MUCHKUND
Engineering

PRECISION & POWER, ENGINEERED FOR YOU.

Made in India. Built for the World.

Muchkund Engineering LLP | Muchkund Engineering Die Casting

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Introduction

Welcome to
Muchkund Engineering

Muchkund delivers advanced zinc and aluminum die casting machines that save up to 40% energy through servo technology. From Rajkot, India, Muchkund Engineering empowers manufacturers worldwide with reliable, affordable solutions and unmatched after-sales support. Discover the Vidyut Series precision engineering for your production line

Company Profile

Our Legacy

Laxman Patel and Jignesh Patel established Muchkund Engineering in Rajkot, Gujarat, to make India self-reliant in die casting machinery. Over 25 years, we evolved from zinc components to global exports and servo-driven automation.

1998–2005

Research and development in machine learning focused on process analysis, optimization, and building a strong foundation for future machine automation.

2005–2008

development of basic model and running it on company platform for the production line to eliminate all the problems

2008–2010

development of the advanced machine with energy saving and high performance

2010–2013

development of the higher model like 1600 kN, 250 ton cataring zinc industry

2013–2015

entered into alumuminium die casting machine with the development of automation and advance features

2022–2023

Launch of the Vidyut series, a power-saving die casting machine line designed for high energy efficiency and improved operational performance.

Vision

Our vision is to build a sustainable, trusted, and globally recognized future in die-cast manufacturing by continuously advancing technology, fostering innovation, and maintaining excellence in quality, performance, and reliability.

Mission

At Muckund Company, our mission is to deliver world-class die-cast solutions that embody precision, innovation, and durability. We strive to empower industries with reliable, high-quality products that meet today's demanding standards and drive long-term value for our customers.

Core Values

- **Quality Excellence:** Precision and durability
- **Customer Satisfaction:** Fast spares and service
- **Innovation:** Servo and smart tech
- **Sustainability:** 40% energy savings
- **Integrity:** Transparent partnerships

Product Overview

Machines for Every Need

Discover zinc pressure die casting, aluminum solutions, and hybrid Vidyut Series. Future: Plastic injection and IoT smart systems

Zinc

High-speed zinc die casting machine, compact, metallic grey and yellow, clean modern factory, precision, brochure style

Aluminum

Heavy-duty aluminum die casting machine, large industrial build, molten chamber, steel grey-blue tones, premium factory image

Vidyut Series

Hybrid electric-hydraulic die casting machine, energy-efficient, futuristic clean factory, green accents, high-tech look

Peripherals

Complete die casting line with peripherals, automation, robot arm, clean smart factory, wide-angle, brochure style

Key Innovations

Servo Motors: 40% power savings

Servo motors provide precise, on-demand motion control while significantly reducing energy consumption. They operate only when required, minimizing power loss, heat generation, and operating costs. Fast response and accurate control of speed, pressure, and position improve casting quality, reduce rejection rates, and ensure consistent production. Lower mechanical stress and reduced oil usage also result in quieter operation, less maintenance, and higher machine reliability.

IoT: Real-time diagnostics

IoT-enabled sensors monitor temperature, pressure, vibration, and energy in real time, enabling predictive maintenance, improved casting quality, and reduced downtime. Instant alerts help detect issues early, minimize scrap, and optimize machine performance. This smart monitoring increases productivity, reliability, and overall operational efficiency.

Smart HMI: Multilingual touchscreen

Smart HMI with multilingual touchscreen provides intuitive machine control, real-time monitoring, and easy parameter adjustment. Clear graphical displays reduce operator errors, shorten training time, and improve productivity. Built-in diagnostics and data logging enhance troubleshooting, consistency, and overall machine efficiency.

Hybrid Design: Electric precision + hydraulic power

Hybrid die casting machines combine servo-electric precision with hydraulic power for optimal performance. Servo-driven injection ensures accurate shot control, improved quality, and faster cycles, while hydraulics provide strong and reliable clamping for larger parts. This hybrid design reduces energy consumption, lowers maintenance, and delivers higher productivity with a faster return on investment.

Vidyut Series (Servo-Hybrid)

High Efficiency

Our die casting machines are designed for maximum operational efficiency. Optimized hydraulic systems, fast cycle times, and intelligent energy management reduce power consumption while increasing production output. This ensures lower operating costs, improved material utilization, and higher overall productivity.

