

# Shibaura Machine



**Shibaura Machine**

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# FULL-TIME HIGH PRODUCTION!

## DIE CASTING MACHINE DC135J

The concepts of DC135J are its increased reliability and enlarged casting capability. It promises stable production even under harsh working conditions such as continuous quick cycle operation, and does achieve its high output.

Furthermore, the injection performance has been greatly improved, making possible a wide range of casting from thin-walled parts to thick-walled parts.

DC135J WITH THE INBORN HIGH PERFORMANCE MAKES ITS DEBUT.



This machines has optional features.



With selectable features and high performance "J-S & J-T" both fulfill the broadening customers' needs.

EQUIPPED WITH “CASTING VISOR” , THE “J-S” TYPE HAS CHANGED A STANDARD MACHINE INNOVATIVELY.

DC135J-S



本機はオプションを含みます。 The machine in photograph includes some optional features.

Presenting the new machine that has the operational ease of standard machines as well as the preciseness of computer-controlled machines. Putting necessary input items together on a single panel, enriching optional features, and pursuing the operational ease, the machines is built for the operator.

Machine Condition

The machine status can be confirmed by grancing at the indicator lamps.

Selection of sequence

The selection of sequence for the peripheral equipment such as ladler can be set simply by pushing the buttons.

Timer

Timers for the die casting machine and peripheral equipment can beset.

Core order

Core sequence before die closing and after die opening can be selected freely.



Presetting

The high-speed-switching position in injection stroke can be set. In addition, the low speed, high speed and intensification valve Openings as well as the ejection stroke can be set as optional features.

Data number and data

The timers, the position settings and their preset values are displayed and can be cbanged.

Die number

Up to ten die data files can be saved and recalled. When recalling a die number, the saved casting conditions are immediately restored, enabling a vast saving of set-up time.

THE "J-T" TYPE IS EQUIPPED WITH NEW TOSCAST (DIE CASTING MACHINE TOTAL CONTROL SYSTEM), WHICH IS AIMED AT THE OPEN NETWORK ACTIVITY IN THE FUTURE.

DC135J-T

DC135J-T, equipped with new TOSCAST, has enhanced its operational ease and the high performance. Provision for \*LAN and \*expanded function for host computer communication enhance the centralized control function, making it the machine that can be recommended to those who are looking for new models of die-casting production in the future.



Various conditions for casting can beset, and the batch loading is possible.

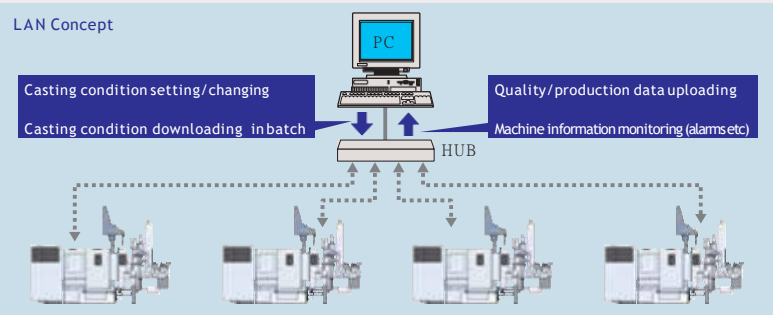


SHIBAURA MACHINE'S long-time-accumulated know-how is now applied to theoretical calculations, making them more practical.



Shot profiles and machine motions can be displayed; alarms and their output methods can be set.

注)\*オプション対応 Note:\*denotes optional features.



A 32MB memory card has been adopted, making its memory capacity more than 20 times the ones adopted so far.



Touch panel keys are adopted for the operation, making it possible to input just by touching softly.



The machine in photograph includes some optional features.



"The operator's panel on the 135ton was a little bit awkward to use."

It has been made same as the other models, making it possible to operate without feeling the awkwardness.

"Wanted to save shot analogprofiles, but the floppy disk did not have enough capacity."

