	1.078	1.407	1.232	1.608	2.036	1.810	2.290	2.827	2.417	2.985	3.947	3.613	4.778	5.645							
Maximum Injection Weight (PS)	g ⁽¹⁾	163	213	269	240	300	370	450	410	490	585	540	640	870	745	1.015	1.325	1.160	1.515	1.915	1.700	2.160	2.660	2.300	2.800	3.700	3.400	4.500	5.300							
Maximum Injection Pressure	bar ⁽²⁾	2.100	1.600	1.300	2.600	2.350	1.900	1.560	2.310	1.910	1.600	2.250	1.900	1.400	2.450	1.900	1.450	2.350	1.900	1.500	2.400	1.960	1.600	2.300	2.000	1.500	2.350	1.900	1.600							
Injection Rate	cm³/s ⁽²⁾	140	180	230	166	210	260	315	255	310	370	320	380	520	335	460	600	450	590	745	530	670	830	680	840	1.110	840	1.110	1.300							
Injection Speed	mm/s ⁽²⁾	146	143	145	132	132	132	133	130	130	131	135	134	135	118	120	119	117	117	117	105	105	106	107	107	107	107	107	106							
Plastification Rate	g/s ⁽³⁾	16	24	34	19	27	38	50	34	46	60	41	53	85	46	73	110	63	94	134	84	120	165	110	150	230	136	206	265							
Maximum Screw Speed	rpm ⁽³⁾	385rpm @ 40kgf.m			310rpm @ 70kgf.m				280rpm @ 90kgf.m				255rpm @ 120kgf.m				220rpm @ 180kgf.m				190rpm @ 250kgf.m				170rpm @ 340kgf.m				155rpm @ 470kgf.m				140rpm @ 650kgf.m			
Maximum Screw Torque	kgf.m	67kgf.m @ 230rpm			114kgf.m @ 190rpm				147kgf.m @ 170rpm				187kgf.m @ 165rpm				286kgf.m @ 140rpm				410kgf.m @ 120rpm				520kgf.m @ 110rpm				710kgf.m @ 100rpm				940kgf.m @ 90rpm			
Maximum Nozzle Diameter	mm ⁽⁴⁾	21	24	27	21	24	27	29	23	26	28	24	27	31	23	27	30	30	34	38	29	33	38	29	33	38	29	33	36							
Oil Reservoir Volume	l	280			400				400				600				600				740				440 + 440				675 + 675				675 + 675			

ELECTRICAL DATA

Main Motor (Servo Motor)	kW	25			36			36			64			64			64			43 + 43			64 + 64			64 + 64		
Heating Power	kW	10			14,4			16,5			20,9			28,5			37,8			48,4			58,6			77,4		

	Dry Cycle - EUROMAP 6 (seconds)								
	370	750	1.000	1.300	2.100	3.100	4.500	6.000	9.100
ROMI EN 70	1,4								
ROMI EN 100	1,7								
ROMI EN 170		2	1,8						
ROMI EN 220		2,3	2,1	2,1					
ROMI EN 300			2,5	2,3	2,3				
ROMI EN 400				2,8	2,6	2,6			
ROMI EN 500					3,2	3,0	2,8	2,8	
ROMI EN 650							3,2	3,0	3,0

