

rep

news

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r u b b e r i n j e c t i o n



S24L50W
S03Y10W/S05Y10W
C06Y01

V17Y01S

V18HY01S

REP special presses: the right solution for each application.



SPECIAL PRESSES

Designed jointly with the user:
6 presses, 6 applications,
6 solutions **P2**

G9 PRESSES

An innovative structure.
Priority to productivity.
..... **P8**

TUNG YU

A logical and complementary partner for REP **P10**

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edito

The World is changing, and REP with it...

Since 2001, the level of productive investment in the rubber molding industry has decreased considerably... in the West. Asia, characterized largely by the relocation of production from the West and by the development of its own market, is generating a rapid increase in its own production capacities. It has taken over the lead, but with a very different demand configuration, in terms of both equipment and price. Thus REP has to adapt if it is to continue to offer its traditional Western customers increasingly personalized and automated presses, and at the same time meeting the emerging demand from low-cost countries, chiefly in Asia. To address this challenge without delay, REP has chosen a benchmark partner in Asia, TUNG YU, the leading Taiwanese manufacturer of hydraulic presses.

Today, the combination of these two specialists has put us in a position to satisfy the wide range of demand, whether Western or Asiatic. This issue of REP News will enable you to appreciate the developments in our machine ranges and hope fully induce you to choose REP as a partner in the mad race for globalization.

REP is very much aware of the difficulties ahead, and we will continue to expand our offerings in order to assist customers with their various development projects.

Bruno Tabar

Special applications, specialist solutions

Design shared with the user

REP's approach is to take the real needs of the user as a starting point and then design step by step a press that will fully meet the user's specific expectations. The dialogue that takes place in the course of developing a specific or adapted solution is essential: it not only enables all aspects of installation to be taken into account (space requirements, integration into a line), but it also enables a special press to be designed for the longer term (possible changes in production, subsequent use of the press, etc.).

Thus this shared design ensures both the relevance and the profitability of the investment.

6 presses, 6 applications, 6 solutions

The six presses presented in this issue of RepNews illustrate the diversity and the complexity of the configurations of which REP is capable. Although very different in terms of both their applications and their size, they share a common emphasis on customization.



S24L50W : Another Dimension for High Voltage

S24L50W

Designed for the production of high-voltage insulators (550 kV), this press is one of the largest made by REP. The dimensions of the parts to be injected account for the gigantic size of the press: 660 mm in diameter, 2600 mm in length molded in a single pass. Thus a complete insulator is produced in one or two cycles, which significantly increases productivity and the reliability of the parts.

The injection press that beats all records

A closing force of 2400 tons, 8 columns, heater plates measuring 3000 x 1500 mm, 50 litres of silicone injected, and so on: the figures speak for themselves. With this type of

press, one of the challenges is to ensure perfect distribution of the closing force and control the mechanical deformation of the assembly. Digital simulation has made it possible to design and optimize a closing unit adapted to this process. It weighs close to 100 tons, with the fixed traverse alone weighing 34 tons.

A challenge: controlling injection of 50 liters

The press, which includes two silicone stuffers, has to inject an enormous quantity of silicone on each cycle. To do this, it has two injection units for a volume of 25,000 cm³ injectable at 1500 bars, driven and regulated

simultaneously by the REP automaton, to control filling. Additionally, REP has designed and supplies this press with two cold runner blocks ensuring even distribution of the silicone at all points in the cavity.



The insulator market

REP has already supplied numerous presses of all sizes for this type of application.

The first model of the S24L50W press was delivered in the Spring of 2005.

S24L50W

Closing force	:	2 400 tons
Heater plates	:	3 000 x 1 500 mm
Injectable volume	:	50 000 cc

Presses S03Y10W - S05Y10W accurate and modular.



