



Applications:

- ▶ power units for operating small and mid-sized hydraulic clamping systems
- ▶ suitable for both single-acting and double-acting cylinders

Description:

These power units are supplied as compact units ready for connection:

Complete with motor, pump, tank, connector block, pressure gauge, pressure switch, solenoid valves and, on request, electrical control systems, all packaged for upright positioning. Pump with three radial pistons, direction of rotation optional.

The power unit operates intermittently under automatic pressure control, i.e. when the set pressure is reached the motor is automatically switched off. If pressure drops 10% below the set value the pressure switch causes the motor to start again.

Additional pressure switches can be supplied to protect the machine. These switches are set so as to stop the machine if clamping pressure drops by more than 15%.

Special features:

- ↗ Compact, lightweight design
- ↗ Power unit supplied ready for installation
- ↗ Modular system enables individual schemes
- ↗ Valves closed in clamping position, preventing pressure loss in the event of power failure
- ↗ Plug-in type remote control pendant
- ↗ Optical oil level sighting
- ↗ Automatic switching off in the event of a lack of oil or increased oil temperature.



Technical data

	Series 5	Series 6
Hydraulic		
Pump displacement (l/ min.)	2,5	0,82
Max. operating pressure (bar)	400	400
Total tank volume (l)	5,5	3,8
Useable tank volume (l)	3,2	1,8
Continuous duty (s)	30	30
Viscosity range (mm ² /s)	10- 500 to DIN 51519	
Max. noise level (dBA)	72	74
Type of valves	Seat valves, leak proof, max. 450 bar	
Max. valve flow (l/ min.)	8	8
Oil port	G 1/4	G 1/4
Hydraulic fluid	Hydraulic oil HLP 46 to DIN 51524	
Electrical		
Motor voltage	380- 420 V/ 50 Hz/ 3~	
Motor rating (kW)	1,1	0,37
Solenoid valve voltage	24 V DC	
Control voltage	24 V DC	
Protection	IP 54	
Motor speed (1/ min ⁻¹)	1450	2800
Direction of rotation optional	any	
Continuous duty (bei 20°C) (%)	40	40
Weight without oil (kg)	approx. 47	approx. 22

Series 5



Series 6



For other sizes and special designs, please see page 11

Important information

Power units should be located away from the dirty area around machine tools and clear of operator's handling space. Make sure

- that oil ports, pressure switches, oil drain plug and oil filler plug are readily accessible, and that pressure gauges, oil sight glasses and indicator lights are clearly visible.

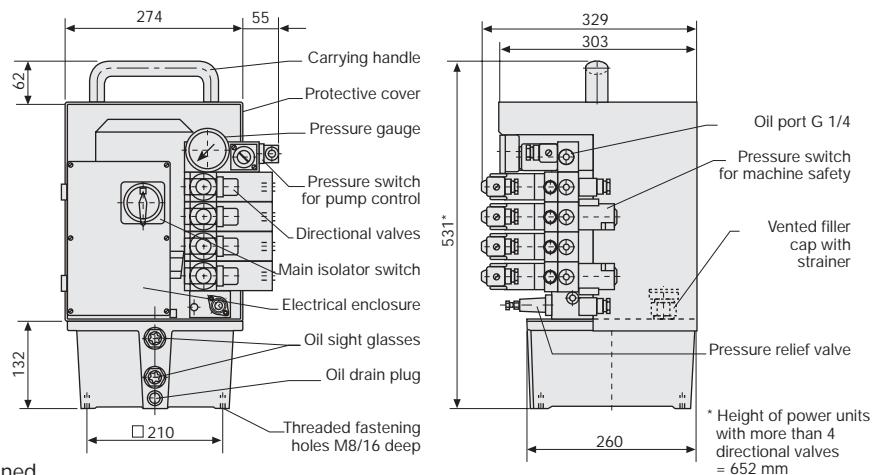
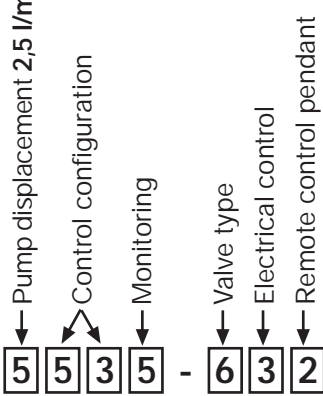
The power units conform to EC directives and bear the CE sign.

EMV Directive	EMV 89/336/EWG
"Machinery" Directive	ML 98/37/EG
Low-voltage Directive	NS 73/23/EWG

If other conditions apply please contact our technical sales department.



Example of ordering:



The order number for the power unit is obtained by selecting the index numbers for the required versions as shown in the tables below.

