

Electronics Large-SC

Training from 24.06.96 to 28.06.96



Day	Program
Monday	Welcome Machine structure Operating Programming Trouble shooting guide
Tuesday	Safety and maintenance Connection diagram
Wednesday	PLC Siemens S5 155U CPU 948 CP 5431 FMS PROFIBUS Digital input / output Exercises
Thursday	Multibus II OLF system pressure die close OLC Shot Control system Injection unit
Friday	Fault finding Termination of Cours

2.1 Identification data

Customer
Machine designation die-casting machine
Machine type SC 10/120
Machine number 10 248 255
Order number 531 125
Year of construction 1995

Machine-type designation:

SC = Machine serial (Shot Control)
10 = Maximum injection force (1000 kN)
120 = Maximum locking force (12000kN)

2.2 Directed use

Buhler horizontal die-casting machines are designed exclusively for the pressure die-casting of aluminium, magnesium, zinc and copper alloys. Any use beyond this scope is regarded as non-directed.

The manufacturer can **not** be made liable for any damages that are a result of non-directed use. The user is the sole bearer of the risk for such damage

The observance of the conditions for installation, start-up, operation and maintenance as instructed by the manufacturer are inherent with the directed use.

2.3 Protection class

The electrical operating substance is executed in protection class IP 55.

2.4 Ambience

In order to determine a suitable location for the DCM or DCI a number of important aspects will have to be taken into account.

See Chapter "Preparing the site of installation".

2.13 Production data

- Plunger diameter 90...125 mm
 - Theoretical casting volume acc. to DIN 24480 3393...6545 cm³
 - Theoretical casting weight for Al* 8.5...16.4 kg
 - Maximum specific casting pressure 1572...815 bar
- * The maximum theoretical casting weight according to DIN 24480 is calculated from:
 $\frac{2}{3} \times \text{plunger stroke} \times \text{plunger area} \times \text{density (for Al = 2.5 g/cm}^3\text{)}$

2.14 Dimensions

Machine

- Length 10.476 m
- Width 2.850 m
- Height 3.600 m

Dimension sketch of die-casting machine: see enclosed sheets in this chapter

Control system

- Length 4.400 m
- Width 1.000 m
- Height 2.300 m

Dimension sketch of control cabinet: see Chapter "Preparing the electrical system"

2.15 Weights

- Machine weight ready for operation 75000 kg

Transport: see Chapter "Transport".

2.11 Nitrogen system injection unit

- Maximum filling pressure 156 bar
- Filling quantity 370 l

Nitrogen: see Chapter "Operating materials".



DANGER!

**Use exclusively purest quality nitrogen (N₂ more than 99,99 vol. %) !
Compressed air and other media are not allowed as gas filling!
Never use oxygen! Danger of explosion!**

2.12 Machine data

- Maximum locking force (strain gauge tested) 12000 kN
- Maximum dynamic casting force 1000 kN
- Plunge stroke 800 mm
- Effective plunger stroke 770 mm
- Casting positions (standard) 0..- 420 mm
- Ejecting force forward / backward 680 / 360 kN
- Ejector stroke (adjustable) 220 mm
- Size of fixed platen (L x H) 1100 x 1100 mm
- Size of moving platen (L x H) 1690 x 1690 mm
- Smallest permissible die mounting area 800 x 800 mm
- Maximum permissible surface pressure 100 N/mm²
- Clearance between the tie bars 1100 x 1100 mm
- Tie bar diameter 220 mm
- Minimum die height 400 mm
- Maximum die height 1200 mm
- Stroke length of the moving platen 1100 mm