High Precision

Precision engineering is at the heart of every die casting machine. Advanced control systems enable accurate injection speed, pressure, and shot control, resulting in consistent, dimensionally accurate castings. This high level of precision minimizes defects, reduces rework, and ensures superior surface finish.

Stable Performance

Built with robust machine structures and high-quality components, our die casting machines deliver stable and reliable performance even in continuous production environments. Intelligent monitoring and safety systems ensure smooth operation, reduced downtime, and long-term durability.

Key Innovations

Easy Operation

Equipped with an advanced computer control system with memory and self-adjustment functions. Operators can easily modify parameters through a user-friendly interface, ensuring simple operation and stable production.

High Productivity

Fast mold locking and optimized injection cycle significantly reduce cycle time, enabling higher output and improved production efficiency.

High Product Yield

Precise injection control and stable hydraulic performance ensure consistent filling, reducing defects and improving finished product yield.

Excellent Casting Quality

Strong injection force and high clamping force guarantee dense castings with smooth surfaces and excellent mechanical properties.

Advanced Hydraulic System

Uses a high-efficiency proportional hydraulic circuit for injection. Slow and fast injection speeds are precisely adjustable via CNC control, improving runner performance and metal flow.

Fast Mold Adjustment

Automatic mold adjustment system with high positioning accuracy shortens setup and changeover time, increasing machine flexibility for different molds and products.

High Machine Stability & Durability

Rigid machine structure, high-strength components, and optimized mechanical design ensure stable operation, low vibration, and long service life under continuous production.

Energy Saving & Safety

Energy-saving hydraulic design reduces power consumption and operating costs, while multiple electro-mechanical safety interlocks ensure safe and reliable machine operation.

Zinc
Die Casting Machine

Zinc die casting machines from 40 to 250 tons offer high-precision, high-volume production with consistent quality. They support a wide range of applications, from small intricate parts to larger industrial components, featuring advanced injection systems, strong lockingmechanisms, and user-friendly controls for efficient operation, reduced cycle times, and accuratecasting. These machines deliver the strength, durability, and surface finish needed for products such as belt buckles, automotive fittings, electronics, and hardware components.


Strong And Smooth Hinge


Reliable And Durable Hydrolic Valves


Energy-saving Furnance


Strong Injection Design


Auto Lubrication


Auto Gear Mold Adjustment


Accumulator For High Pressure


Advance Programmable Logic Controller For Stable Operations

Standard Furniture

- High speed clamping
- Low pressure clamping device
- Automatic mold thickness adjustment
- Hydraulic multiple ejector
- Nclined clamping unit
- Automatic lubrication system
- Oil temperature sensor
- Energy-saving diesel oil furnace
- Normal injection system
- MH-6117 computer controllerOpen or close
- water cooling system
- Hot-work spare part, gooseneck,
- nozzle and so on
- Hydraulic hoist mold bottom position

Optional Furniture

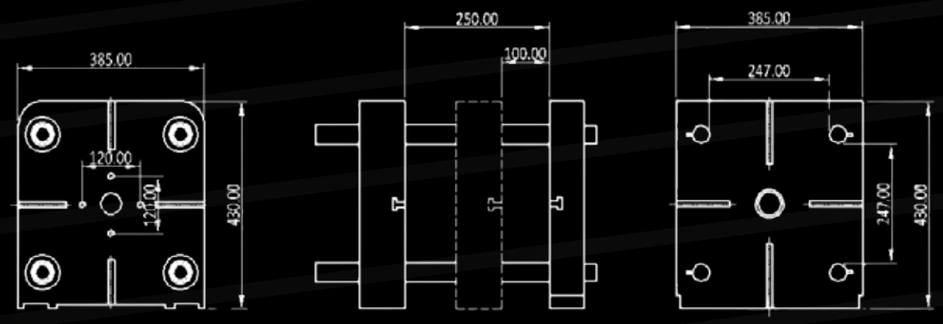
- Strong Beam type injection system
- Energy-saving natural gas furnace
- Oil and electrical mix furnace
- Single valve core
- Double valve core
- Auto beat by blow
- Auto spray
- Auto extractor with spray, and belt convey-
- or
- Auto safety door, light sensor safety
- equipment
- L style mold hoisting shelf