Ideal ergonomics

The type of part produced on these presses may include inserts and involves long production runs. Accordingly, prime consideration has been given to the

These two presses, with a respective closing force of 300 and 500 tons, were designed for a vehicle application: the injection of casing gaskets of all sizes. These unusually-shaped parts demand absolute precision for optimum sealing. The injection process is complex, as the distribution of the material over a very wide surface has to be done with no flash. Closing quality is therefore the key point of these two presses ensuring the performance of the REP injection unit.

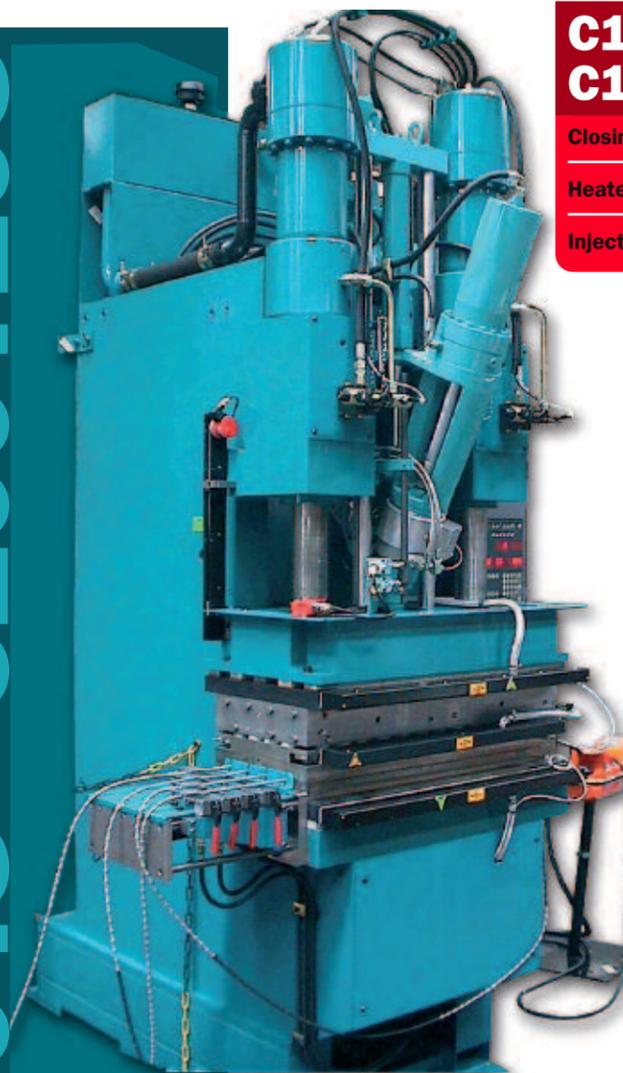
ergonomics, with a very large platen providing ready deep down access. Designed for two workstations, these presses include a control desk that can be moved from front to rear. There is also a simultaneous travel stripping kit for 1500mm wide platens, with everything at operator height.

Lastly, the injection unit is also readily accessible by means of a platform providing direct access to the extruder.

S05Y10W

Closing force	: 500 tons (2 x 250)
Heater plates	: 1500 x 630 mm
Injectable volume	: 1000 cc

C100Y04S - C100Y10S personalization through adaptation.



C100Y04S C100Y10S

Closing force	: 100 tons
Heater plates	: 1000 x 500 mm
Injectable volume	: 400 ou 1000 cc

A mechanical decision dictated by the application.

The C-frame structure with a 100-ton closing force has been adapted to these presses, as the technology involved ensures access from every side of the mold, which is essential to the success of this very special duplicate molding. Thus injection and closing are done from the top, while the platen through which the cables are passing is readily accessible and at a constant height. This area includes a system on either side of the mould that grasps and puts four cables under tension simultaneously to ensure their proper positioning and the precision of the duplicate-moulded part. The heater platens in these presses also include a special temperature control designed to maintain two areas in the mould at different temperatures.

To satisfy the demand of the companies in this market sector, a larger capacity press is currently being developed.

