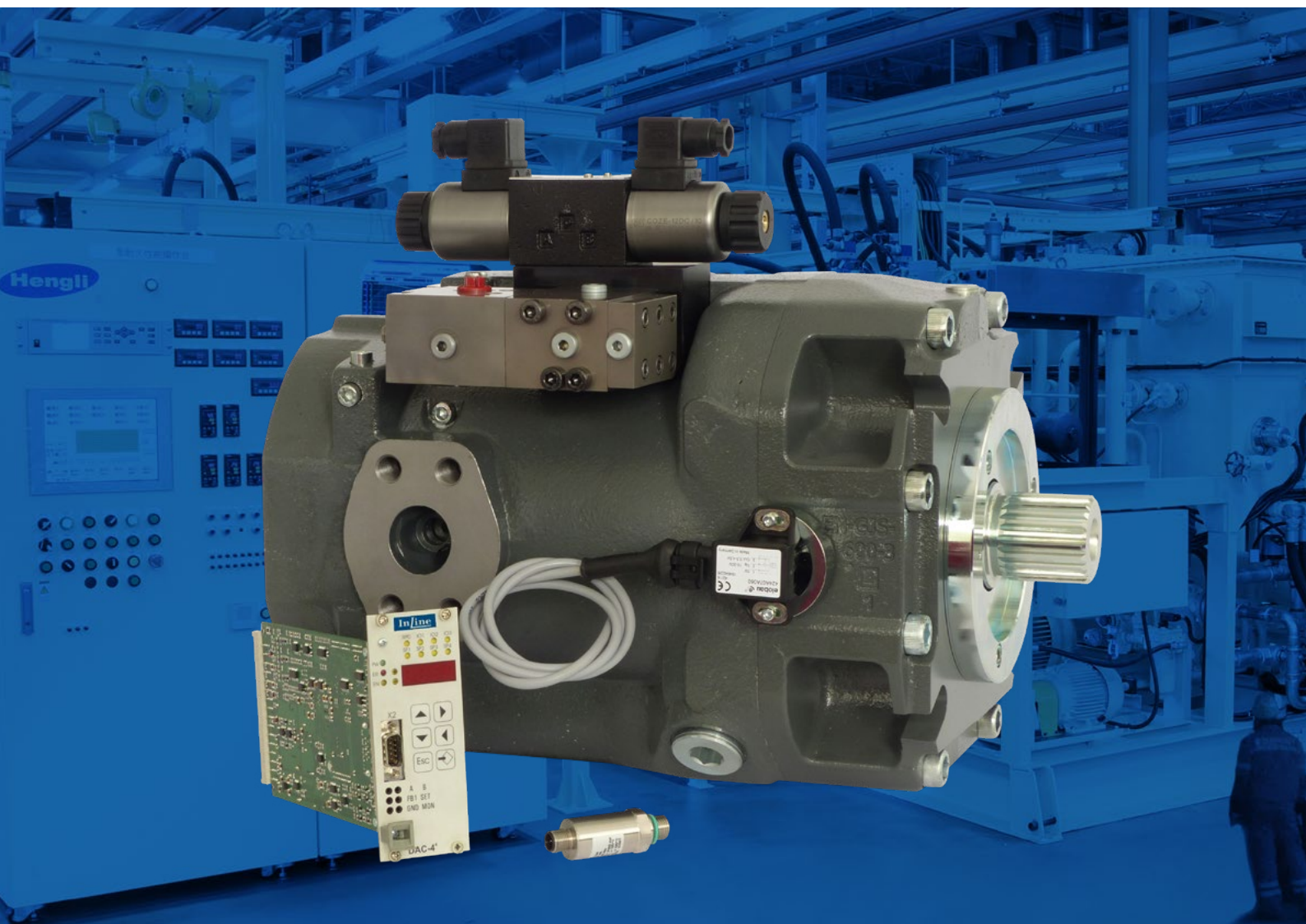


# EVERYTHING UNDER CONTROL

Heavy duty pumps with full electronic controller of flow, pressure and torque

Tradition – Quality – Future

**HIGH-PERFORMANCE PUMPS – MADE IN GERMANY**





# Advantages

- ▶ Set values can be put in by internal program, external SPS or potentiometer
- ▶ Set values are recallable any time
- ▶ High precision of all values
- ▶ No dependence on viscosity
- ▶ Error message and logic reaction at sensor failure
- ▶ At multi pump mode several digital control cards can be connected by bus system (In event master-slave-mode)
- ▶ Robust and rattle proof device for stationary and mobile applications