New TOSCAST uses a 32MB memory card, having a capacity about 20 times the floppy disk, and making it possible to save both digital and analog data. (J-T machines only)

"Inputting casting conditions to the computer-controlled machine is difficult or tiresome."

It is rather easy to input the conditions by referring to the

TOSCAST'S calculation results.  
For new TOSCAST the theoretical casting formulas have been reviewed to make them more practical. Why not try for yourself. (J-T machines only)

"It would be convenient to be able to preset the shot, die locking and ejection even on the standard machine (J-S machine)."

It is possible as optional items.  
They are standardized options that make possible condition management for up to 10 dies.

"Leveling and welding on installation takes time."  
"Redoing the installation every time the machines changes is troublesome and costly."

The mounting-pads system started with the H-series still holds true; no welding is required, simple installation.  
\*The existing foundation can be appropriated.

"It was hard to see the water running into the water-collecting box on the 135ton."

Its configuration has been changed, making it easy to see the water.

"Opening the cover every time adjusting thehigh-speed-switching LS is cumbersome. What about its repeatability?"

Not to mention the J-T machine, the J-S is also equipped as standard with a shot stroke sensor, greatly improving its operational ease and repeatability.

"Would like to increase the high speed a bit more."

The speed capacity has been increased by 33%, also making its accelerating response much better.

"Would like to increase the sleeve diameter, but its power is not enough to do it."

The injection force has been increased by 19%.

"The conventional plunger lubricator was made difficult to fine-adjust the lubricant to the amount actually used (2cc or less). Even that location was inconvenient, making the adjustment difficult."

The max delivery, 5cc has been changed to 2cc, assuring the improved delivery accuracy. The unit is mounted at the tip of lower shot end, making its operational ease improved by far.

The machine in photograph includes some optional features.  
All the points mentioned above are in comparison with our conventional models.

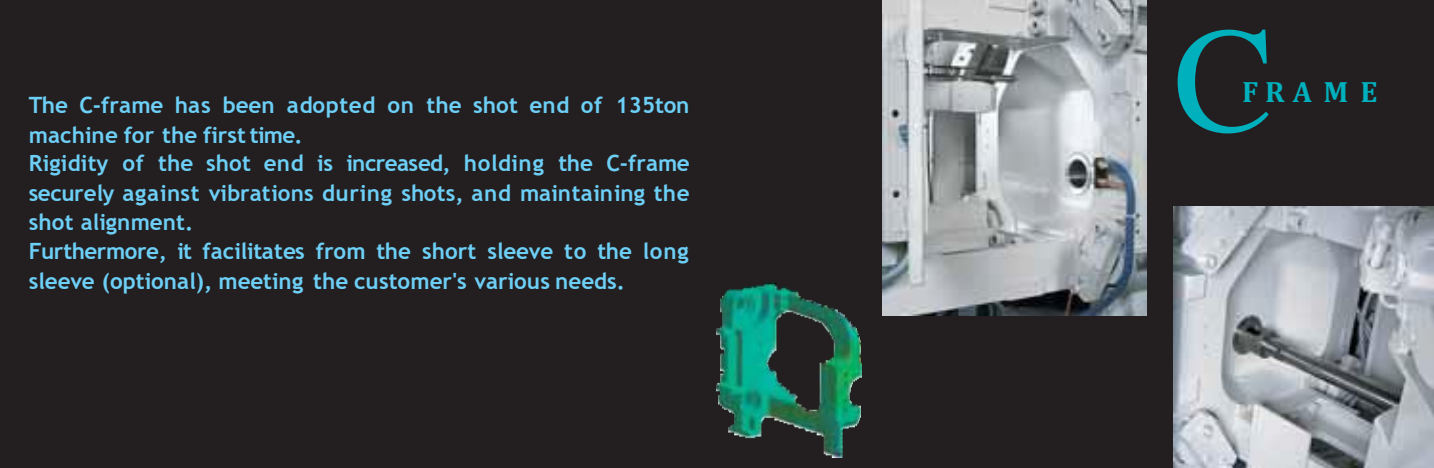
Note: \* Please check with us as there are cases where the foundation cannot be appropriated.

