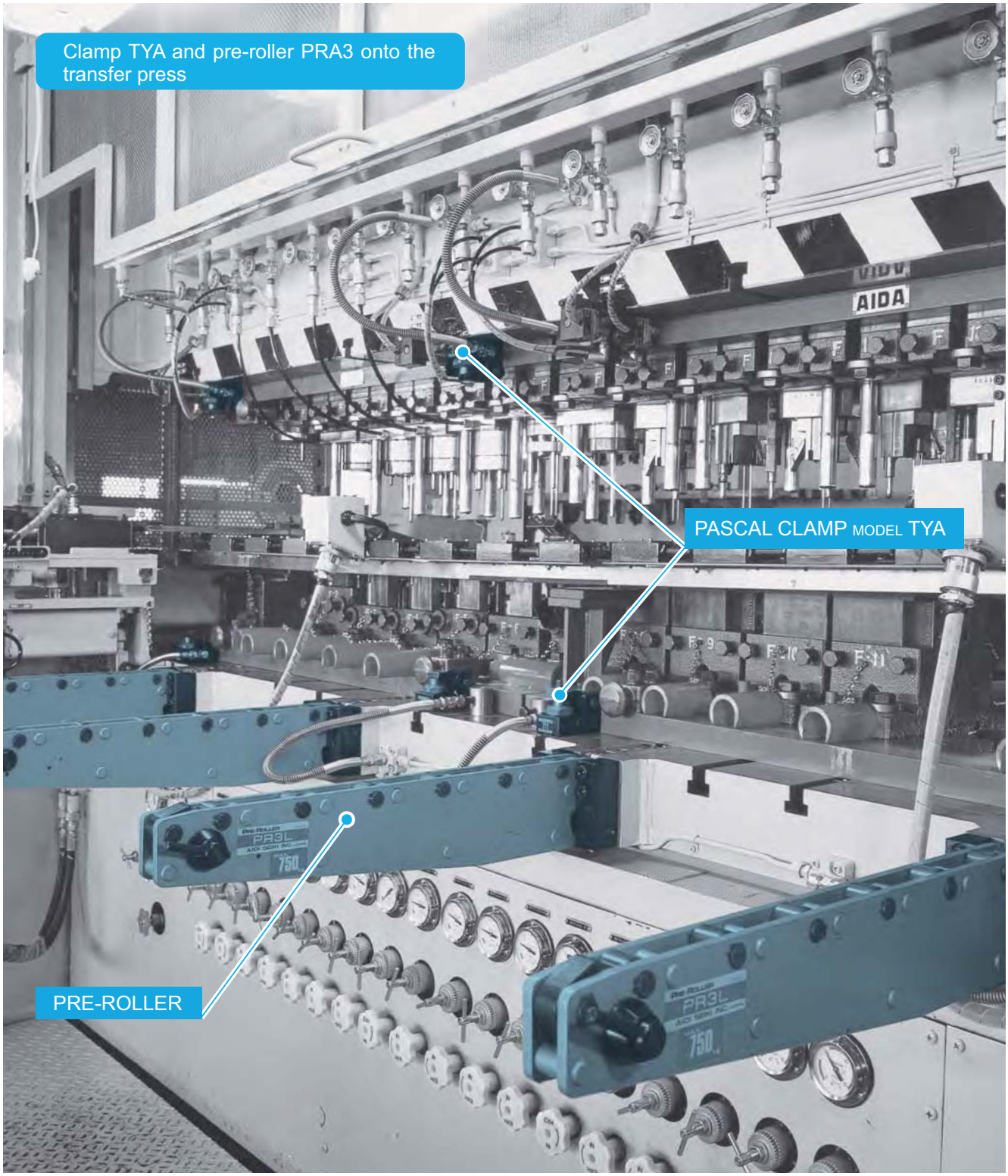
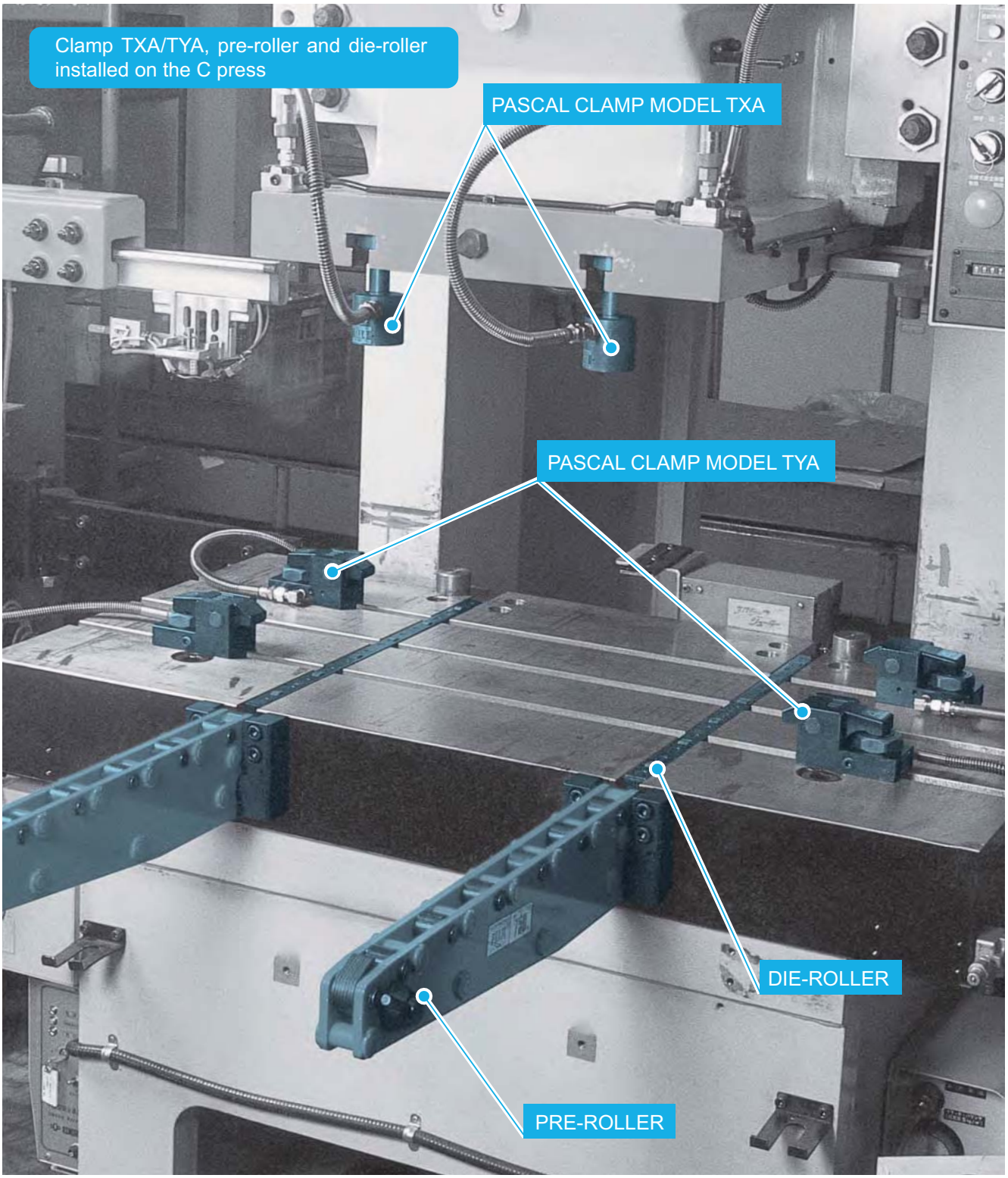
PASCAL® QUICK DIE-CHANGE SYSTEM