These two presses are designed for a very special application: the duplicate rubber molding of cables intended for stone cutting. The cables have to be positioned under tension in the mold, and the duplicate moulding is done successively, step by step. The chief feature of these presses is the fact that they are adaptations of existing models for which REP has designed a special mold-peripheral unit.

C100Y04S - C100Y10S

C06Y01

minimum space requirement,
maximum modularity.



This is a C-frame press intended for the duplicate moulding of gaskets in vehicle bodywork. It is designed to bend into the numerous configurations required by this type of production.

A variable-geometry press.

Closing and injection are both done from the top. The press includes two independently controlled injection units for two different duplicate moulding operations. These presses are very compact and available with a control box on the left or the right, as required, which enables them to be placed side by side for the injection of parts on both platens when size demands.

The C06Y01 controls are also personalized, using commercially available automaton for rapid integration into the users' production environment.

C06Y01

C06Y01

Closing force : 60 tons

Heater plates : 600 x 400 mm

Injectable volume : 2 x 125 cc

V17HY01S - V18HY01S

injection "à la carte".



These two C-frame presses with a closing force of 40 tons are used for a variety of applications, from shaft seals to bodywork seals. Their chief advantage lies in their ability to adapt to their production environment.

When special meets standard!

These presses have been designed taking existing models in the standard REP range and adapting them to the applications required. Originally designed for closing and injection from the top, they open up the possibility of injection from the bottom by means of a simple adaptation of the connection, at any time and in their production environment. The V17HY01S is designed to integrate easily into an automated line, with parts and insert handling, and conveyor operations. Thus the process control involved is relatively simple. The V18HY01S is a similar adaptation, in mechanical terms, but uses a G8 process control, which makes it ergonomically very operator-friendly and ensures an extremely advantageous performance. Both presses, at the interface of standard and special, exemplify the ability of the REP Engineering Department to make use of long production run solutions by refining them and adapting them to a particular application.

V17HY01S - V18HY01S

V17HY01S - V18HY01S

Closing force : 40 tons

Heater plates : 500 x 300 mm

Injectable volume : 125 cc at 1500 bars or 100 cc at 2000 bars

The G9 at work.

The first G9 generation press, designed for molding lip seals, was delivered at the end of July. Equipped with a simultaneous travel kit together with numerous options, this V79 press embodies the advances made by REP in all the functionalities concerned, both mechanically and in terms of software

It also reflects the "future-proof" philosophy governing the product line.

An innovative structure

With a closing force of 500 tons, the V79 is entirely new in its design; this includes the frame, which brings the movable traverse to user height with the heater platen always at the same level, irrespective of the thickness of the mold.

The 800 x 800 mm platens make it possible to mold large parts or multiply the cavities for mass production.

Injection: "No job too small, no job too big"

The first V79 delivered has an injection capacity of 1000 cc. But the essential feature of the V79 is its ability to accommodate injection units with an injectable volume of 740 to 10,500 cc. This modularity provides fast adaptation to production changes.

Priority to productivity

Integrated into an automated unit, the first V79 press has everything to optimize productivity:

- u A simultaneous travel stripping kit in front, specific to the press and adapted to the size of the platen and the performance of the press. Its height, combined with the lowered work surface, is ideal for easy integration of an automation facility and for access to manual stripping. The kit includes a heating area and an ejection battery.

- u An extremely short dry cycle time, a feature common to all the new G9 generation presses.

- u Parallel movements to optimize cycle times even further.

- u The Isothermould system: plates heated by distributed power rods.

- u Quick mold change.

In the version delivered (see photo), the press has been adapted to the automation process. The light curtain has been replaced by complete caging of the housing incorporating the press robot. The hydraulic system includes soundproof covering.

Simplified Communication and Process Control.

Control is via a tactile screen on a very compact workstation. Automatic process control opens up a very wide range of possibilities, both for the operator, who will like the intuitive handling, and for the set-up person, whose job will be much easier.

In this case, communication with the peripherals is based on EUROMAP 67, which ensures easy integration in any environment.