# NEW DIE CASTING MACHINE DC135J



# 伝統と革新 TRADITION AND INNOVATION

The traditional technology, accumulated with machines of 250ton and over, is now combined together with a new technology, making the reliability and operational ease greatly upgraded.



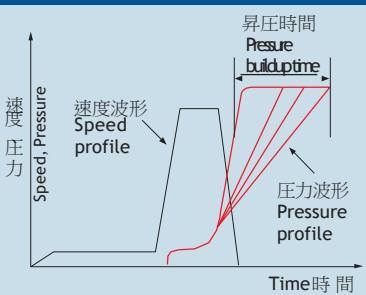
The quick toggle has been adopted together with automatic oil lubrication, protecting the toggle that operates at a high speed that takes 2 seconds for die closing/opening, by lubricating automatically.



The ejection unit has been newly designed under the same concept as that of the 250/350J; while the rigidity is increased, the working ease on replacing the die or on cleaning is ensured and intact as ever. (Ejection cylinder independent, guide bars inside)



The J-T machine is equipped with an oil-cleaner as a standard feature.  
It protects the hydraulic equipment from contamination of the hydraulic fluid.



The traditional intensification-cylinder-system is employed as a standard feature, suppressing the intensification time lag (delay in pressure buildup) to its minimum, and making it possible to adjust independently the speed and pressure buildup time.

### Reliable Automated Devices that Support the Quick Cycle (Optional)

Automatic Ladle Device	Type
DAL135SVSH for DC135J-S	Type
DAL135SVSH2 for DC135J-T	



インバータ制御によりスムーズでしかも精度の高い注湯動作を可能にしました。

The inverter control makes possible a smooth and highly precise pouring motion.

## Part Take-out Device

### Type DT0135SLH



新リンク機構とインバータ制御の採用により、スムーズな搬入・搬出動作を可能にしました。

Adoption of the new link mechanism and the inverter control make possible the smooth move-in/take-out motions.

## New Automatic Spray Device Type DBS135MSH3



新スプレーヘッドの採用により離型剤の微細噴霧化が可能になりました。

Adoption of the new spray head makes it possible to finely atomize the die lubricant.

