

ITEM	QTY	DESCRIPTION
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DESCRIPTION OF MAIN FEATURES

Casting machine of the latest design, for the production of high quality castings of aluminum, magnesium, semisolid composite, and copper alloys.

MAIN FEATURES

- Nearly unlimited possibilities of programming the shot curve.
- Digital real-time closed loop control of the plunger speed and of the profile injection pressure
- Extremely slow to very fast filling of die cavity; Pressure phase programmable in step and ramp modes, integrated additional functions such as pulsating final pressure, pressure ramp control, etc.
- High reproducibility of the shot parameters from shot to shot and after production changes.
- Controllable deceleration freely before the end of the die filling operation.
- Simple, plausible programming in physical values, based on state-of-the art control system.
- Process monitoring with documentation

BENEFITS TO USE

- "Ideal" shot performance for each specific casting.
- High quality consistency thanks to rapid compensation of parameter fluctuations.
- Process flexibility to accommodate production range from extremely thin walled castings to thick walled castings meeting specific requirements (pressure-tight, heat treatable, semi-solid material (SSM), etc.)
- Ensures long term stability of the process, high process capability, resulting in high quality consistency. Optimizing times can be greatly reduced.
- Reduction or elimination of the pressure peaks in the die. Reduced impact. Less flash. Longer tool life. Larger castings on smaller machines.
- Quick and easy programming of shot curves, short operator training time.
- Highly suitable for critical safety castings; range of documentation nearly unlimited.

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ITEM	QTY	DESCRIPTION
		- Functional and attractive industrial styling. - Proven closing unit based on a hydraulic/mechanical four tie bar system. - Separate free standing control panel with screen. MMI graphics (Man, Machine, Interface) - Safety concept based on the latest technology. - Comprehensive, in-depth diagnostic of fault messages. - All process variables programmed, controlled and reported in standard engineering units.
		- Considers ergonomic requirements. Visual upgrading of the workplace. - Long service life, maximum stability, accurate die closing. - Control cabinet can be installed freely, even at a distance from the machine. Clear visibility for machine status and performance through MMI display. - Meets high safety requirements. - Enables quick and guided elimination of faults by the operators, resulting in less downtime and easy maintenance. - Allows process repeatability from year to year and from machine to machine.

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ITEM	QTY	DESCRIPTION
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The Buhler die casting machine with real time closed loop controlled injection unit (SC) contained in the basic version.

Motor and pump unit

- Placed separately from machine base to reduce noise level
- Internal gear pumps
- Pressure in hydraulic system 210 bar (3,000 PSI)

Oil cooler and filter

- Plate type cooler unit for easy maintenance, easy capacity increase
- Built-in system to transfer fluid into and out of machine (through filter)

Temperature surveillance

- Automatic temperature and tank level surveillance
- Prewarnings and machine protection shutdown circuits

Hydraulic system with proportional valves

- For fast, precise movements and easy maintenance
- Electronic control of speeds, pressures and positions.

Tie bar removal

- One upper tie bar can be pulled back, alternatively left or right tie bar

Distance between die bars

- Large distance to improve die handling

T-slots and ejector holes

- According to customers' requirements

Sensoric

- Integrated metal front sensor
- Machine prepared for the installation of cavity sensors

Positioning systems for:

- Die opening stroke, reproducibility ± 0.5 mm
- Ejector stroke, reproducibility ± 1.5 mm
- Die height adjustment

Die height adjustment

- With electro motor drive

Locking force regulation;

Automatic regulation with measuring system on each tie bar

4 1410 M

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ITEM	QTY	DESCRIPTION
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Operator Protection

- Electro motor driven safety gate on operator's side (left side)
- Manually operated safety gate on the right side
- Cover over toggle system
- Flexible machine protection
- Fail safe ratchet (mechanical die closing safety)

SC Injection Unit

- High shot capacity during the total filling phase
- Measuring and calculation of parameters that determine the quality
- Closed loop, real time control of velocity and pressure

Loading of Nitrogen

- Buhler loading system
- Surveillance of Nitrogen load
- Automatic overload system for protection of the bottles