Control-configuration For hydraulic schematics, see pages 6 and 7

Function	Application, special features	Remote control	
		plug-in	wired direct
21 w/o direct. valve (basic unit)	used if the power unit serves as a pressure generator only and if the hydraulic elements (cylinders) are externally controlled, e.g. by hand valves		
22 1 x single-acting	for single-acting cylinders, e.g. for machine vices hydr.-hydr. etc.	1x	
23 1 x single-acting	for spring clamping cylinders or roller bars	1x	
24 2 x single-acting	clamping circuits with separate control, same pressure, e.g. for reciprocal processing	2x	
25 2 x single-acting	simultaneous control, same pressure 1)		1x
26 1 x double-acting	for double-acting clamping elements 2)	1x	
27 2 x single-acting	1 HP circuit, 1 LP circuit, separately controlled 1) 3)	1x	
28 2 x single-acting	for spring clamping cylinders	2x	
29 3 x single-acting	separately controlled, same pressure	3x	
30 3 x single-acting	2 clamping circuits simultaneously controlled, 1 clamping circuit separately controlled, same pressure 1)		1x
31 1 x double, 1 x single	separately controlled, same pressure 2)	2x	
32 1 x double, 1 x single	separately controlled, same pressure 1) 2)		1x
33 3 x single-acting	2 HP clamping circuits, 1 LP circuit, separately controlled 1) 3)		1x
34 3 x single-acting	2 clamping circuits simultaneously controlled, 1 LP circuit		1x
35 1 x double, 1 x single	1 HP circuit double-acting, 1 LP circuit, separately controlled 1) 2) 3)		1x
36 4 x single-acting	separately controlled, same pressure		1x
37 4 x single-acting	2 x 2 circuits simultaneously controlled, same pressure 1)		1x
38 2 x double-acting	separately controlled, same pressure 2)	2x	
39 1 x double, 2 x single	separately controlled, same pressure 2)	3x	
40 2 x single-acting	1 HP circuit single-acting, 1 HP circuit for roller bar separately controlled		1x
41 3 x single-acting	2 HP circuit single-acting, 1 HP circuit for roller bar separately controlled		1x
42 3 x single-acting	2 HP circuit single-acting simultaneously controlled, 1 HP circuit for roller bar separately controlled		1x
43 1 x double, 1 x single	1 HP circuit double-acting, 1 HP circuit for roller bar separately controlled		1x
44 4 x single-acting	1 HP circuit single-acting, 2 HP circuit single-acting for 2 cylinders simultaneously controlled, 1 HP circuit for roller bar separately controlled		1x
45 1 x double, 2 x single	1 HP circuit single-acting for cylinder, 1 HP circuit double-acting for roller bar separately controlled		1x
46 5 x single-acting	2 HP circuits single-acting for cylinder simultaneously controlled, 2 x single-acting cylinders simultaneously controlled, 1 HP circuit for roller bar separately controlled		1x
47 1 x double, 3 x single	2 HP circuits for single-acting cylinders simultaneously controlled, 1 x HP circuit for double-acting cylinders, 1 HP circuit double-acting for roller bar separately controlled		1x
48 2 x double, 1 x single	2 HP circuits for double-acting cylinders separately controlled, 1 HP circuit double-acting for roller bar separately controlled		1x
51 2 x double-acting	separately controlled, same pressure 1) 2)		1x

Power Unit Series 5, 2.5 l/min.



HILMA

	Function	Application, special features	Remote control	
			plug-in	wired direct
53	4 x single-acting	2 clamping circuits simultaneously controlled, 1 clamping circuit and 1 LP circuit separately controlled 1) 3)		1x
54	1 x double, 2 x single	1 double-acting and 1 single-acting clamping circuit and 1 LP circuit, separately controlled 1) 2) 3)		1x
55	5 x single-acting	2 x 2 clamping circuits simultaneously controlled, 1 LP circuit separately controlled 1) 3)		1x
56	1 x double, 3 x single	1 double-acting clamping circuit, 2 single-acting clamping circuits simultaneously controlled and 1 LP circuit 1) 2) 3)		1x
57	2 x double, 1 x single	2 double-acting clamping circuits separately controlled and 1 LP circuit 1) 2) 3)		1x

1) This version is only supplied with locking remote control pendant wired direct, without pilot lamp

2) The double-acting function is obtained by simultaneous operation of two 3/2 way valves

3) LP circuit with adjustable closing valve. Pressure setting range 40 - 100 bar.

Monitoring system

0	without machine safety	without oil level and temperature switch
1	with machine safety	with oil level and temperature switch
4	without machine safety	without oil level and temperature switch
5	with machine safety	with oil level and temperature switch

Machine safety

In-line pressure switch connected to the machine controls. Switch setting is 15% min. below clamping pressure. Only once the set pressure has been reached can the machine be operated.