Type code	4
Options of amplifier and control cards	5
Universal control	6
Control options and combinations	7
Several options of controlling	8/9
Applications	10/11

# Type code




V30E-160 RDGN-2-2-02/	EM	EP	EL	K18	
095 270					Pressure limiting valve see document D7485/1
				Electronic Cards see Tab.	
			Power control L mechanical Lf/Lf1 hydraulic modulated Lfe/Lfe1 electronic modulated positiv/ negative characteristic EL electronic		
		Pressure control P pilot operated Pb pilot operated with additional pressure feedback EP electronic pilot control			
	Flow control LS load Sensing Control EM electronic with prop. valve technology				

V30D-140 RDN-2-2-02/	EM	EP	EL	K18	
045 075 095 115 160 250					Pressure limiting valve see document D7485/1
				Electronic Cards see Tab.	
			Power control L mechanical Lf1 hydraulic modulated negative identification EL electronic		
		Pressure control N direct operated P pilot operated Pb pilot operated with additional feedback EP electronic pilot control			
	Flow control Q constant Qb constant flow with additional feedback LS load Sensing control V electro hydraulic proportional VH hydraulic proportional EM electronic with prop. valve technology				




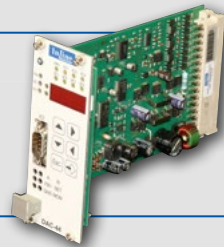

V80M-200 RDGN-2-2-00/	EM	EP	EL	K18	
V80ML					Pressure limiting valve (see doc D7854/1)
				Electronic Cards see Tab.	
			Power control L mechanical EL electronic		
		Pressure control N direct operated EP electronic pilot control			
	Flow control LS load Sensing control EM electronic with prop. valve technology				

# Options of amplifier and control cards

## amplifier card

EV1D1	
EV1M3-12/24	
EV2S-CAN-G-M	
DMA-22-01	

## Control card

DMA-22-04	
DMA-22-04 ProfiBus	
DMA-22-04 Plus	
DAC-44-04	
DAC-44-x-PBDP	
DAC-44-04 Plus	 

# Universal control



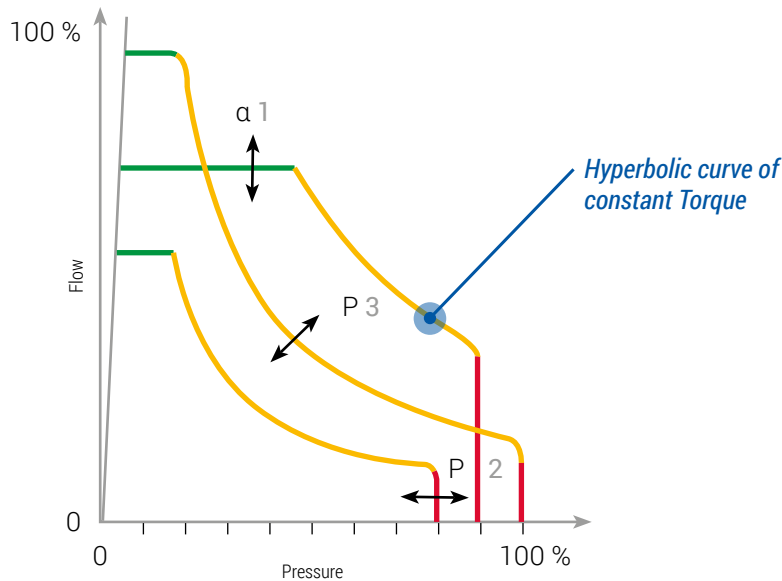
## Universal electro-hydraulic control with microprocessor for variable axial piston pumps V30 V80

### Common description

For the pump series V30, V80 a regulator kit was developed which consist of a variable pump with an electro proportional flow control, a digital control card with microprocessor and according to requirement necessary pressure sensor.

Compared to well-known hydro-mechanical controls this new technology has the advantage that with the same hardware all thinkable technical pump controls can be realized by adapting the mating software only with small efforts. The features of the digital control can be simply and user friendly adapted to the regulated machine by a small hand terminal or a laptop.