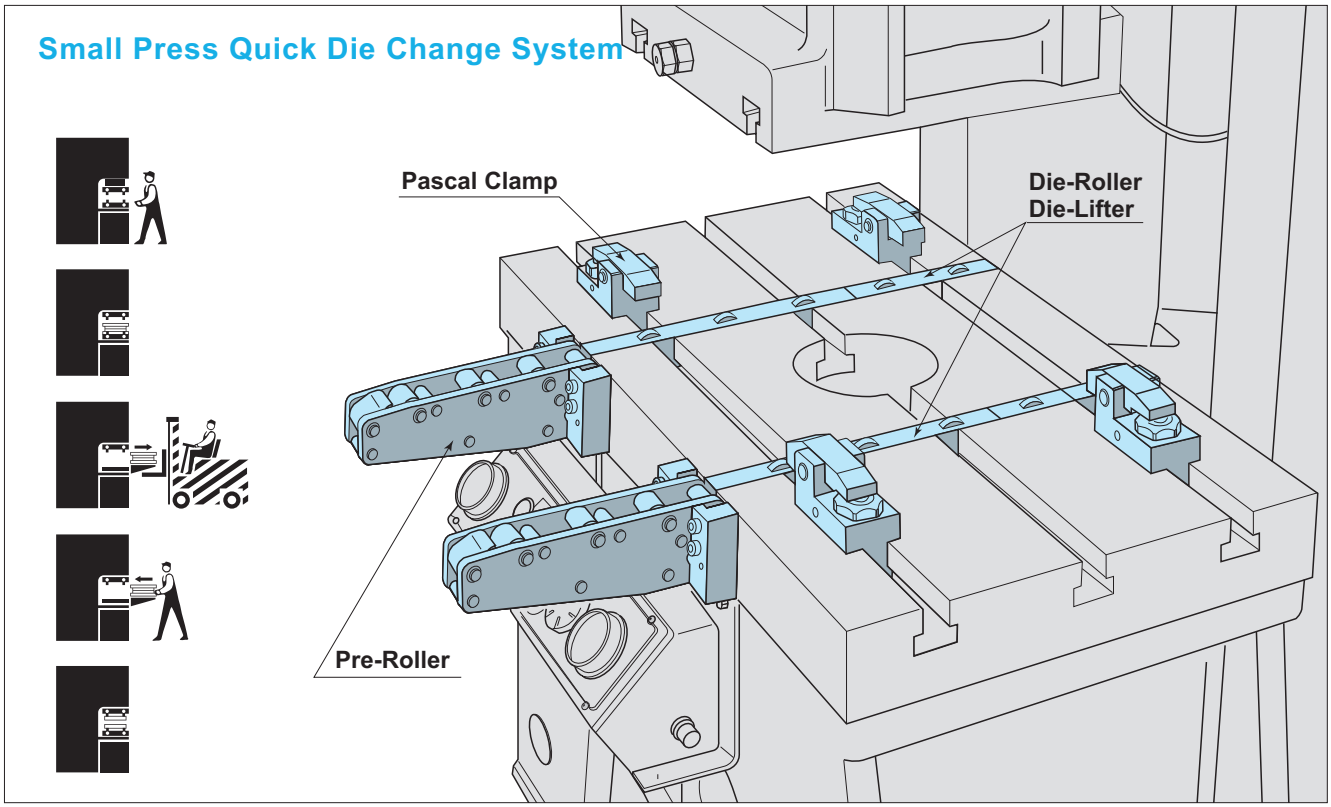
The Quick Die Change System is the key to the just-in-time, stockless production in today's industries. **PASCAL** is the world leader in quick die change equipment - with a complete line of hardworking timesavers for every type of press from small OBI's to large transfer presses.