If pressure drops below setting, the machine is automatically stopped.

Oil level and temperature switch

Oil level switch and temperature switch are provided to automatically switch off the pump motor if there is lack of oil, or if temperature exceeds 60°C. Both conditions are indicated by a pilot lamp on the electric enclosure.

Valve package

0		without directional seat valves		
6	Pressure relief valve and pressure switch not lockable	24 V DC	HAWE hole pattern	HAWE

Pressure relief valve and pressure switch

The operating pressure is infinitely variable between 100 and 400 bar.

Directional seat valves

With HAWE hole pattern, mounting dimensions as per HAWE data sheet D7470, size 1

Electrical controls






0	without controls	without terminal box	-	2)
1	with controls	with terminal box	-	Motor-voltage
2	without remote control	without remote control	-	
3	with remote control	with remote control	pendant plug-in 1)	380-420 V
4			wired direct	50Hz, 3~

1) The remote control pendant of clamping systems used in presses is always wired direct

2) Other voltages upon request

The power unit is supplied ready for connection including the necessary electrical and hydraulic equipment. The complete electrical system is installed in an enclosure. On request, the power unit is supplied without electrical control, with or without terminal box.

Remote control pendant

0		without remote control pendant	
1	Selector switch	-	
2	with pilot lamp		
3	Key-operated switch	-	
4	with pilot lamp		
5	Foot switch	-	

Selector switch

e.g. for simple and clear controls.

Key-operated switch

Prevents unauthorised operation

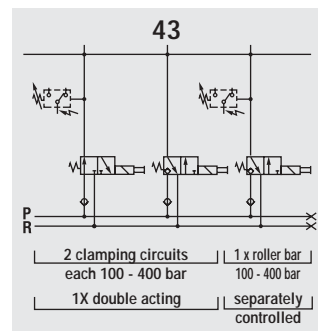
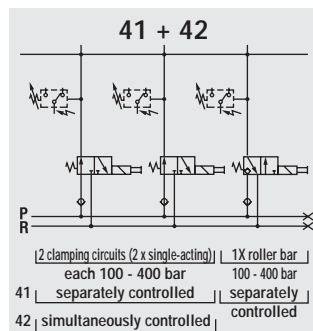
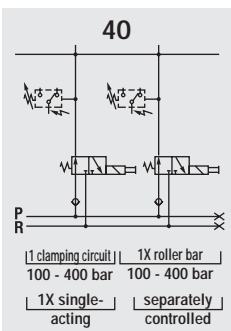
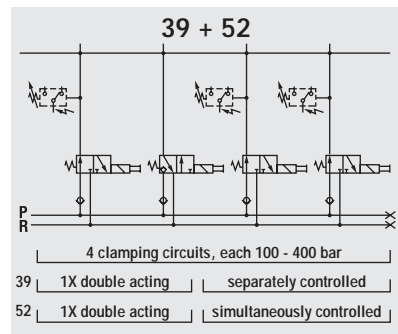
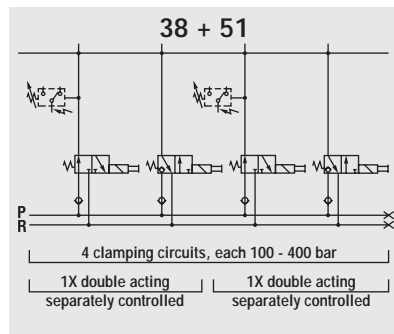
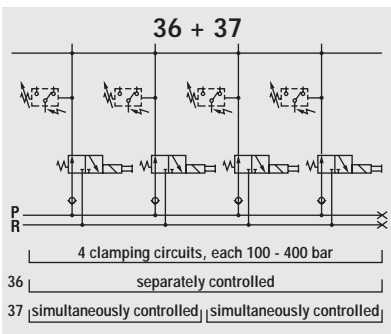
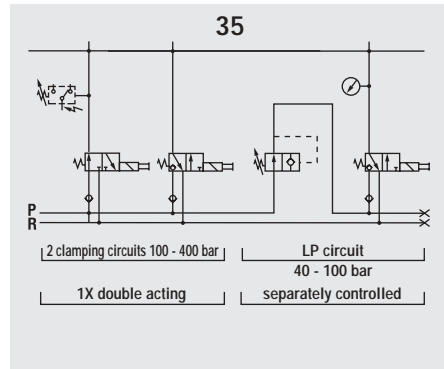
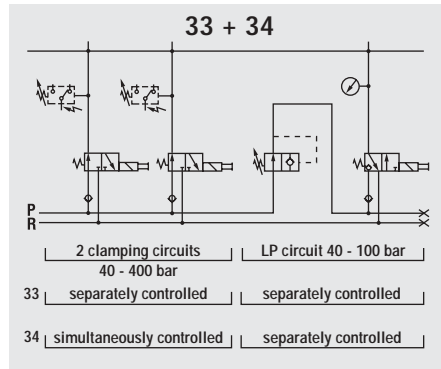
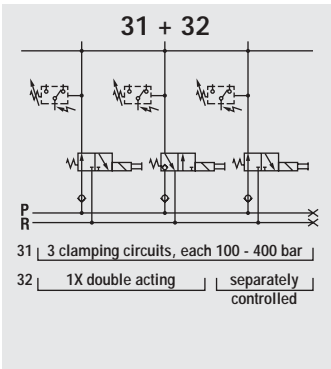
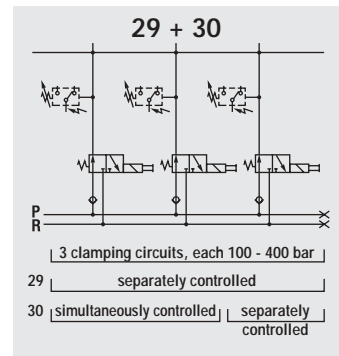
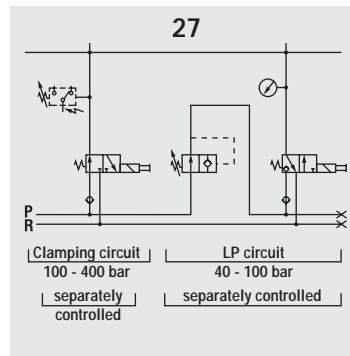
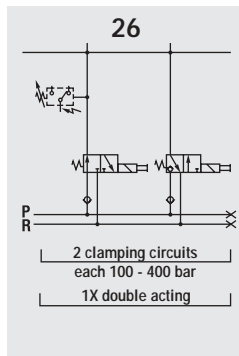
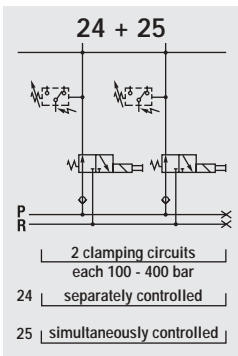
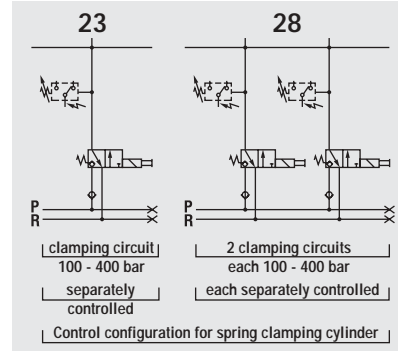
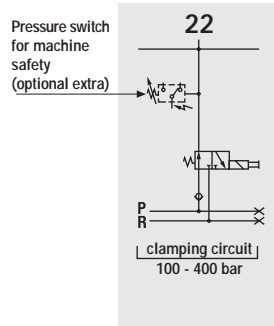
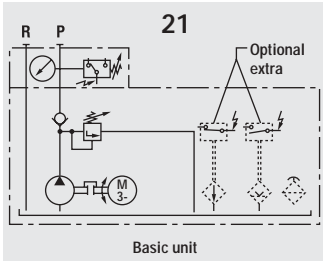
Foot switch

