ENGEL INJECTION MOULDING MACHINE

e-motion 200/100 T

Technical details and equipment according to data sheet

Machine execution for processing of:

THERMOPLAST

CLAMP UNIT:
The clamp unit is with tie-bars, servo-electric drive, and 5-point double toggle system. The high dynamic servo drive of the clamp system ensures short dry cycle times and low noise level. Through the linear guidance of the moving platen, minimum wear and best platen parallelism are guaranteed. The tie-bars are non-bearing and thus lubricant-free. The servo-electrical ejector is integrated into the moving plate. The mold height adjustment achieved by means of a sun wheel. Clamping force and mold protection strength are measured on the front plate with highly precise sensors.

Platens in standard execution
Layout according to Euromap: EMP

Platens with locating diameter in standard execution 125 mm

Ejector piling with quick coupling for center ejector rod

Ejector drive with retaining brake for ejector plate with Euromap/SPI pattern

Single hydraulic corepull on stationary platen with check valve and pressure release Euromap 13 / AN-147

Vacuum circuit on moving platen

Selection-matrix for enable- and status-signals on screenpage for integrated robot interface extended to assign vacuum circuits OPT131748

Hydraulic unit size S1 with ecodrive (30l/min, 160bar), integrated

Interface for external guarding to allow machine to operate with non-operator gate open. Protection by additional external guarding is required

RocTool hot runner controller built in cover above machine control OPT135073
"Autoprotect"-precision mold protection.
even learning system with force monitoring

"Autoprotect"-injection monitoring.
Selectable monitoring of speed, pressure or cavity pressure.

Pneumatic valve gate control - 4 circuits

Valves for valve gate control in pluggable execution for use on mold or machine OPT127330

8-zone mold heating control. Includes additional temperature control card.
Connections according to Euromap 14

toggle with central lubrication and oil recirculation

INJECTION UNIT:
Electrical injection unit in Inline-design.
The servodrive for injection with integrated high resolution measuring system guarantees best precision and repeatability.
Injection and back pressure is detected by a measuring diaphragm directly on plasticating screw support. Carriage movement and plasticating are also powered by servo drives. Barrels, plasticating screws and check valves of Engel hydraulic machines are useable. The choice of diameter, geometry and material allows a perfect combination for specific processing conditions.
Cooling of feed throat is controlled. The comfortable access ensures a very short set-up time.

injection unit swivelling

Hopper support, moveable (hopper not included in shipment)

Universal adaptor for hopper / conveyor, located on movable hopper support

injection unit capsuled, without additional surrounding covering

BARREL AND SCREW ASSEMBLY:
A variety of choices of diameter, materials and geometry from standard selections allow the assembly of a customized package to suit any application.

Barrel execution:

barrel M3
higher abrasion and corrosion resistant working range up to 350 degrees C
Screw execution:

21  c141000640  additional price for screw S8
diameter 25 mm, screw length L/D 24,8
through hardened, abrasion- and corrosion
resistant
incl. check valve R9b
for processing of thermoplastics

Nozzle execution:

22  c141502760  Corrosion resistant open nozzle
barrelhead thread M28x1,5
nozzle_radius 15 mm
nozzle_orifice 4 mm

23  c144001100  Corrosion resistant barrelhead in place of
standard

Barrel heating:

24  c144500102  230 volt barrel and nozzle heaterbands
25  c144500104  Ceramic heaterbands
26  c144500210  Insulating blanket for heater bands

CONTROLS/ELECTRICAL:

27  c230500510  CC200 control package including:
- "Windows" style display with 15" TFT-color
  Touch Screen
- Data storage via USB interface
- Ethernet network interface
- Freely programmable cycle sequence supported
  by graphical symbols
- Screen pages configurable
- e-help
- Notepad
- Alarm Messaging via Email
- weekly timer
- Micrograph
- Microplast
- PD-log
Screen text
english: EN
german: DE

28  c231000110  Incoming voltage
(by IT or FI-used power systems a disconnecting
transformer for servo drives is requested)
3X400V+N+PE/50HZ

29  c231001200  ecograph
for energy analysis of IMM

30  c231070700  disconnecting transformer for servo drives
type of protection IP 23
31  c231500045  2  Additional language(s) for screen text
  french: FR
  italian: IT

68  c231500055  Additional language for e-help
  Screen text
  french: FR

32  c232000200  Access rights with key card

33  c233000400  Interface for colour feeder via dry contact
  (contact is closed during plasticizing)

34  c233000800  Interface for freely programmable dry contacts
  (terminal strip)
  (4x digital output, 4x digital input)