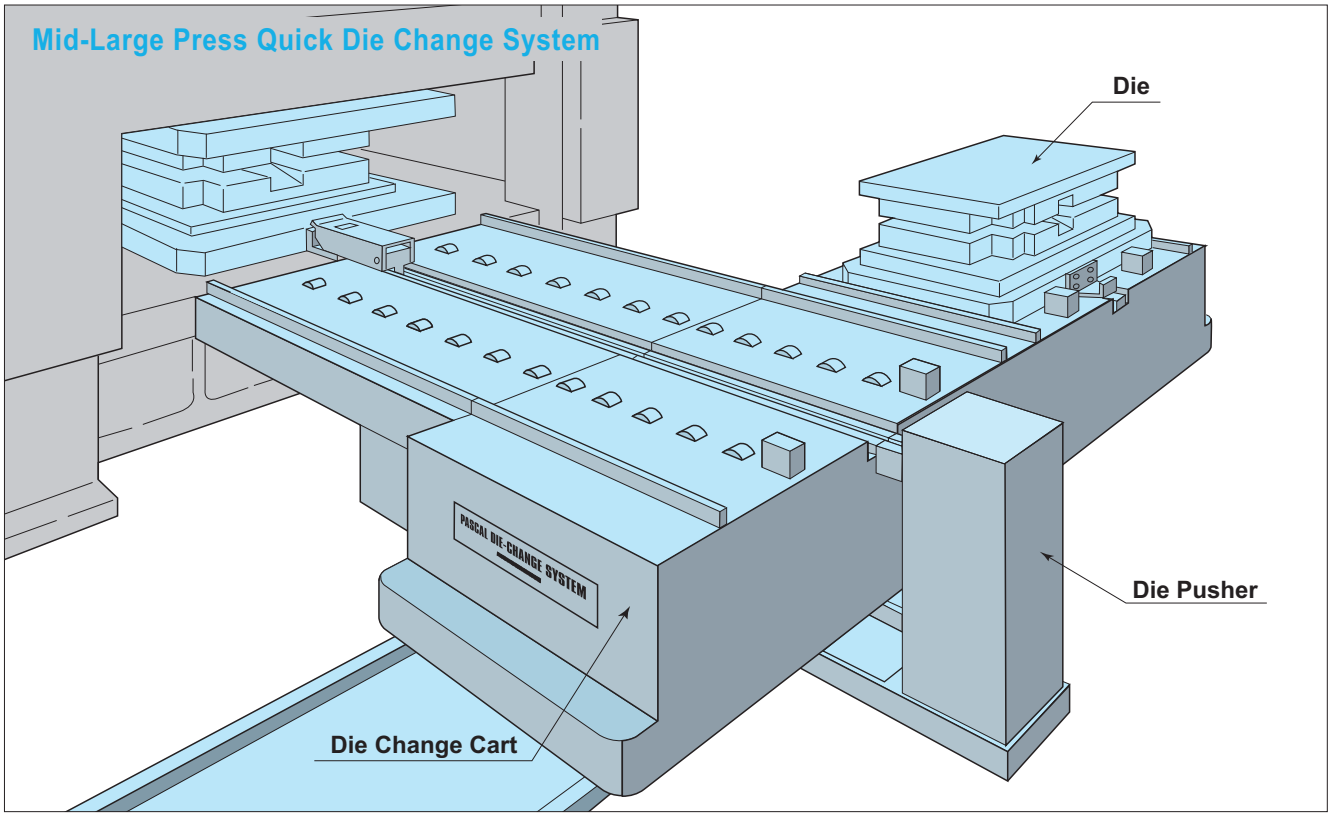
PASCAL® QUICK DIE-CHANGE SYSTEM



PASCAL hydraulic components are especially designed for quick die change.
PASCAL components provide safety, durability and reliability.
At **PASCAL**, every system incorporates safety and reliability. Our name insures you that you have selected the leader in the quick die change industry.

Installed on over 30,000 presses, small to large
Reliable **PASCAL** Quick Die Change Systems





Specify the following items when ordering.

PRESS SPECIFICATIONS

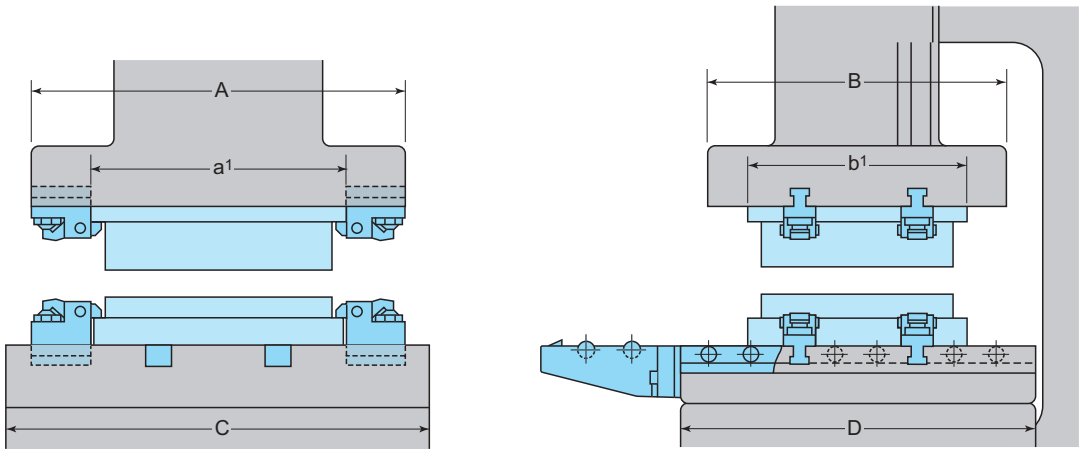
Installation for:	☐ Existing ☐ New
Maker of Press:	
Press Model:	
Press Tonnage:	
Press Slide Size:	A ☐ × B ☐ mm
Press Bolster Size:	C ☐ × D ☐ mm

DIE SPECIFICATIONS

L-R Dimension	a_1 MAX. ☐ MIN. ☐
F-B Dimension	b_1 MAX. ☐ MIN. ☐
Mass	☐ kg

Special Specifications:

For elevated-temperature applications, specify ambient temperature, die temperature, and the fluid to be used in the hydraulic circuit (water-glycol, silicon, etc.).



SELECTION COMPONENTS

1 SELECTION OF CLAMPS