Standard specifications. Optional specifications							
		仕様項目	Specification Items	J-S		J-T	
				標準仕向Standard	オプションOption	標準仕向Standard	オプションOption
1	型締関係 DIE CLOSE	ダイブレート（固定・移動）T薄機械加工	Machined T-slots on platens (fixed/movable)	●		●	
2		トグル部自動潤滑装置（定量分配方式・警報回路付）	Automatic toggle lubrication system (fixed amount with alarm)	●		●	
3		ダイハイト調整装置	Automatic die-height adjustment device	●		●	
4		デジタルロードメータ（J-T機はTOSCAST画面）	Digital load meter (J-T machine to use TOSCAST screen)		●	●	
5		型締力自動制御	Automatic die locking force adjustment		●	●	
6		操作側上部タイアール抜装置	Tie-bar draw-out device on upper operator side		●		●
7		注湯開始LS（弊社給湯装置の場合）	Pour start limit switch (for Shibaura Machine ladle device)	●		●	
8		搬出開始LS（弊社搬出装置の場合）	Take-out start limit switch (for Shibaura Machine device)	●		●	
9		ラチェット式安全フック	Ratchet type safety hook		●		●
10		型厚プリセット機構	Die height presetting system		●	●	
11	押出位置プリセット機構	Ejection position presetting system		●	●		
1	射出関係 INJECTION	射出条件自動制御	Injection condition automatic control	—	—	●	
2		高速切替位置プリセット機構	High-speed switching position presetting system	●		●	
3		低速・高速・増圧バルブプリセット機構	Low speed/high speed/intensification presetting system		●	●	
4		ショートスリーブ仕様	Short-sleeve specification	●		●	
5		ロングスリーブ仕様	Long-sleeve specification		●		●
6		低速・高速加速時間調整機構	Low speed/high speed acceleration time adjustment	●		●	
7		射出力自動調整	Automatic injection force control	—	—	●	
8		射出力調整機構	Injection force adjusting system	●		—	
9		真空用射出LS追加	Additional injection limit switch for vacuum		●		●
10		射出押ボタンスイッチ追加	Addition of push button switch for injection		●		●
11		射出足踏スイッチ追加	Addition of foot switch for injection		●		●
12		ASME規格（ガスアキュムレータに変更）	ASME code (to be changed to a gas accumulator)				
1	中子関係 CORE	中子自由選択回路	Core sequence free selection circuit	●		●	
2		中子スプレー回路（弊社スプレー装置の場合）	Core spray circuit (with Shibaura Machine spray device)	●		●	
3		移動中子1組	Movable side core 1 set		●		●
4		移動中子1組追加	Movable side core additional 1 set		●		●
5		移動中子2組追加	Movable side core additional 2 set		●		●
6		固定中子1組追加	Fixed side core additional 1 set		●		●
7		移動中子1 스위스 兼用回路追加	Addition of squeeze compatible circuit to movable side core #1		●		●
8	油圧・冷却水関係 HYDRLIC & WATER	スライズ専用回路追加（移動）	Additional circuit dedicated to squeeze (movable side)	●		●	
2		難燃系作動油仕様	Fire-retardant hydraulic fluid specification		●		●
3		鉱物系作動油対策	Petroleum based hydraulic fluid specification	●		●	
4		ダイ冷却水調整バルブ	Die cooling water adjusting valves	●		●	
5		ダイ冷却水集水箱（固定・反操作側1個）	Die cooling water collection box (one on fixed platen helper side)		●	●	
6		オイルクリーナ取付	Oil-cleaner		●		●
1	安全関係 SAFETY	コンタミコレクタ取付	Micro separator	●*		●*	