Specification

ITEM	UNITS	20 Ton	40 Ton	88 Ton	130 Ton	160 Ton
Clamping Force	KN	200	400	880	1300	1600
Clamping Stroke	MM	155	180	250	280	325
Ejector Force	KM	20	40	50	65	80
Ejector Stoke	MM	50	55	65	75	80
Die Height (Min-Max)	MM	100-300	110-315	150-350	150-365	250-600
Platen Size (HXV)	MM	380 X 380	450 x480	435 x 435	640 X 680	700 X770
Space Between Tie Bars	MM	245 X 245	300 x 300	357 x 357	405 X 405	500 X 500
Tie Bar Diameter	MM	40	45	70	80	85
Shot Position	MM	0 | -20	0-40	0-60	0-70	0-100
Casting Force	KN	12	40	65	75	90
Casting Stroke	MM	120	130	130	200	275
Nozzle Disengage	MM	120	170	190	255	270
Plunger Diameter	MM	36 | 38 | 40	40-145	50|55 |58	62 | 65 | 0	70 | 75 | 0
Shot Weight	Kg(2n)	0.3|0.35 |0.4	0.6-10.7	1.25 |1.535 |1.70	2 | 25 | 0	2.7 | 3.10 | 0
Crucible Capacity	Dm3 (kg/2+n)	200	250	55(360)	60(400)	80(500)
Motor Driving	KW	5	5	11	15	18
Hydraulic Working Pressure	K9	70 TO 90	70 to 100	10.5	10.5	10.5
Furnace | Diesel Fuel	Kg/h	4.8	4.8	4.8	4.8	4.8
Heating| Electrical	KW	20	20	28	30	40
Hydraulic Oil Tank	L	125	225	250	300	400
Nozzle Heating	KW	1.5	2	2	2.5	2.5
Machine Weight	K9	2100	2700	3800	5750	6500
Machine Dimensions	MM (LXWXH)	3100X1 200X1700	3800X1200X1800	4300X1410X2100	4750X1675X2750	5000X1775X2850

Mold Plate Layout

HK - 20



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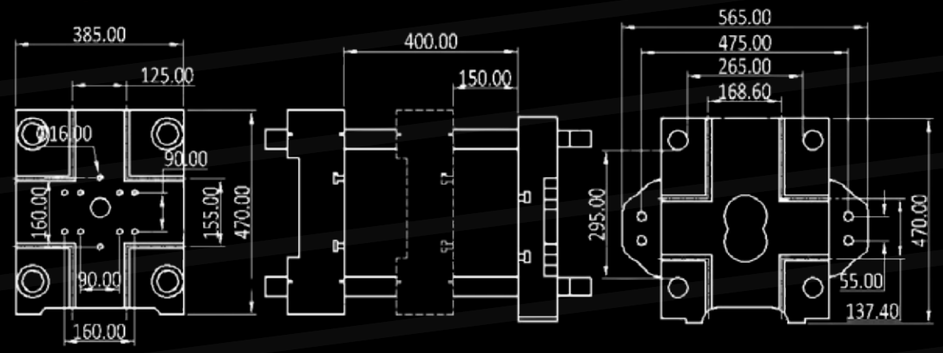

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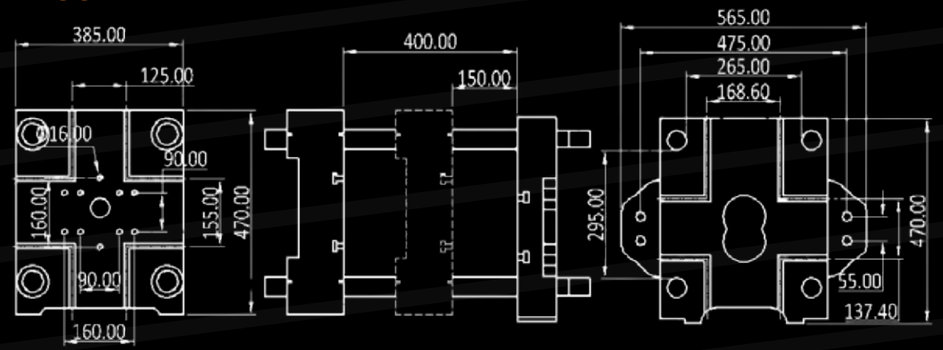