Clamps should be selected from the TXA and TYA series (see p.11-16) in the majority of applications, to suit the shape of the die, press tonnage, and special stamping conditions. Total clamping force should be about 10-20% of press cepacity. This is determined by the type of press, die, material, and operational stroke. Generally the die size will determine the number of clamps required, this is based on the die specification from the largest to the smallest die used in the machine.

2 SELECTIONS OF POWER CONTROL SYSTEMS

Calculate the total oil volume of all clamp cylinders and die lifters to determine the proper oil tank capacity, 1.5 or 5 liters are provided. The number of hydraulic circuits is determined by the quantity of valves required (see p. 9-10).
Solenoid-operated VSB series valves are for automatic control; the VHA series is for hand operation. The HCF series provides combined pump and valve power units.

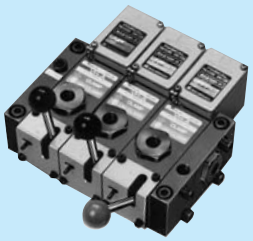
3 SELECTIONS OF ROLLERS

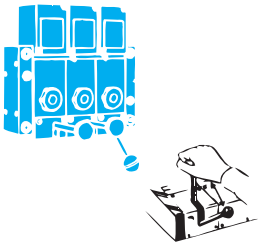
Hydraulic-lifting rollers DLF series are recommended for larger presses; Spring-lifting rollers DRA series are suitable for smaller presses. PR series pre-rollers help loading the die onto the press with an overhead crane or forklift. The pre-roller can be shorter than the die. Also, consider the die weight when selecting rollers.