# Control options and combinations

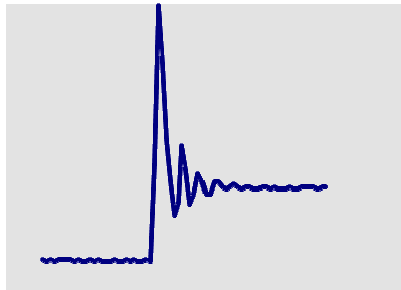


## EP pressure control

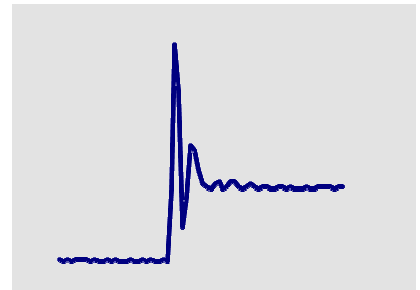
Pressure peaks less than hydro-mechanic controller due to very fast operation and optimized card.

Response time and setting time even better than mechanic controller.

Hydro-mechanic control

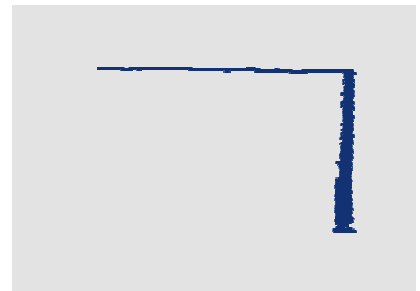
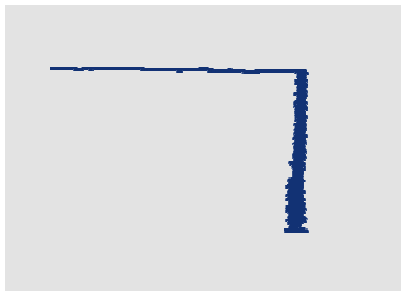


Electronic control



## EM flow control

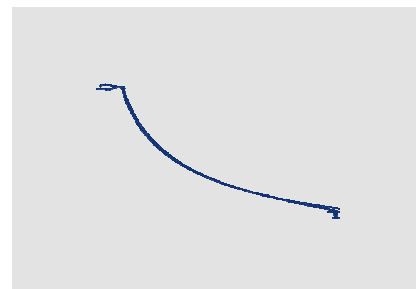
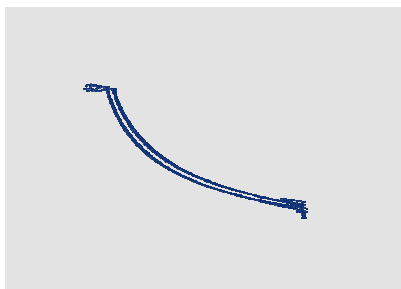
Same performance and accuracy as hydro-mechanic control. Requested flow with highest accuracy, even drain compensation can be calculated.