2		操作側手動式ドア	Operator side manual safety door	●*		●*	
3		トグルサイドカバー（操作側・反操作側）	Toggle side covers (operator side/helperside)	●		●	
4		射出部カバー（操作側）	Injection end cover (operator side)	●*		●*	
5		射出部カバー（反操作側）	Injection end cover (helper side)	●*		●*	
6		反操作側柵	Helper side safety fence	●		●	
7		型開限安全フック	Die closing limit safety hook	●		●	
8		非常停止ボタン（3カ所）	Emergency stop buttons (three locations)	●		●	
9		型締・ノンリピード回路（型締押ボタン回路確認）	Die closing anti-repeat circuit (die close push buttons check)	●		●	
10		インターロック付き制御盤	Control panel with interlock		●		●
11		操作側手動式ドア（中子対応）	Operator side manual safety door (facilitating core)		●		●
12		操作側自動ドア	Operator side automatic safety door		●		●
13	制御関係 CONTROL	反操作側手動ドア	Helper side manual safety door		●		●
1		光電管安全装置	Photoelectric tube safety device	—	—	●	
2		ダイカストマシントータル制御装置（TOSCAST）	Die casting machine total control system (TOSCAST)	●		—	—
3		キャスティングバイザ	CASTING VISOR	●		●	
4		プログラマブルコントローラ（TC200）制御	Programmable controller (TC200)		●		●
5		全自動回路	Fully automatic circuit		●		●
6		他社製自動機インターロック	Interlocks for other maker's automatic devices		●		●
7		他社製自動機ロボットインターロック	Interlocks for other maker's robot		●		●
8		Y-Δ起動	Y-Δ start		●		●
9		全閉外扇モータ	Fully enclosed outer fan motor		●		●
10	その他 OTHERS	制御盤にコンセント（AC100V）取付	Provision of outlet (AC100V) on control panel		●		●
11		制御盤にコンセント（AC200V）取付	Provision of outlet (AC200V) on control panel		●		●
12		制御盤上部にパトライト取付	Patlite on top of control panel	—	—	●	
13		温度モニタ仕様	Temperature monitor specification	—	—	●	
14		パソコンCRTプログラマ付属	PLC Programmer (notebook PC)	—		●	
15		TOSCAST用プリンタポート取り付け	Provision of printer port for TOSCAST	—	—	●	
16		TOSCAST用プリンタ付属	Printer for TOSCAST		●		●
17		TOSCAST用プリンタケーブル付属	Printer cable for TOSCAST		●		●
18		PC用簡易プログラマ付属	Summary programmer for PLC		●		●
19		スクイズマスタ（SQM）取付対策	Hookup provision for Squeeze Master (SQM)		●		●
20		CASTVIEW取付対策	Hookup provision for CASTVIEW	●		●	
1		真空装置（DVF200B2）取付対策	Hookup provision for vacuum device (DVF200B2)		●		●
2		塗装色（アイボリーとグレーのツートン）	Painting color (ivory/gray two-tone)		●		●
3	付属工具（工具箱付き）	Supplementary tool kit (with toolbox)		●		●	
4	その他 OTHERS	自動給湯装置	Automatic ladle device	●		●	
5		湯量不足信号出力	Output signal of melt shortage		●		●
6		プランジャ潤滑装置	Plunger lubricator		●		●
7		プランジャ潤滑ミキシング方式	Mixing type plunger lubricator		●		●
8		自動スプレー装置	Automatic spray device		●		●
9		離型剤圧送タンク（200L）	Lubricant booster tank (200L)		●		●
10		製品搬出装置	Part take-out device		●		●
11		光電式製品検知仕様	Photoelectric tube parts sensing		●		●
12		真空装置（DVF）	Vacuum device (DVF)				
13	スクイズマスタ（SQM）	SQUEEZE MASTER (SQM)					