35  c233000809  interface for inductive mold heating brand
  RocTool wired to 24-pin HTS with female insert
  and base housing with 2 levers.
  Location:
  non-operator side outside injection
  Signals:
  Emergency-stop and safety door
  1-channel execution,
  digital in and outputs with dry contacts
  (seperate position in the order)
  Function:
  During heating phase mold closing has to be
  stopped at 3 mm before contact. When heating is
  finished the system give a signal to finish
  closing and continue cycle.
  (sequence realised with free programmable dry
  contacts, no spezial software required)
  Attention!
  As we have only little experience with this
  kind of mold heating system we cannot guarantee
  that there will be no damage of the contol unit
  of the machine due to the electric or magnetic
  fields. So in case of a damage we have to
  refuse any claims for damages.
  OPT132244

69  c233000819  Interface for inductive hot runner with
  variotherm temperature control system,
  maker RocTool;
  hardware signals wired onto 24-pin HTS;
  data communication with protocol ModBus,
  phys. type RS485
  OPT135069

70  c233000829  fault indicator lamp special placing,
  on operator side on end side of
  clamping unit.
  OPT125328

36  c233001000  Ejector back confirmation

37  c233001200  Interface for temperature control units
data protocol Engel, phys. type: RS485
placing clamp side: CLA

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<th>Code</th>
<th>Description</th>
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<tr>
<td>38</td>
<td>Interface for integrated ENGEL robot incl. 1 triggered receptacle for conveyor belt, 16A located at clamp end, non-operator side</td>
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<tr>
<td>40</td>
<td>PD-graphics II - continuous, graphical monitoring of process parameters, average value, standard deviation, coefficient of correlation, warning and intervention limits selectable, diagram of the correlation as well as frequency distribution (Histogram)</td>
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<tr>
<td>41</td>
<td>Microflow</td>
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<td>Batch size counter</td>
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<td>43</td>
<td>Graphical display of productivity analysis</td>
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<td>44</td>
<td>Minicam</td>
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<tr>
<td></td>
<td>Setup assistance for process parameters based on an expert system</td>
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<tr>
<td>45</td>
<td>Single-phase, 230V service receptacle</td>
</tr>
<tr>
<td></td>
<td>Schuko 16A:SS1</td>
</tr>
<tr>
<td>46</td>
<td>2 Single-phase, 230V receptacle located at non-operator side, outside injection door</td>
</tr>
<tr>
<td></td>
<td>Schuko 16A:2P1</td>
</tr>
<tr>
<td>47</td>
<td>2 Three-phase receptacle, 10A / 16A located at clamp end, non-operator side CEE, 16A:3P1</td>
</tr>
<tr>
<td>48</td>
<td>Three-phase receptacle, 25A / 32A located at non-operator side, outside injection door CEE, 32A:3P2</td>
</tr>
<tr>
<td>49</td>
<td>e-factory.License for Data Access Machinelicense for Online-data Connection (necessary for Access, Basecom and RemoteView)</td>
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**MEDIA:**

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<tr>
<th>Code</th>
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<tr>
<td>50</td>
<td>Solenoid operated pneumatic valve 2/2-ways, R1/4” ports, mounted on stationary platen. For airblow only.</td>
</tr>
<tr>
<td>51</td>
<td>Oil central lubrication</td>
</tr>
<tr>
<td>52</td>
<td>Oil-bath lubrication of injection unit</td>
</tr>
<tr>
<td>53</td>
<td>Separate water terminals for machine and mould cooling</td>
</tr>
<tr>
<td>56</td>
<td>10 water flow control circuits routed to R3/8” bulkhead manifolds: 5 circuits to each platen.</td>
</tr>
</tbody>
</table>
High temperature rubber hoses (80 deg. C) routed to moving platen via cabletrack on non-operator side (max. pressure - 6 bar). Flow control manifold not included.

76  c283000119  Solenoid operated, automatic on/off switching of ENGEL flomo inlet via screen selectable programming (in addition to standard manual control) OPT133221

77  c283000193  ENGEL flomo mould temperature control system
1 temperature control circuit manifold 1-15 l, 8 circuits, mounted instead of standard flow governor
- Connections temperature control circuits 3/8"
- pressure / temperature measurement in the central inlet
- flow and temperature measurement in all return tubes
- manual adjustment of the return flow with fine adjustment valves at the distributor
- All flow circuits with separate shut-off valves
- Interface for mobile display
- Display in the machine controller and/ or optional mobile display
- Monitoring and recording via the quality program of the machine control
- max. water temperature: 95 degree C

MISCELLANEOUS PACKAGES:

57  c420200100  execution as per European Norm EN 201

LABELLING/PAINTING

58  c480500120  Labelling bilingual
english: EN
german: DE

59  c481500110  Standard painting
(ENGEL light green/black grey and grey)

SUPPLEMENTAL EQUIPMENT:

60  c540500900  program "virt mould" for viewing and revising of parameter settings and for process optimization on PC incl. simulation

61  c542500100  Levelling and vibration mounts in standard execution

62  c542501000  Machine delivery in one piece
(clamp unit and injection unit H)

63  c543000100  Manual - 1 copy
english: EN
Additional Manual - 1 copy

German: DE

miscellaneous:
fair equipment: temperature- and feeder equipment
(Piovan DPA30 + S52)