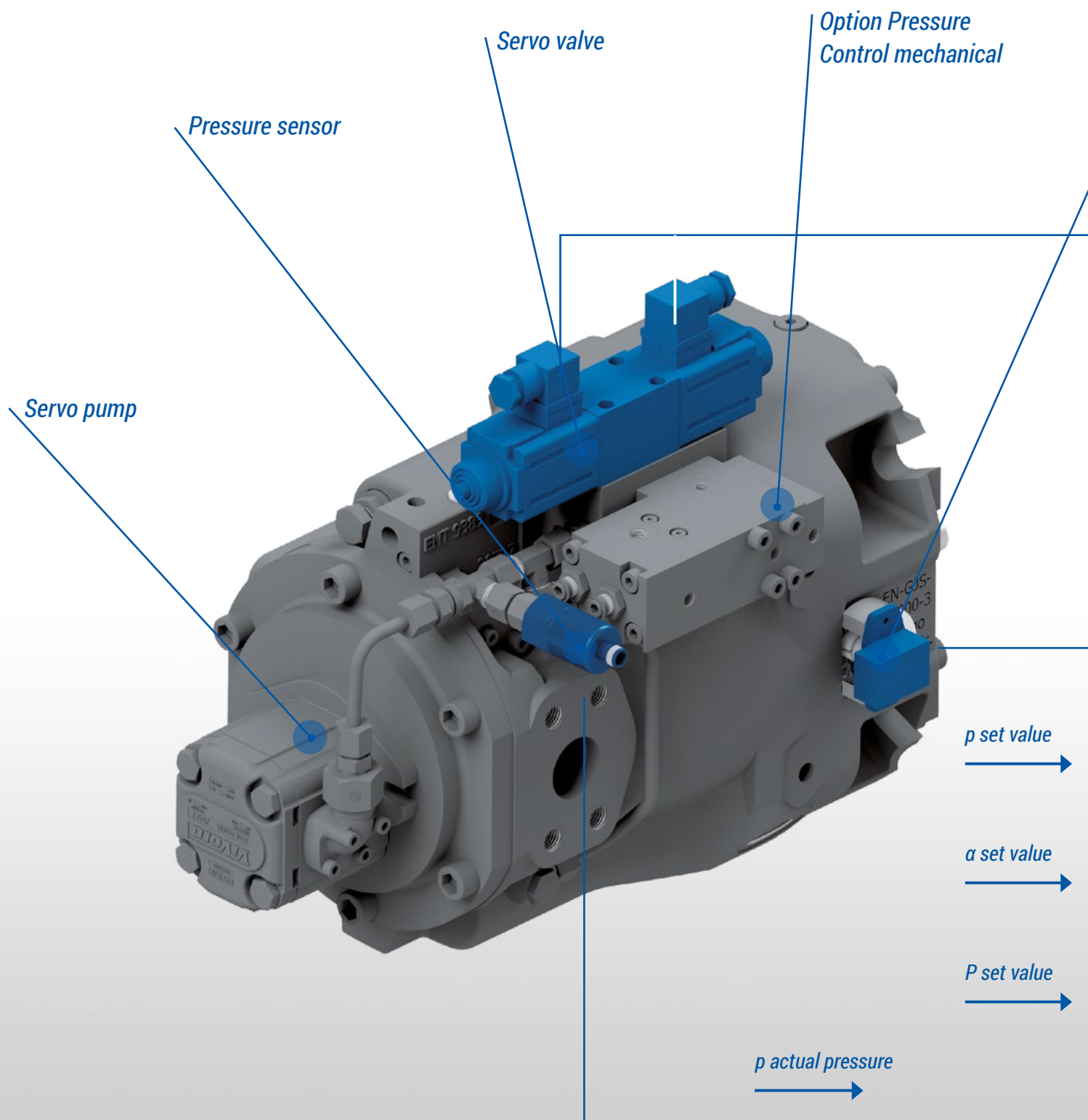
## EL torque control

Less hysteresis from less mechanical interfaces.

Perfect hyperbolic shape of torque control calculated in optimized card.