Shot position

- 0/-280/-420 mm
- Hydraulically adjustable
- Any position available on request

Plunger rod, shot chamber holder and follow through on request

Additional standard items are:

- Heavy duty leveling devices for easy installation of the machine
- Set of tools and wrenches
- Name plates in local language
- Comprehensive operator manual (operating instructions)

Core Pull Unit on Moving Platen

Includes Core Pull Positions M1 - M3

Core standard program:

- Each core freely programmable, in and out sequence

Core lubrication program:

- Each core freely programmable during die spraying, in and out sequence as well as number of movements
- The core movements are programmable either from the machine control system or from the sprayer

ITEM	QTY	DESCRIPTION
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Core Pull Unit on the Fixed Platen

Includes Core Position Fl.

Core standard program:

- Each core freely programmable, in and out sequence

Core lubrication program:

- Each core freely programmable during die spraying, in and out sequence as well as number of movements
- The core movements are programmable either from the machine control system or from the sprayer

Metal Front Sensor System

Installation to basic machine for the metal front sensor system.

With the machine are installed:

- Connector box on the fixed and moving platens for the connection of one of the measuring chains: "metal front sensor/detector, "metal front sensor/die cavity pressure sensor" or "metal front sensor/pressure sensor under ejector pin"
- Transducer module in control cabinet
- Wiring from connector boxes to the control cabinet

ACRON Machine and Plant Control System

Micro

- Regulation of shot unit and sensoric system
- Positioning of
 - * die opening stroke
 - * ejector stroke
 - * die height adjustment
- Locking force regulation

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ITEM	QTY	DESCRIPTION
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Primary Plant-Interfaces

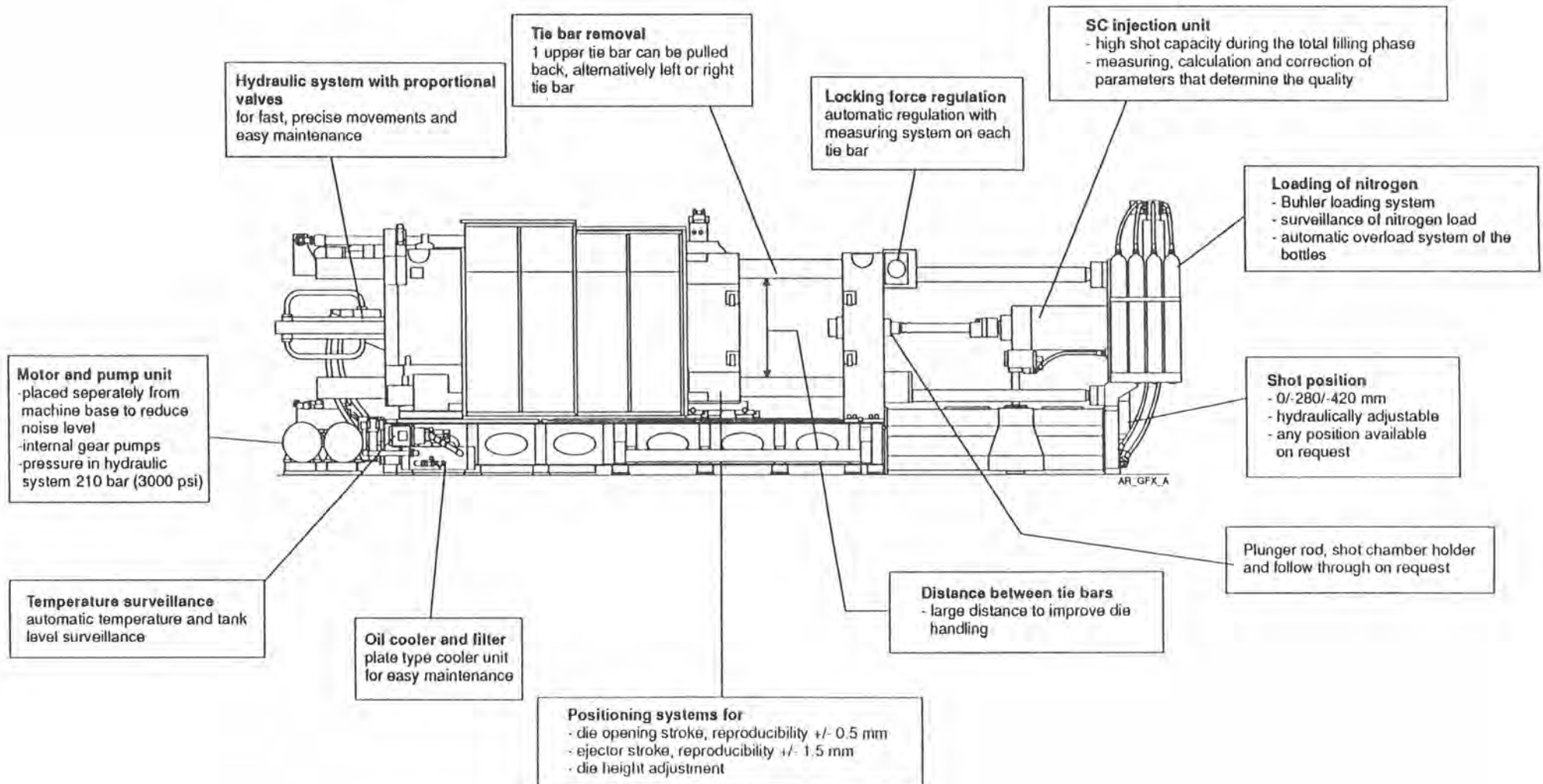
- Metal ladling
- Surveillance of the furnace temperature
- Die sprayer robot
- Unloading device/robot