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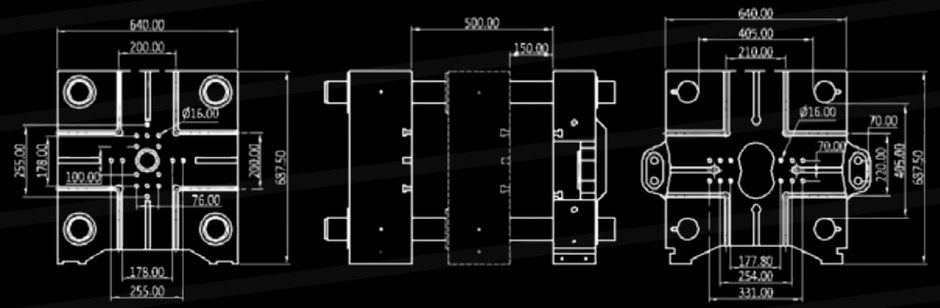

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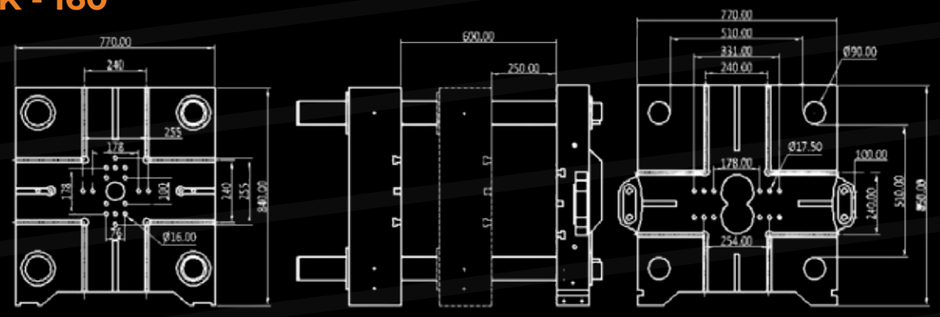
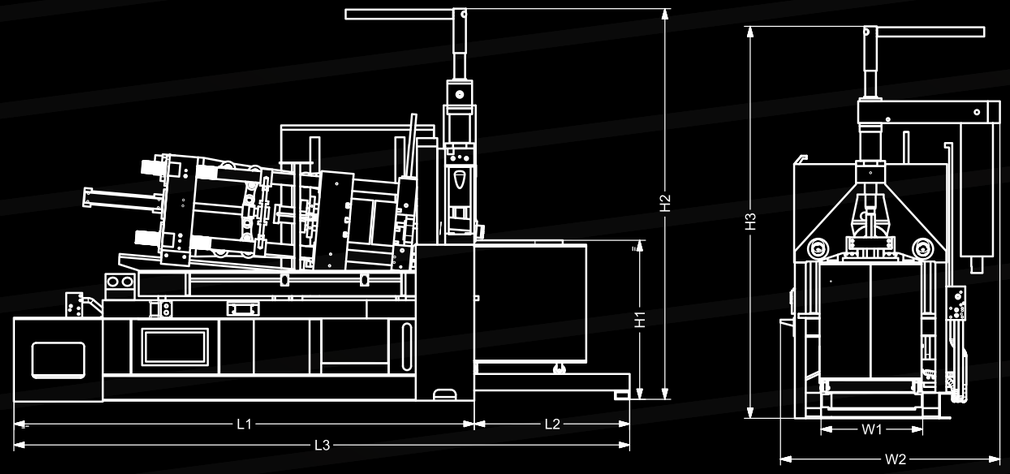