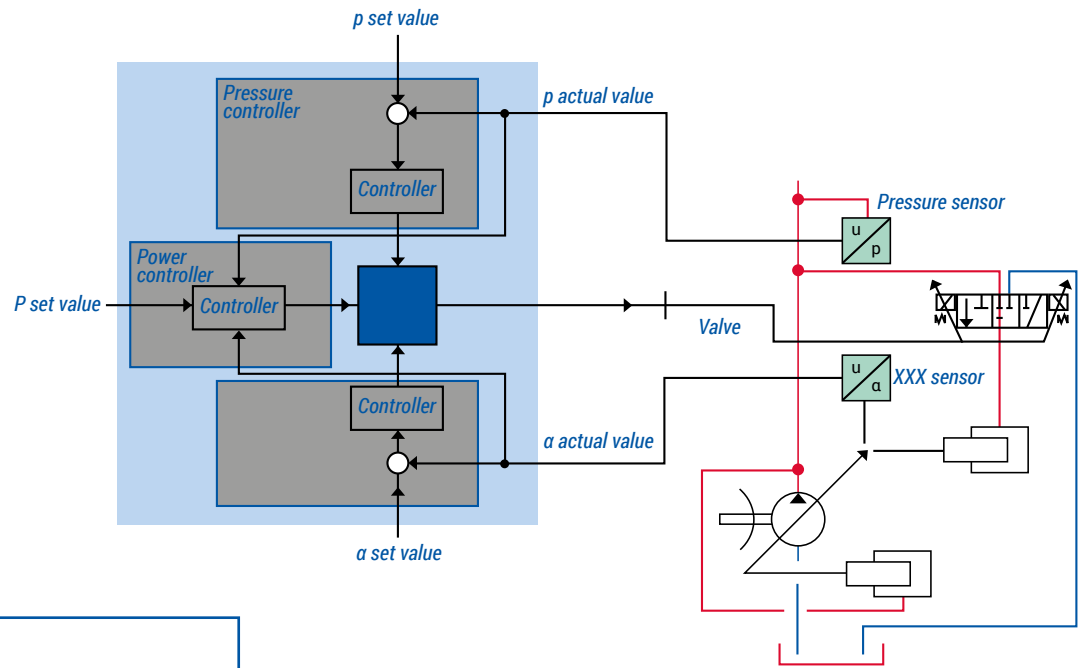








## Digital amplifier and controller



Interface for  
angle sensor

I valve ↑

$\alpha$  actual angle



Several options of controlling

# Applications



*Hydraulic test stand*

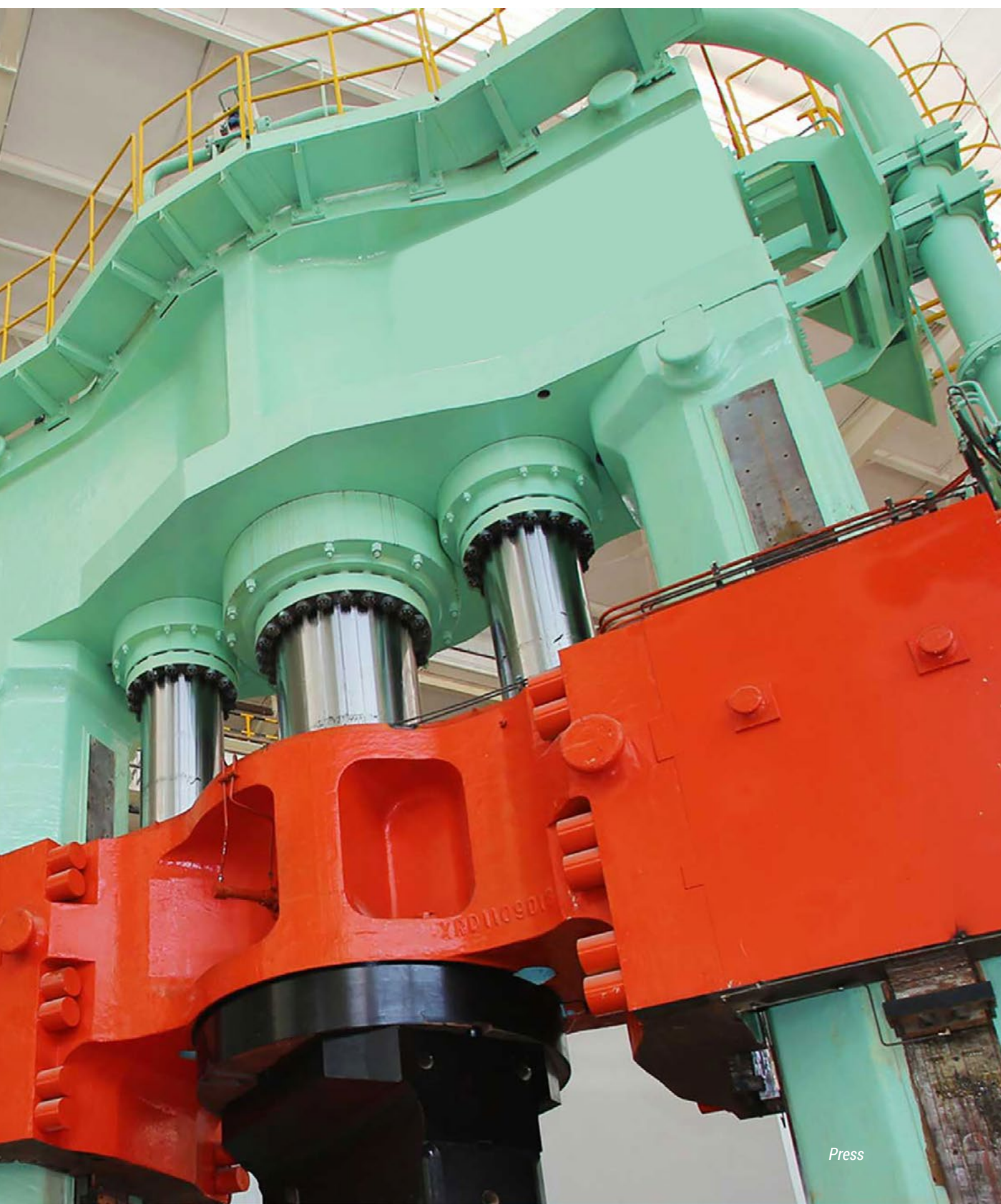


*Hydraulic test stand*



*Press*





*Press*



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