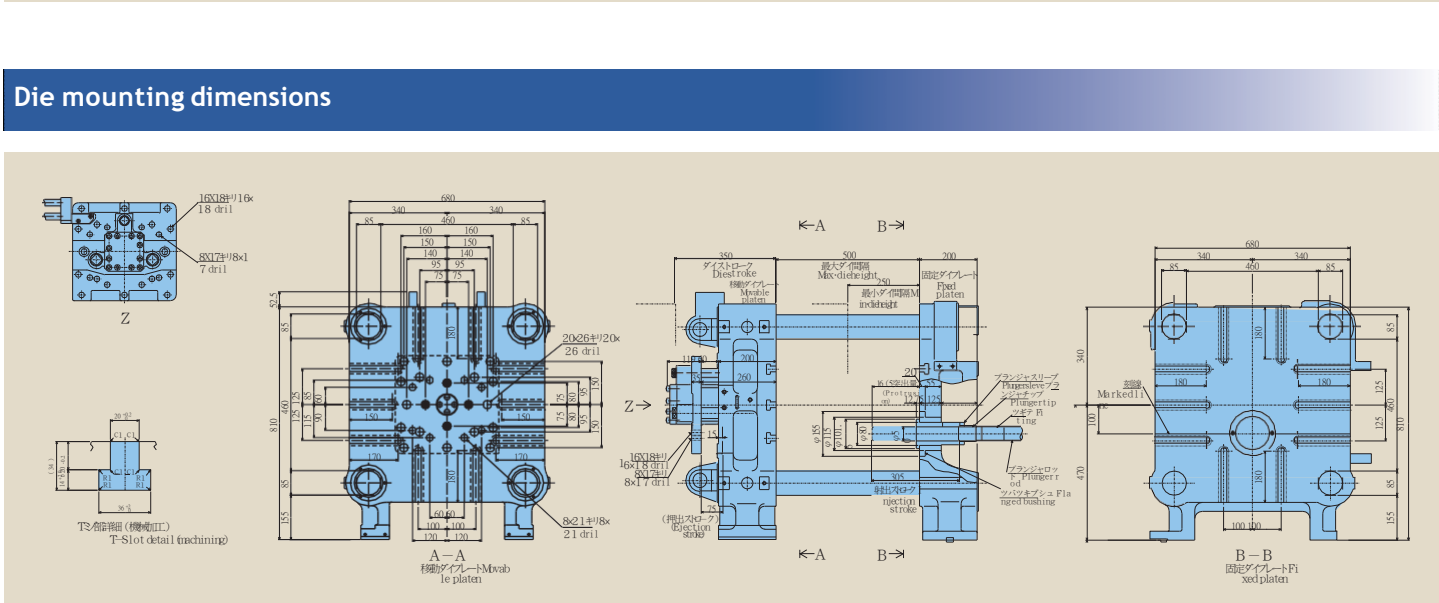
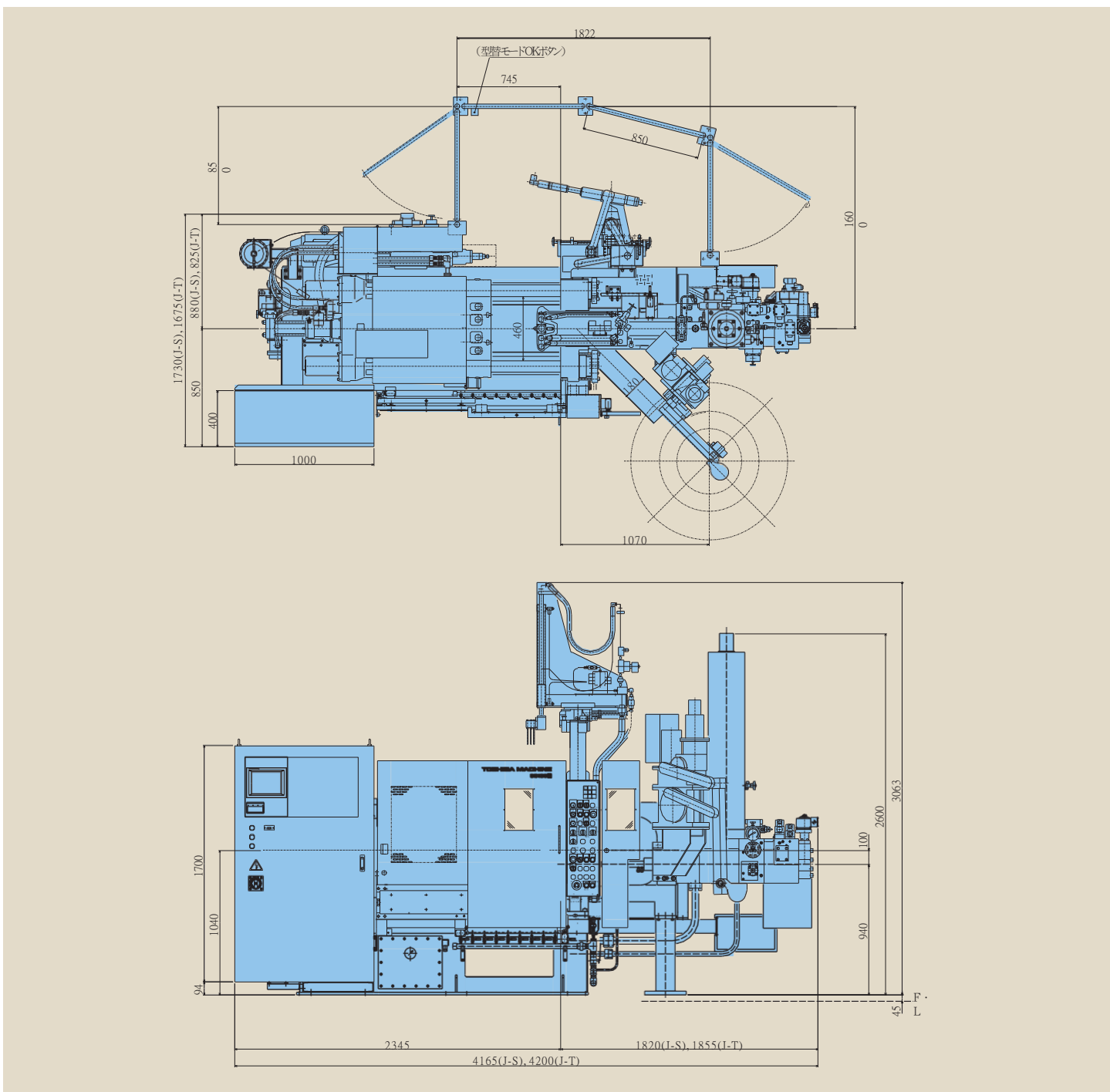
\*輸出はオプションです。\* Mandatory in certain countries