PASCAL NON-LEAK VALVE (Manual Operated)

MODEL

VHA





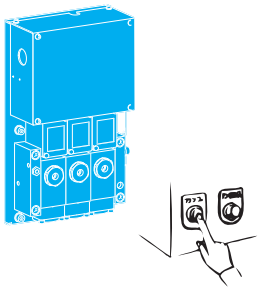
Non-leak sealing mechanism positively prevents any oil leakage, even after days and weeks of continuous use for maximum safety. A pressure switch is mounted on every valve to shut down press operation in case of an accidental pressure loss. This ensures double protection. Mechanical interlocks with VHA-A for clamps and VHA-B for die lifters to prevent accidental simultaneous die clamping and die lifting operation.

(Page 17)

PASCAL NON-LEAK VALVE (Solenoid Operated)

MODEL

VSB



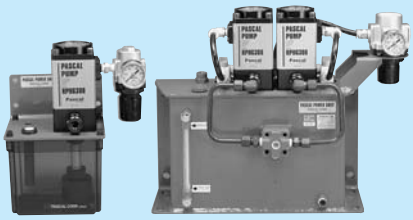
VSB valves function like VHA series, but are electrically controlled. This valve is extremely useful for push-button operation or for safety-interlock systems.

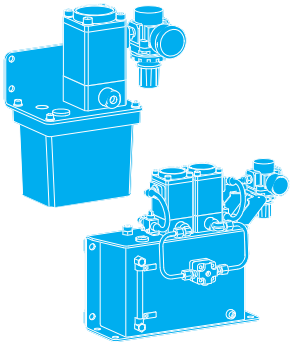
(Page 19)

PASCAL POWER UNIT

MODEL

HUB
HUC





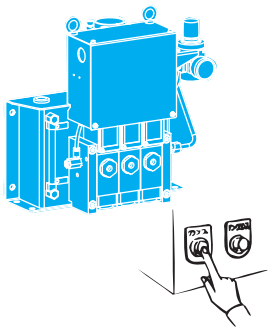
PASCAL power unit can convert compressed air force into high-pressure hydraulic power. It automatically pumps up oil and always maintains the same pressure, if pressure is decreased. Because of the air over oil system, energy consumption is minimized.

(Page 21)

PASCAL CONTROL UNIT

MODEL

HCS



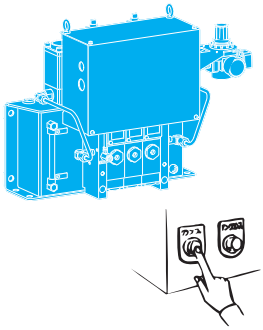
Pascal control unit model HCS is a new control unit for clamp system. It cosists of Pascal pump and air solenoid operated non-leak valve with oil tank integrated in compact panel, which takes up minimum space on the machine. It is an ideal power pack unit for clamping system onto a small size of press machine.

(Page 23)

PASCAL CONTROL UNIT

MODEL

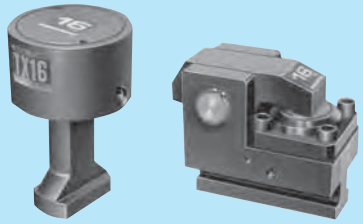
HCP

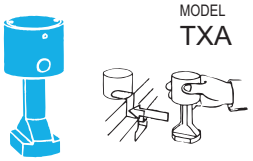


Pascal control unit model HCP is an ideal power source for the clamping system onto the mid or large size of press machine, which is composed of Pascal pump and non-leak valve unit with big oil tank. Single or twin pump type of HCP is available depending on the cylinder oil volume, which enables the reduction of clamp actuation time.

(Page 25)

PASCAL CLAMP
MODEL
TXA
TYA

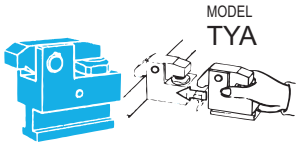




MODEL
TXA

This simple design provides a long clamping stroke and a rugged, low-cost clamp which fits perfectly on dies with U-cuts on the die shoe. The wide range of clamping force from 9.8 kN to 245 kN accommodates both small and large presses.

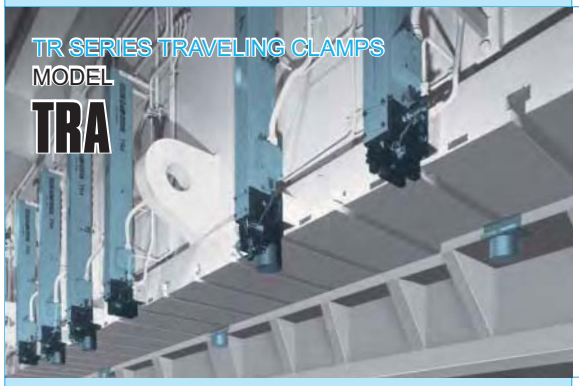
(Page 11)



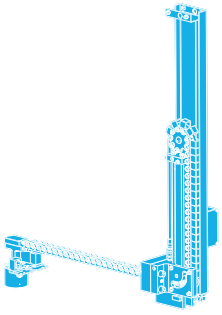
MODEL
TYA

The ruggued lever-clamp design provides up to 245 kN of clamping force for dies with or without U-cuts on the die shoe. The straight lever is horizontal at unclamp to secure the die even in case of accidental pressure loss in the hydraulic circuit.