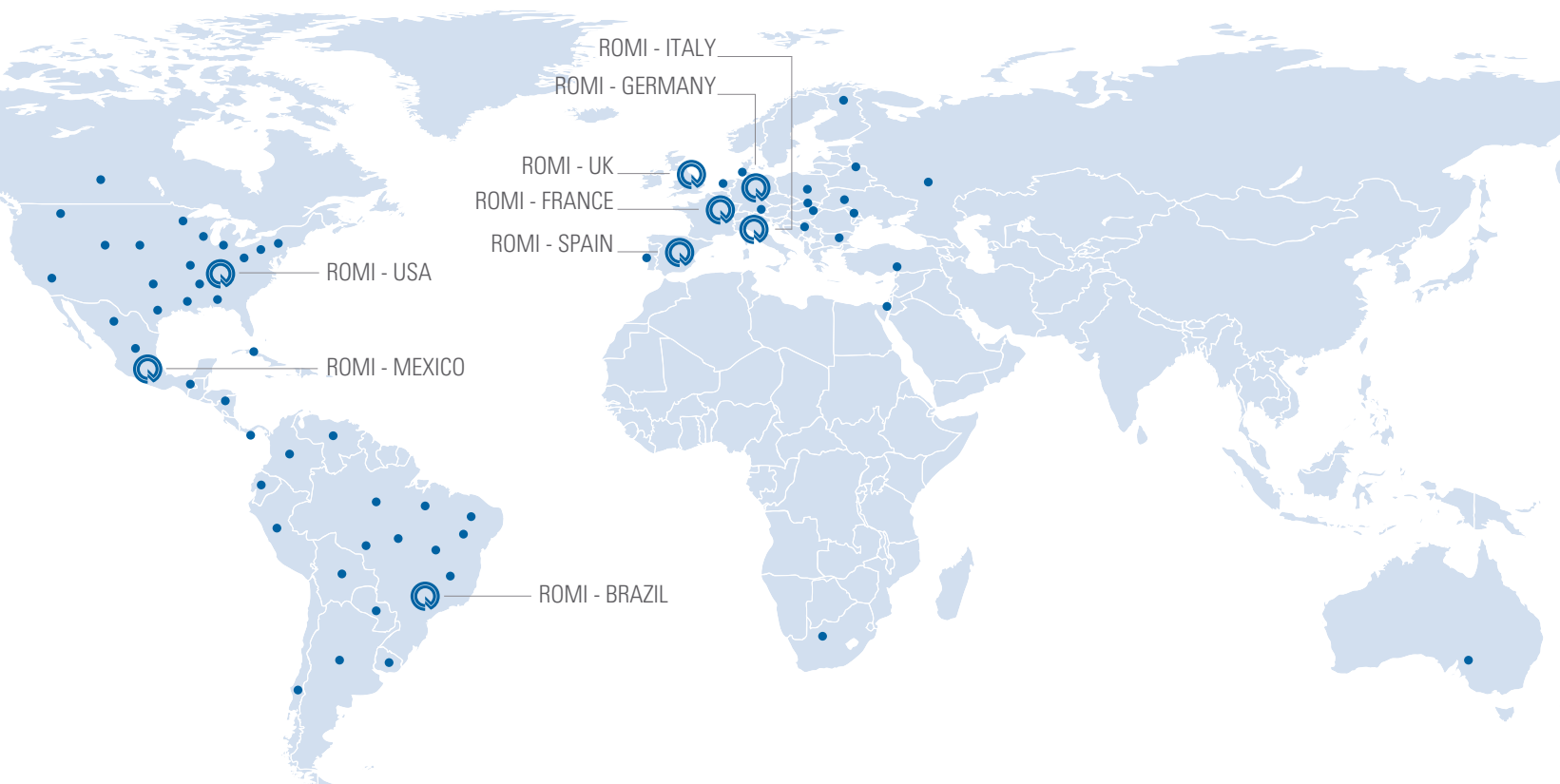
	EUROMAPS - Injection unit options								
	370	750	1.000	1.300	2.100	3.100	4.500	6.000	9.100
ROMI EN 70	●								
ROMI EN 100	●								
ROMI EN 170		●	●						
ROMI EN 220		●	●	●					
ROMI EN 300			●	●	●				
ROMI EN 400				●	●	●			
ROMI EN 500					●	●	●	●	
ROMI EN 650							●	●	●

⁽¹⁾ Approximate Values.

⁽²⁾ Instantaneous values and cannot be guaranteed when using maximum injection pressure.

⁽³⁾ Estimated values with Polystyrene (PS) material at a temperature of 220°C to 250°C and maximum screw speed.

⁽⁴⁾ Maximum diameter of the nozzle's projected area.



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