

2 INTRODUCTION

2.1 OUTLINE

This machine is horizontal cold chamber type die casting machine and mainly used for aluminum alloy casting.

2.2 MACHINE SPECIFICATONS

2.2.1 Machine Size

Outline dimension	mm	20580 X 10874
Machine height	mm	6336 (except grout)
Center height from floor	mm	2650 (except grout)
Machine weight	TON	230

2.2.2 Die Clamping Unit

Die clamping force	MN	34.8 (3550TON)
Stationary platen size	mm	3080 X 2725 (V X H)
Moving platen size	mm	2800 X 2725 (V X H)
Space between tie bars	mm	1750 X 1750 (V X H)
Tie bar diameter	mm	375
Die stroke	mm	1500
Die space	mm	1250 ~ 2000

2.2.3 Ejector Unit

Ejection force	MN	0.98 (100TON)
Ejector stroke	mm	250
Dimension from die mounting face to ejector plate	mm	1500

2.2.4 Injection Unit

Injection force	KN	1402~2157(143~220TON)
Plunger stroke	mm	1600
Tip projection	mm	450
Tip projection	mm	φ 160
Shot position	mm	350 (below machine center)
Shot speed	mm/sec	50~4500

(Casting ability)

Tip diameter (mm)	Casting pressure (MPa)	Casting area (cm ²)	Casting weight (Al) (kg)
φ 160	107.3	3243	50.2

Remarks

1. Above values are calculated as injection force is 2157kN (maximum injection force).
2. Casting weight is calculated as filling rate of plunger sleeve is 60%.

$$\text{Casting Pressure} = \frac{\text{Casting force} \times 10^3}{\frac{\pi}{4} \times (\text{Tip diameter})^2}$$

$$\text{Casting area} = \frac{\text{Die clamp force} \times 10^6}{\text{Casting pressure} \times 10^2}$$

$$\text{Casting weight} = 2.6 \times \frac{\pi}{4} \times (\text{Tip diameter})^2 \times \text{Stroke} \times 0.6 \text{ (Filling rate of sleeve)} \times 10^{-6}$$

2.2.5 Core Unit

	Stationary platen	Moving platen
Core valve type	DG5VC-H8-3C-1-T- PN2-T-82-JA725 (VACUUM : DG4VC-5-3C-M-PN2-H-7-40)	DG5VC-H8-3C-1-T- PN2-H-82-JA725
Valve Quantity	5 pcs. (CORE :No.1~4) (VACUUM : No.1) (No.3, 4 : SQUEEZE & CORE)	8 pcs. (CORE :No.1~8)
Connection port size	In: Rc (PT) 1 Out: Rc (PT) 1 VACUUM In : Rc (PT) 1/2 Out : Rc (PT) 1/2	In : Rc (PT) 1 Out : Rc (PT) 1
Port quantity	2 sets (except auto joint)	2 sets (except auto joint)
Reducing Valve	XG-10-F-20-JA-S8-J	XG-10-F-20-JA-S8-J

Quantity and location of core connection ports : DWG. No.151-35174:090-0

2.2.6 Electric & Hydraulic

Power supply	Power circuit AC415V 50Hz 3 phase Control circuit DC24V	
Electric Motor	for No.1 , 2 hydraulic pump 55kW AC415V 50Hz 6P	2 pieces
	for No.3 , 4 hydraulic pump 30kW AC415V 50Hz 6P	2 pieces
	for S-DDV 2kW P20B10200DXS00M	2 pieces
	for intensification control valve AC200V 50 Hz 3 phase 5IK40GN-SW2T	1 piece
	for lubrication pump 0.4kW AC415V 50Hz 4P	1 piece
	for oil cleaner 0.4kW AC415V 50Hz 4P	1 piece
	for suction device 7.5kW AC415V 50Hz 4P	1 piece
Hydraulic pump	for die casting machine (1),(3) W-IPH-66B-80-125-3868D	2 pieces
	for die casting machine (2),(4) W-IPH-66B-100-125-L-3868D	2 pieces
	for die casting machine (5) W-IPH-6B-125-11	1 piece
	for die casting machine (6) W-IPH-6B-100-11	1 piece
Hydraulic motor	for die height adjustment device L7-4300-D90-8	1 piece
Hydraulic reservoir capacity	4330 L (initial requirement 5000 L)	
Lubrication reservoir capacity	30 L (Viscosity grade: ISO VG 220)	
Oil Cooler	G-FCF-420-1 Water volume: 340 L/min. (less than 30°C)	2 pieces

速度設定 - 実測値

単位: m/s

設定値 (m/s)	実測値			
	1回目	2回目	3回目	平均値
0.05	0.05	0.05	0.05	0.05
0.10	0.09	0.09	0.09	0.09
0.20	0.19	0.19	0.19	0.19
0.40	0.40	0.40	0.40	0.40
0.60	0.59	0.59	0.59	0.59
1.00	1.00	0.99	1.00	1.00
2.00	1.98	2.00	1.98	1.99
3.00	3.00	2.96	2.97	2.98
4.00	4.28	4.23	4.25	4.25
4.50	4.70	4.77	4.73	4.73
5.00	5.04	5.06	5.05	5.05
6.00	5.29	5.33	5.36	5.33

測定条件