(Page 15)



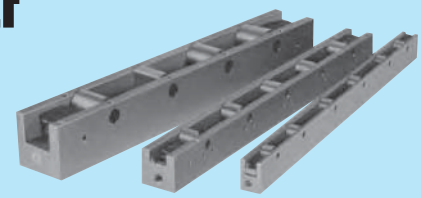
TR SERIES TRAVELING CLAMPS
MODEL
TRA

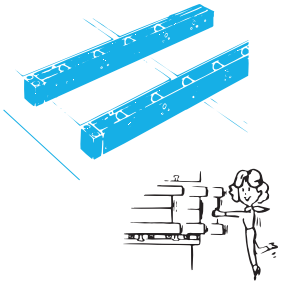


TRA series is used effectively on large presses, which can carry the clamp along the T-slot on the press for a long running stroke. It eliminates the expensive common plates used with swing-rod clamps, saving money, floor space, crane work, and improving total production efficiency.

(Page 13)

HYDRAULIC-LIFTING DIE-ROLLERS
MODEL
DLF

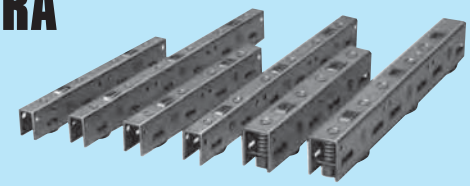


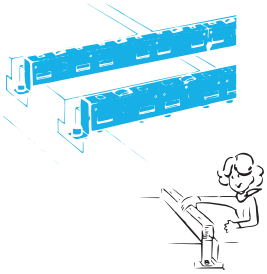


With DLF series, heavy dies are lifted by powerful hydraulic cylinders, and can be smoothly moved with a slight force. The special roller bearings withstand heavy dies and loading shocks. Three widths of the standard 100-mm increment lengths can accommodate a wide range of die weights and sizes. Built-in scrapers wipe dust and chips out of the rollers.

(Page 27)

SPRING-LIFTING DIE-ROLLERS
MODEL
DRA

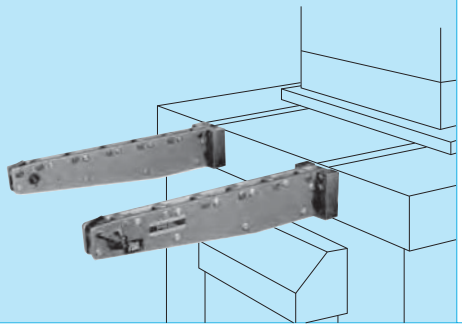


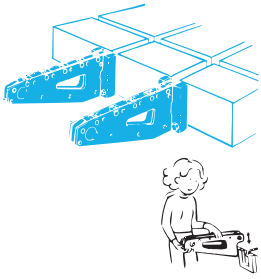


Simple, economical spring-lifting rollers are suitable for small to mid-sized dies. These narrow die-rollers fit most of the existing T-slot. The spring loaded design does not require a power source.

(Page 29)

PRE-ROLLERS
MODEL
PR



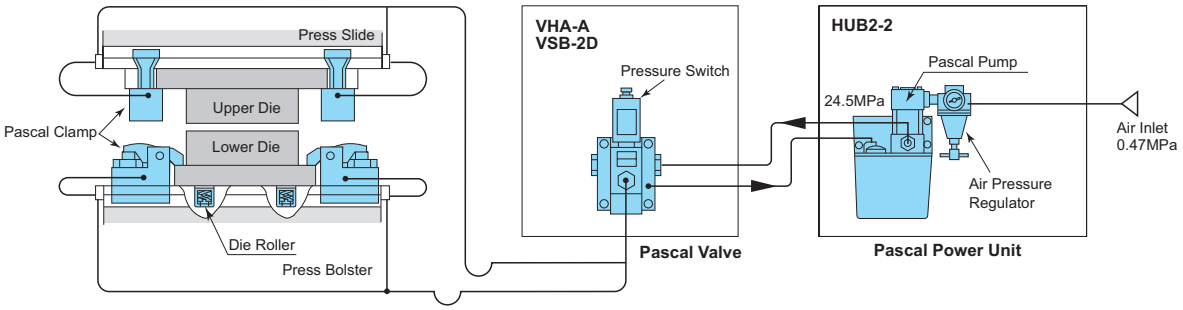


Pre-roller will help shifting dies to the comfortable position where crane or forklift can access and transfer them away.
Total 7 standard models are available for the vast needs of applications.