Optional C90

- Color graphic printer
- Injection curves and diagrams
 - Screen printouts
 - Fault indications

SC 10/120 - SC 16/250

A01 The Buhler die casting machine with real time closed loop controlled injection unit (SC) contains in the basic version



SC 10/120 - SC 16/250

A01 The Buhler die casting machine with real time closed loop controlled injection unit (SC) contains in the basic version

Additional standard items are

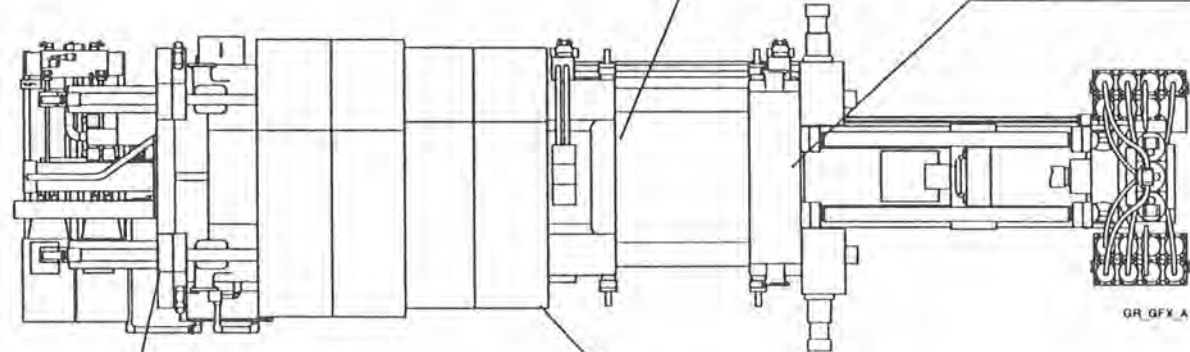
- heavy duty leveling devices for easy installation of the machine
- set of tools and wrenches
- name plates in local language
- comprehensive operator manual (operating instruction)

T-slots and ejector holes
according to customers requirements

Sensoric
- integrated metal front sensor
- machine prepared for the installation
of cavity sensors

Die height adjustment
with electro motor drive

Operator protection
- electro motor driven safety gate
on operator side (left side)
- manually operated safety gate
on the right side
- cover over toggle system
- flexible machine protection