G9

TUNG YU: a logical and complementary partner.

Tung Yu Hydraulic Machinery Co. Ltd. was founded in 1983, and has specialised in the manufacture of hydraulic presses which are based on ongoing quality improvement and total customer satisfaction.

The company offers a diversified range of rubber presses (closing force from 5 to 10,000 tonnes), designed to adapt to different vulcanization technologies. Tung Yu presses are entirely suited to the manufacture of transport equipment, electronic components, sporting goods, pharmaceutical products, industrial equipment for retreading tires and producing conveyors as well as any other product manufactured by related industries.



TYC-V-16-3RT

A mastered technology

Thanks to a constant emphasis on inventiveness and innovation, Tung Yu has developed different types of vulcanization presses with a vacuum chamber and also molding machines, which eliminate most of the hard-to-handle faults encountered in the manufacture of rubber products. The results are extremely positive, as indicated by the very favorable feedback from customers. As a result, Tung Yu is not only the leader in Taiwan, but also a preferred supplier to major manufacturers in Europe,

the USA and Japan. Moreover, Tung Yu exports on a large scale to China, Southeast Asia, Australia and New Zealand.

With ISO 9001 and CE conformity certification, Tung Yu is constantly forging ahead in the fields of research and development, manufacturing, management and after-sales service, with the basic objective being to provide the customer with the best possible quality and first-class service.

REP - TUNG YU marketing agreements

In late november 2004, REP and TUNG YU signed a two-point technical and marketing cooperation agreement:

1 - REP became the marketing and after-sales service agent for the TUNG YU compression range for the world, with the exclusion of Asia. Thus REP offers its customers the possibility of accepting the TUNG YU offer, at low cost, of well made products, while relying on a local REP sales network and after-sales service.

2 - REP and TUNG YU united their respective technologies to create a new range of rubber injection presses under the joint REP TUNG YU name, combining REP's technical expertise in the field of injection with TUNG YU's low-cost know-how. The new range will provide performance levels higher than those of the Asian competition but at comparable prices.

This cooperation agreement has aroused lively interest among both REP's and TUNG YU'S customers and the initial projects have been numerous, and not without orders...

REP and TUNG YU are now often combining their marketing initiatives and accordingly have participated

jointly in China, in the Canton and Shanghai trade fairs in June and July 2005 respectively. They will also be present at the Tokyo trade fair at the end of September 2005 and the Pittsburgh trade fair in November 2005, where the REP and TUNG YU teams will be at your disposal to

greet you and show you the combined range of the two partners. Other exhibitions are planned for 2006, either at REP or TUNG YU, as part of the International Trade Fair program. We shall of course confirm details at a later date.

RTIP: a successful combination for new markets

RTIP: These four letters represent an extensive range in the making:

the Rep Tung Yu Injection Presses.

A marriage of two technologies already in place in two prototypes.

A twofold objective

With the adaptation of REP injection technology to TUNG YU press frames, the RTIPs are designed for two markets:

- u traditional customers (European and North American) who, having relocated certain production lines, are seeking high-quality machines at lower cost;
- u manufacturers in the "low-cost" countries who are looking to obtain more effective technical solutions

for certain applications and at an affordable cost.

Readily accessible machines that can be integrated into the REP environment..

The two launched prototypes are machines with a closing force of 150 tons.

The first machine is designed for the Japanese market and includes an ejection microkit at the front. It takes all the molds that can be used on the REP V47 and V48 machines.

Shown in late June at the Canton Chinaplas Exhibition, it received a very favorable reception from the visitors.

The second machine, using the same frame, was launched in a V48 configuration and was unveiled at the APplas Exhibition in Shanghai in July 2005.

Under REP's General Management and Technical Department, the design of both prototypes aimed at maximum compatibility with existing REP machines. It is with this in mind that the developing range will be presented as part of the REP range, with a closing force of 150, 250,400 and 500 tons. A range to look out for in forthcoming issues of RepNews!