(Page 31)

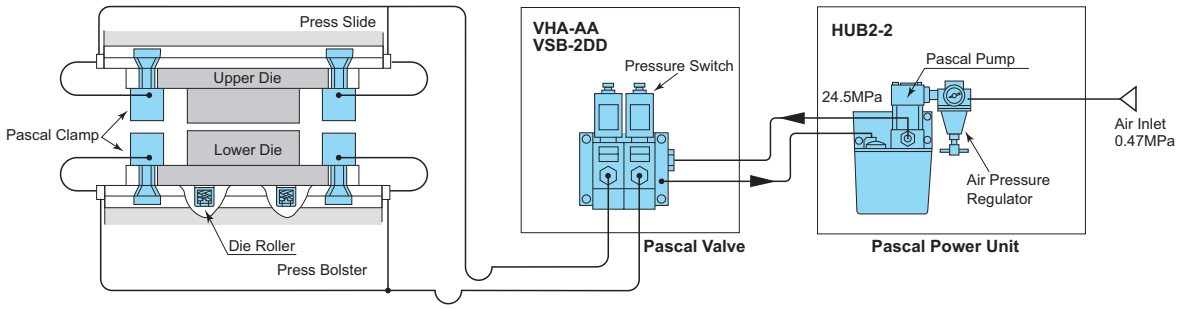
SYSTEM A

Upper Die: 1 Circuit
Lower Die: 1 Circuit



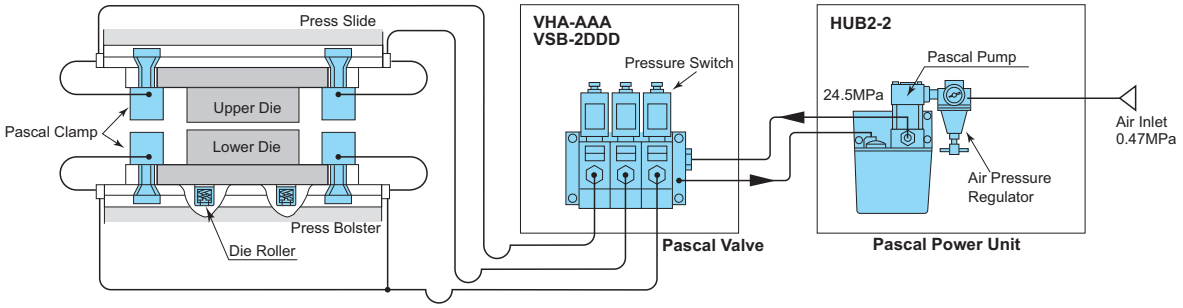
SYSTEM AA

Upper Die: 1 Circuit
Lower Die: 1 Circuit

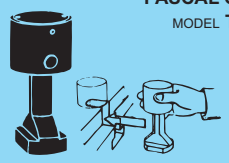


SYSTEM AAA

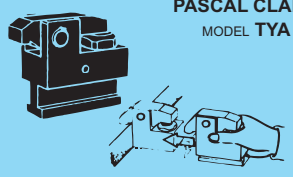
Upper Die: 2 Circuits
Lower Die: 1 Circuit



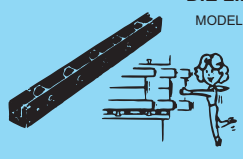
PASCAL CLAMP MODEL **TXA**



PASCAL CLAMP MODEL **TYA**



DIE LIFTER MODEL **DLF**

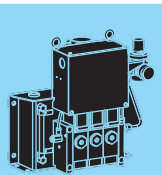


(Hydraulic-Lifting Roller)

PASCAL CONTROL UNIT

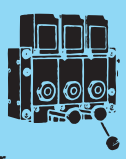
Hydraulic Power 24.5MPa

MODEL **HCS** **HCP**

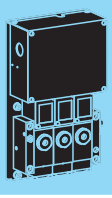


Air Supply 0.47MPa

PASCAL VALVE



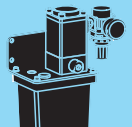
MODEL **VHA**



MODEL **VSB**

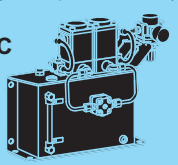
PASCAL POWER UNIT

MODEL **HUB**



(Single Pump & Small Tank)