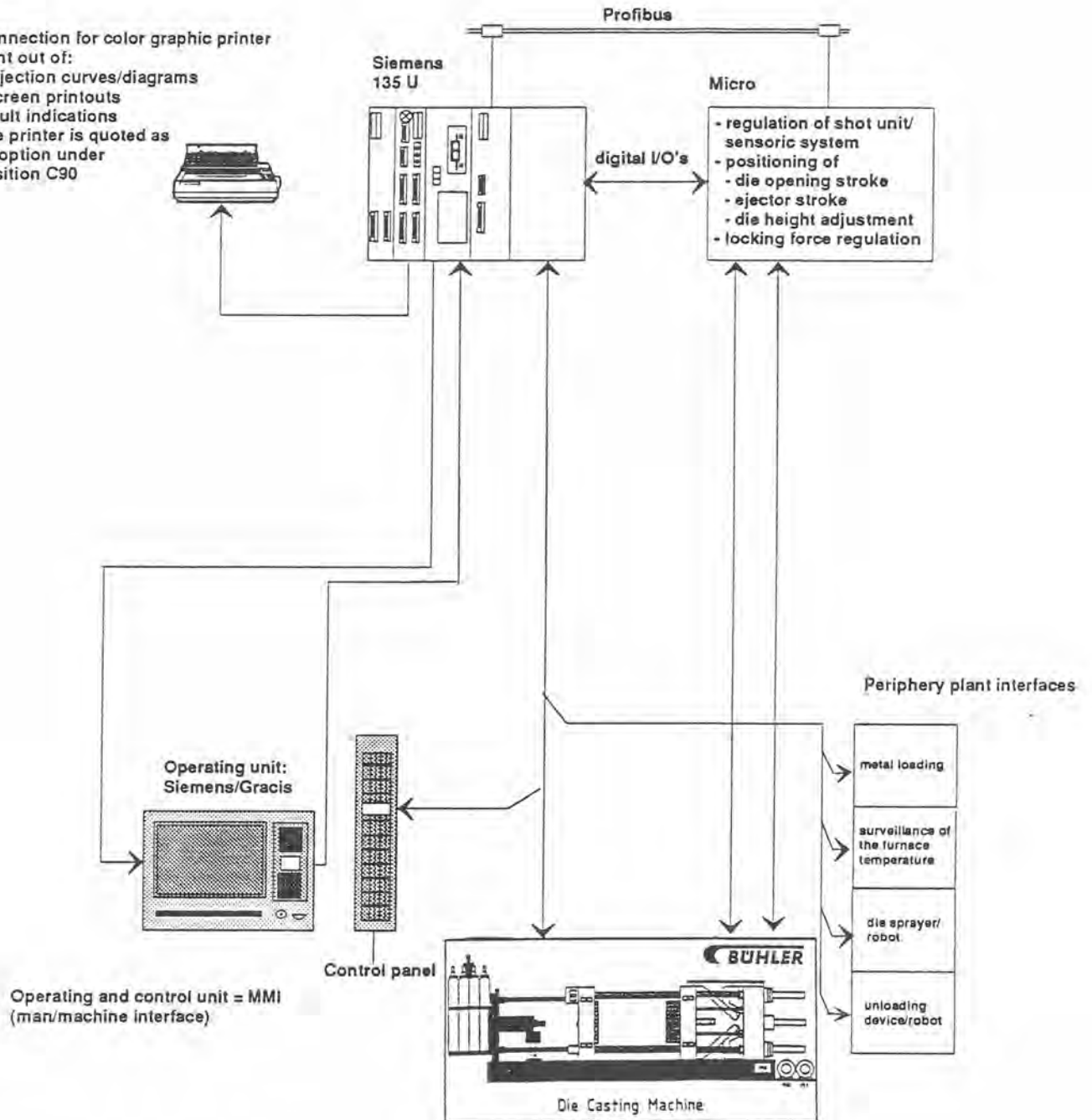


B01 Acron machine and plant control system

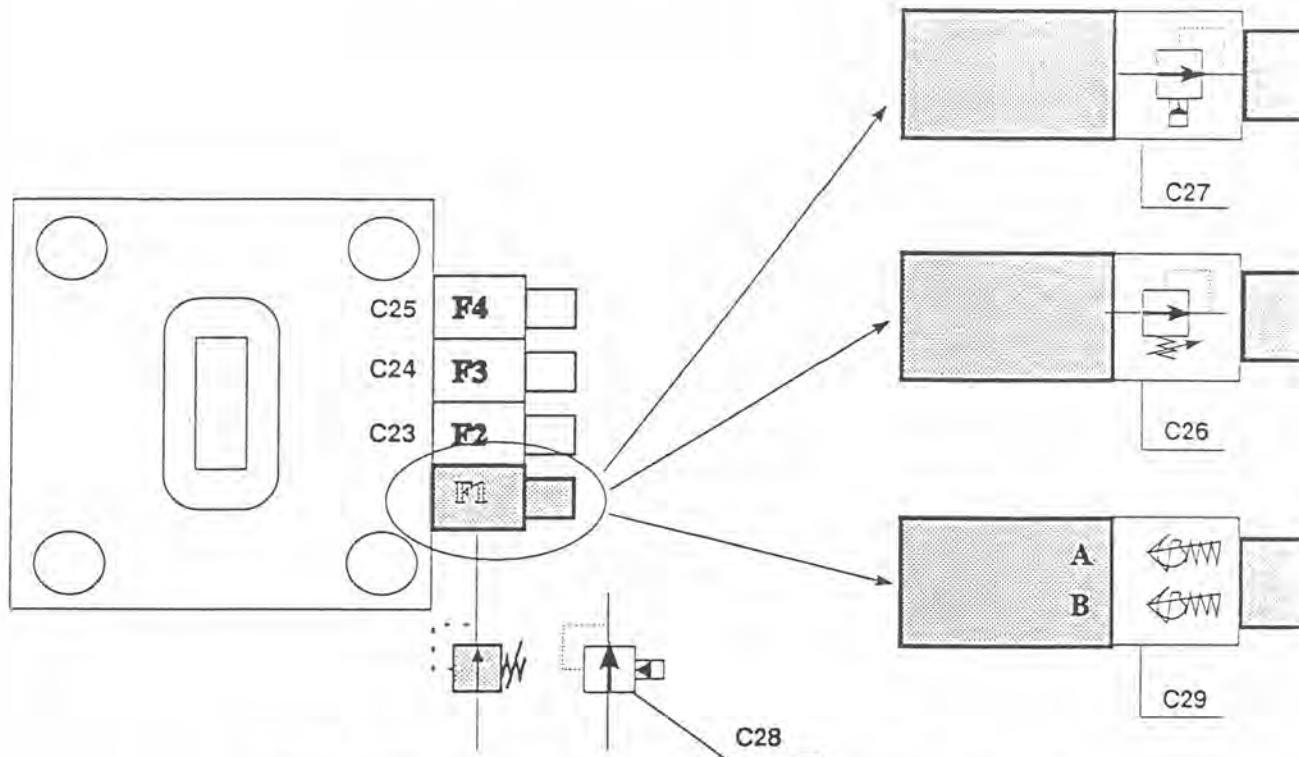
Connection for color graphic printer
print out of:

- injection curves/diagrams
- screen printouts
- fault indications

The printer is quoted as
an option under
position C90



Core pull unit on the fixed platen



Core	Quot.pos.	C26	C27	C29
F1				
F2	C23			
F3	C24			
F4	C25			

(please mark the required type with X)