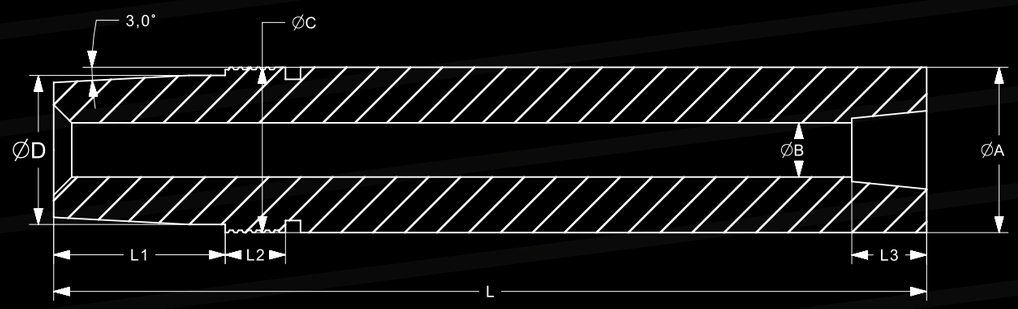
Peripheral

Halyard Display



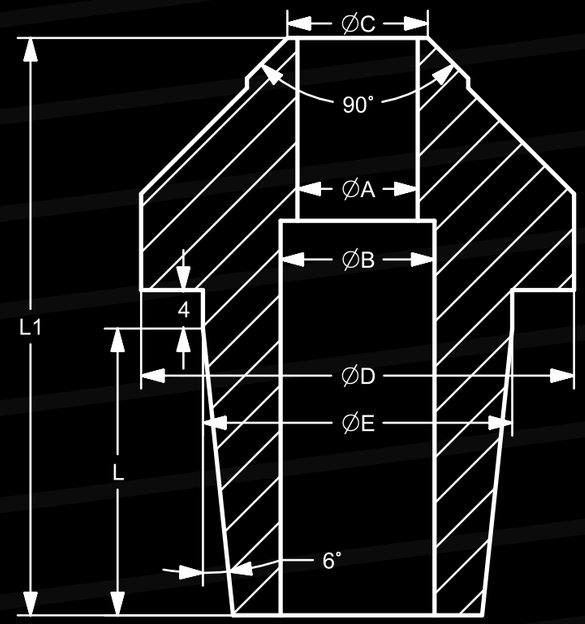
	L1	L2	L3	H1	H2	H3	W1	W2
40TON HC	2591	800	3391	907.7	2316.8	2318.6	498	1244.8
88TON HC	2901	834	3735	1022.7	2505	2499.6	608	1373
130TON HC	3161	1067	4228	1091.7	2681.7	2690.7	698	1506.7
160TON HC	3161	1067	4228	1091.7	2681.7	2690.7	698	1506.7

Nozzle Body



	L	L1	L2	L3	A	B	C	D
40TON	225	40	25	24	39	14	45	35.9
88TON	225	40	25	24	44	16	45	35.9
130TON	290	57	20	24.9	54.9	18	54.9	49.5
160TON	290	57	20	24.9	54.9	18	54.9	49.5

Nozzle



SECTION A-A

	A	B	C	D	E	L	L1
6/10	6	12	6	34	25	20	39.5
12/18	12.5	16	14.6	45	32.2	29.8	60

Aluminum
Die Casting Machine

For aluminum die-casting, we utilize cold chamber machines that ensure high-quality, robust, and lightweight aluminum components. This process is best suited for larger parts where durability, heat resistance, and structural integrity are essential, making it a trusted solution for automotive, industrial, and consumer applications.


Rod Type Structure, Three Stage Injection Adjustment


Auto Gear Mold Adjustment


High Quality Dual - Pump


Strong Injection Design


Auto Lubrication


Aluminium - Melting - Furnace


Advance Programmable Logic Controller For Stable Operations

Standard Furniture

- Siemens PLC control
- Auto lubrication
- Dual pump and proportional
- control of flow
- Oil temperature sensor
- Auto gear mold adjustment
- Electrical stroke control
- ie-rod structure
- Piston Accumulator
- Closed cooling system

Optional Furniture

- Diesel oil / Natural gas fumace
- Electrical melting furnace
- Auto ladle
- Auto spray
- Auto extractor
- Auto plunger lubrication
- Mold temperature controller
- Auto safety door
- Single or double core

Specification

ITEM	UNITS	130 Ton	180 Ton
Clamping Force	KN	130	180
Clamping Stroke	MM	290	360
Ejection Force	KN	80	110
Ejection stoke	MM	70	100
Die height (Min-max)	MM	200-500	200-600
Platen Size (HXV)	MM	670 X 670	780 X 780
Space Between tie bars	MM	425 X 425	590 X 590
Tie bar diameter	MM	80	90
Injection Force	KN	95-210	105-250
Injection Stroke	MM	270	350
Injection Weight (AI)	MM	0.8/1	1.2/1.8
Casting Area	KG	140-600	160-759
Shot Position	CM^2	0/-80	0/-100
Plunger diameter	MM	50 | 55 | 60	55 | 65 | 0
Motor driving	Kw	15	20
Hydraulic working pressure	Kg	100	100
Nozzle heating	Kw	450	450
Oil Tank Capacity	L	400	500
Machine weight	Kg	7000	8000
Machine dimensions	Mm (LXWXH)	5400 X 1250 X 1800	5900 X 1400 X 1850

Mold Plate Layout

HK - 130

HK - 180

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