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## DC135J Major Specifications

仕様項目		Specification Items	単位 (Unit)	仕様数値 (Specification Values)
型締 Die-close	型締力	Die-locking force	kN	1350
	ダイプレート寸法 (V×H)	Platen dimensions (V×H)	mm	680×680
	タイバー間隔 (V×H)	Tie-bar spacing (V×H)	mm	460×460
	タイバー直径	Tie-bar diameter	mm	85
	金型厚さ	Die thickness	mm	500～250
	ダイストローク	Die stroke	mm	350
射出 Injection	最大射出力	Maximum injection force	kN	193
	増圧比	Pressure intensification ratio		1:2.25
	プランジャストローク	Plunger stroke	mm	305
	チップ突出量	Tip protrusion	mm	165 (or 120)
	射出口位置	Injection port position	mm	－100
	射出速度	Injection speed	m/s	0.05～6.0
	チップ直径	Tip diameter	mm	45～60
	スリーブ長さ	Sleeve length	mm	167
押出 Ejection	押出力	Ejection force	kN	76.6
	押出ストローク	Ejection stroke	mm	15～75
油圧 Hydraulic	移動中子数	Number of movable sidecores	個 (unit)	3/8"×1個 (unit)
	移動中子ポート数	Number of movableside core ports	組 (set)	1/2"×2組 (sets)
	作動圧力	Operating pressure	MPa	15
	必要作動油量	Required amount of hydraulic fluid	R	250
	作動油タンク容量	Hydraulic fluid tank capacity	R	200
冷却水 Cooling water	ダイ冷却水入口接続管径	Die-cooling-water inlet port connectingsize	Rc	1"
	ダイ冷却水出口接続管径	Die-cooling-water outlet port connectingsize	Rc	2"
	オイルクーラ冷却入口管径	Connecting port size for oil cooler inlet	Rc	1"
	オイルクーラ冷却出口管径	Connecting port size for oil cooler outlet	Rc	1"
	ダイ冷却調整バルブ	Die-cooling-water regulating valve	Rc×個 (unit)	1/4"×10個 (unit)
	チップ冷却調整バルブ	Tip-cooling-water regulating valve	Rc×個 (unit)	1/4"×1個 (unit)
	必要冷却水 (オイルクーラ用)	Required water flow (for oil cooler)	R/min	35
	必要冷却水 (金型用)	Required water flow (for die cooling)	R/min	70～120
電気 Electrical	油圧ポンプ用モータ	Motor for hydraulic pump	kW	15
	ダイ厚調整用モータ	Motor for die-heightadjustment	kW	0.2
	潤滑ポンプ用モータ	Motor for lubricationpump	W	40
	電源容量	Electrical capacity	kVA	23
	電源	Power source	V	AC 200/220
エア Air	エア接続口	Air connecting port	Rc	1/4", 3/8" 各1 (each one)
	エア圧力	Air pressure	MPa	0.4
大きさ Size	所要床面積	Required floor space	mm	4165×1730(J-S), 4200×1675(J-T)
	機械高さ	Machine height	mm	2600
	機械質量	Machine mass	ton	4.5

## External view



## Die mounting dimensions