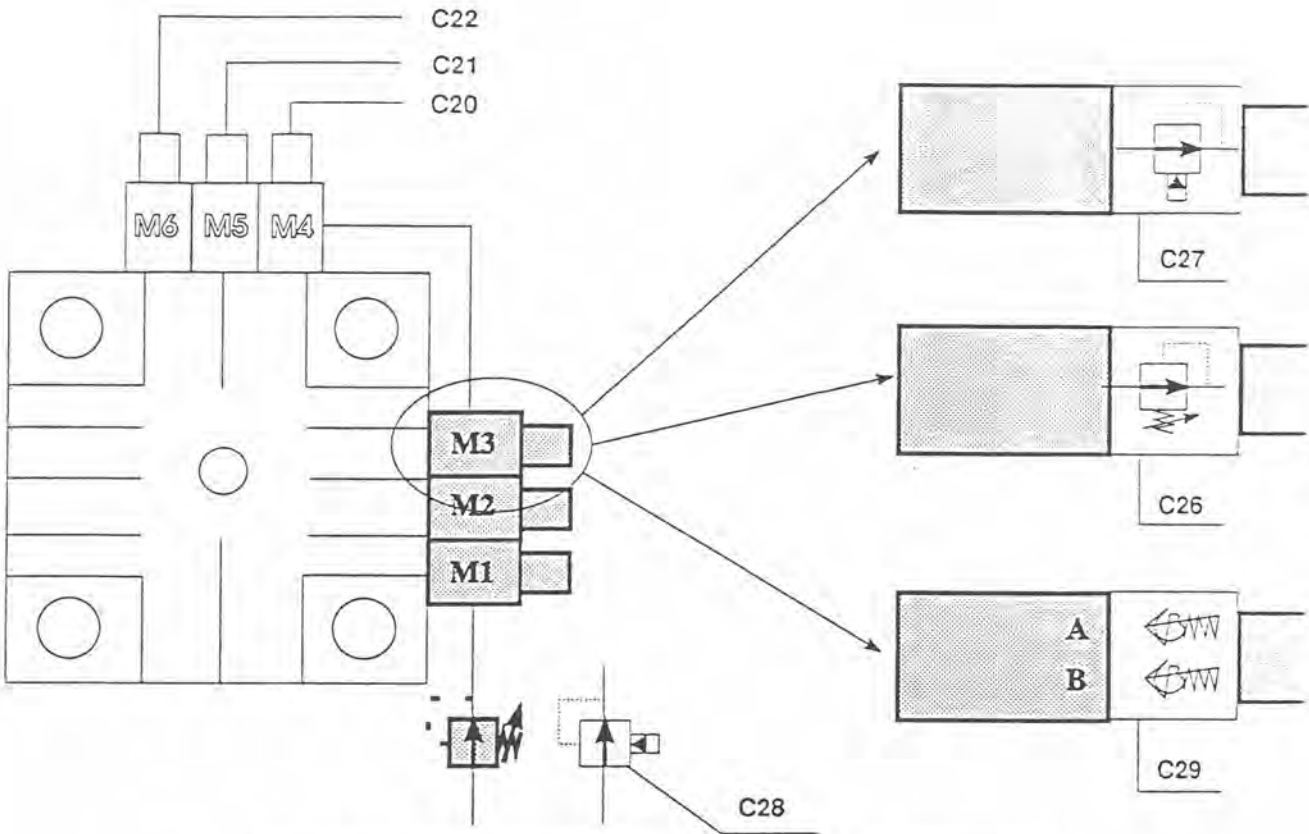
Core standard program:

- each core freely programmable, In and out sequence

Core lubrication program:

- each core freely programmable during die spraying, in and out sequence as well as number of movements
- the core movements are programmable either from the machine control system or from the sprayer

Core pull unit on moving platen



Core	Quot.pos.	C26	C27	C29
M1				
M2				
M3				
M4	C20			
M5	C21			
M6	C22			

(please mark the required type with X)

Core standard program:

- each core freely programmable, in and out sequence

Core lubrication program:

- each core freely programmable during die spraying, in and out sequence as well as number of movements
- the core movements are programmable either from the machine control system or from the sprayer