MODEL **HUC**



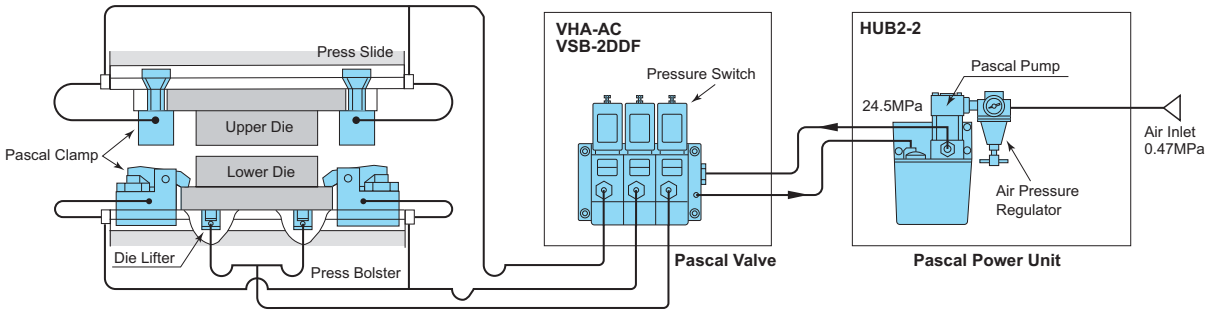
(Twin Pump & Large Tank)

Hydraulic Power 24.5MPa

Air Supply 0.47MPa

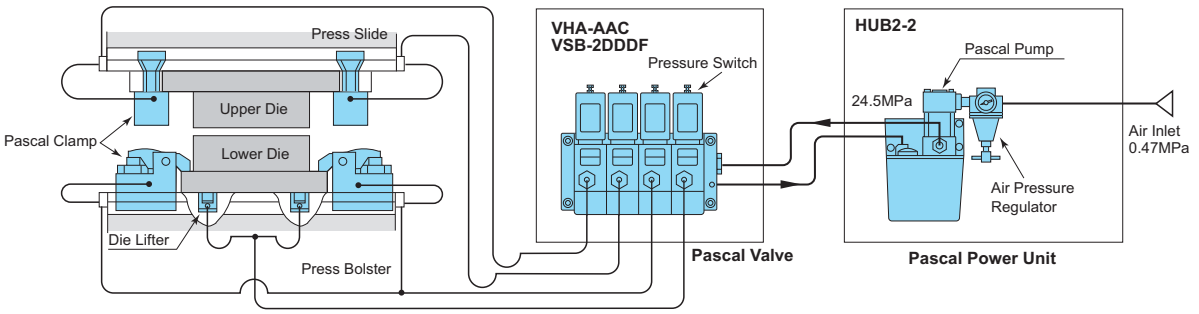
SYSTEM AC

Upper Die: 1 Circuit
Lower Die: 1 Circuit
Die Lifter: 1 Circuit



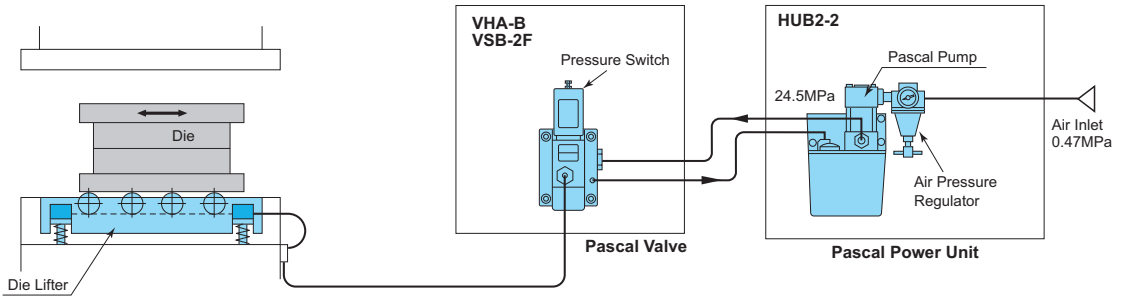
SYSTEM AAC

Upper Die: 2 Circuits
Lower Die: 1 Circuit
Die Lifter: 1 Circuit

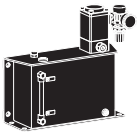
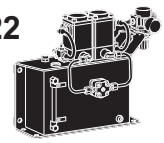


SYSTEM B

Die Lifter: 1 Circuit



☐:Operating Voltage

SYSTEM	Pascal Non-leak Valve		Pascal Power Unit	Pascal Control Unit
	Solenoid Valve	Manual Valve		
A	VSB☐-2D	VHA-A	HUB2-2	HCS☐-2D HCP☐-2D
AA	VSB☐-2DD	VHA-AA		HCS☐-2DD HCP☐-2DD
AAA	VSB☐-2DDD	VHA-AAA	HUC-2 	HCS☐-2DDD HCP☐-2DDD
AC	VSB☐-2DDF	VHA-AC		HCS☐-2DDF HCP☐-2DDF
AAC	VSB☐-2DDDF	VHA-AAC	HUC-22 	HCS☐-2DDDF HCP☐-2DDDF
B	VSB☐-2F	VHA-B		HCS☐-2F HCP☐-2F