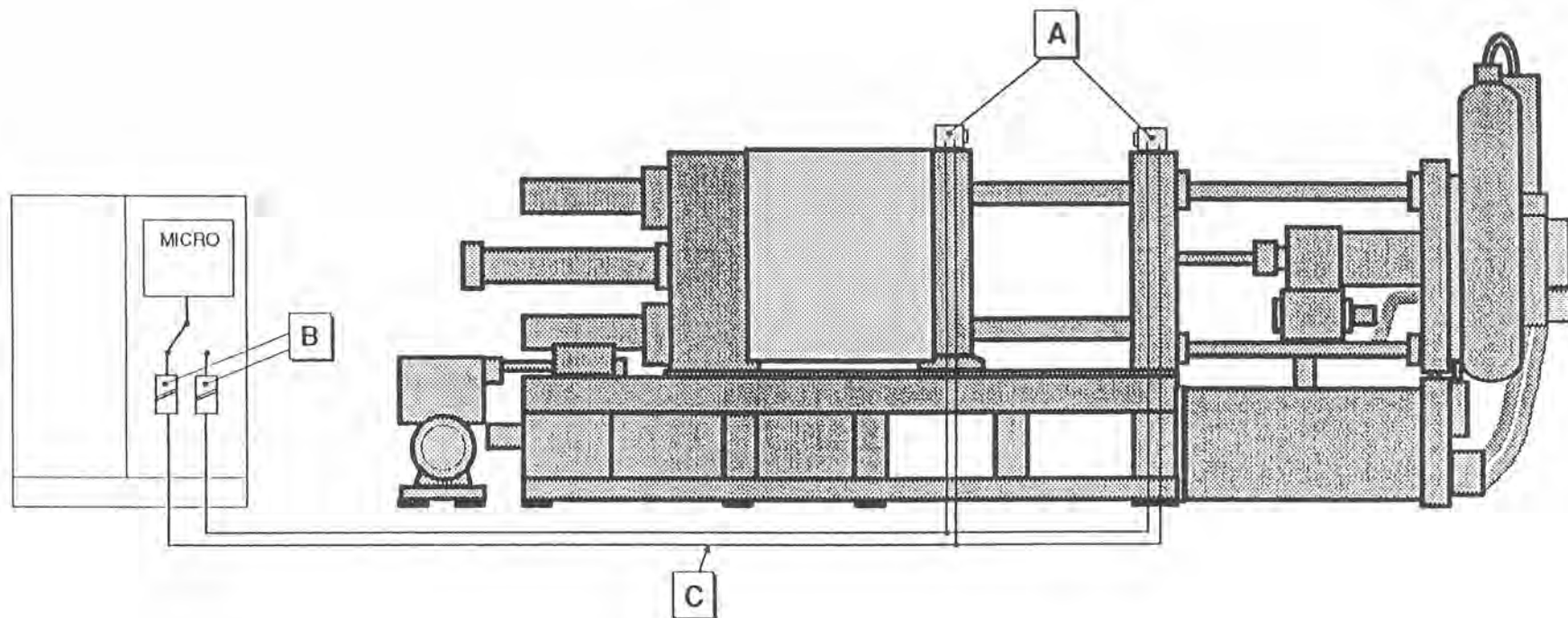
Metal front sensor system

Installation to basic machine for the metal front sensor system

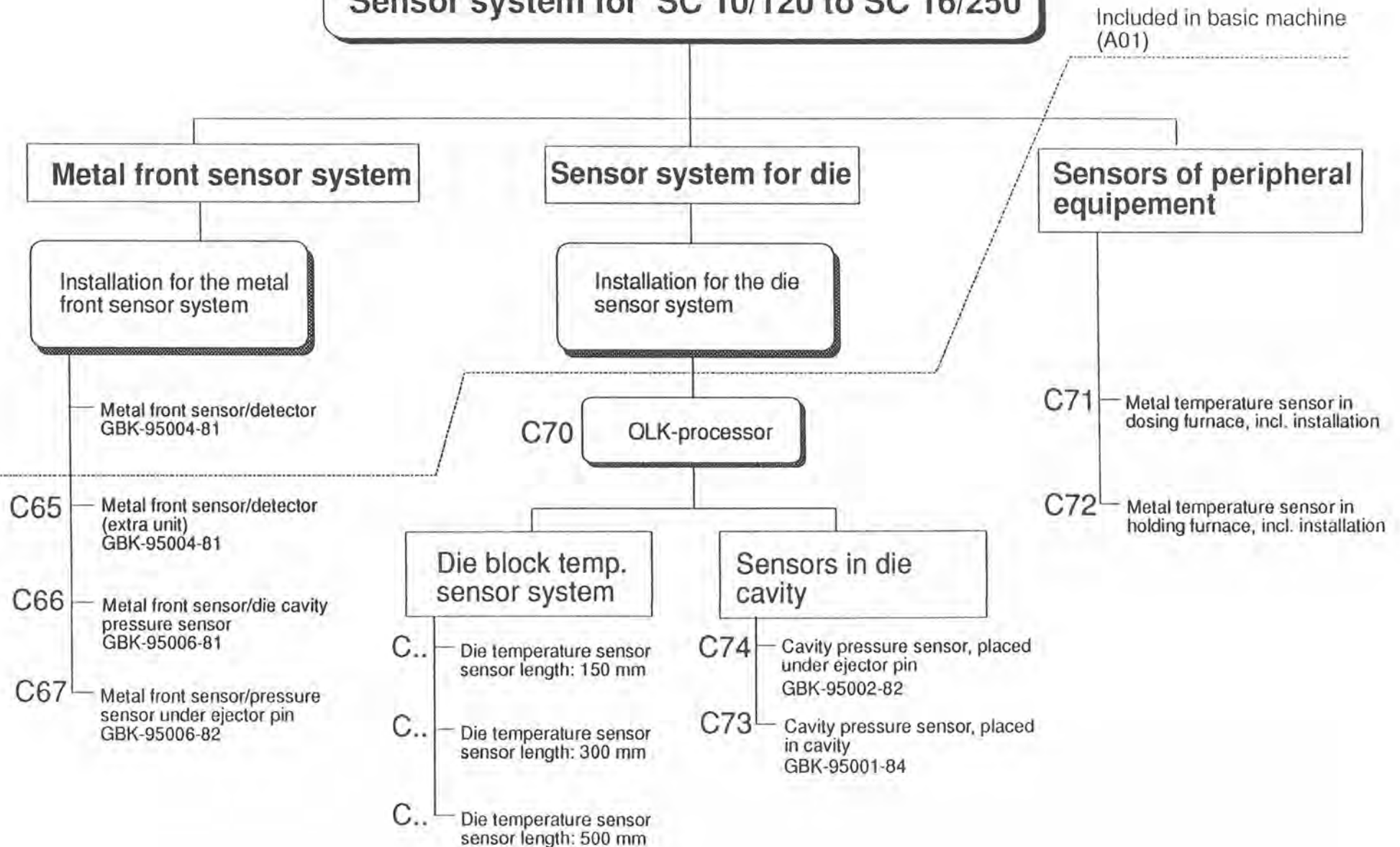
Included in basic machine (A01)

With the machine are installed:

- A** Connector box on the fixed and on the moving platens for the connection of one of the measuring chains: "metal front sensor/detector", "metal front sensor/die cavity pressure sensor" or "metal front sensor/ pressure sensor under ejector pin"
- B** Transducer module in control cabinet
- C** Wiring from connector boxes to the control cabinet



Sensor system for SC 10/120 to SC 16/250



Sensor system for the die

Installation for the sensor system for the die

Included in basic machine A01

Included in the basic installation are:

- connector boxes on the fixed and the moving platens with the followings connection possibilities (plug sockets):

fixed platen

2 * die frame
($\varnothing$ Blk1, $\varnothing$ Blk2)

*2 * die cavity temperature*
($\varnothing$ Cav1, $\varnothing$ Cav2)

2 * die cavity pressure
(p Cav1, p Cav2)

moving platen

1 * die frame
($\varnothing$ Blk3)

*2 * die cavity temperature*
($\varnothing$ Cav3, $\varnothing$ Cav4)

2 * die cavity pressure
(p Cav3, p Cav4)

- Wiring from connector boxes to the control cabinet
- Permanent rails in control cabinet for the installation of the transducer module

Metal front sensor system

**Measuring chain
metal front sensor/detector
GBK-95004-81**

C65

1 x included in basic machine (A01)

Included in the measuring chain are:

- Metal front sensor/detector
- Cavity sensor box with signal converters
- Connection cable (cavity sensor box => connector box)