Housing made from rugged aluminium die-casting provided with protective hood. Is recommended when both hands are used for workpiece loading and positioning.

Observe accident prevention regulations!

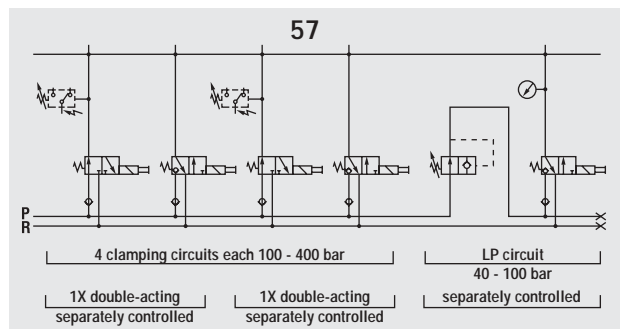
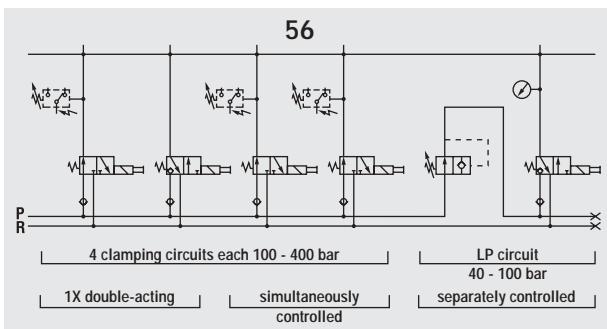
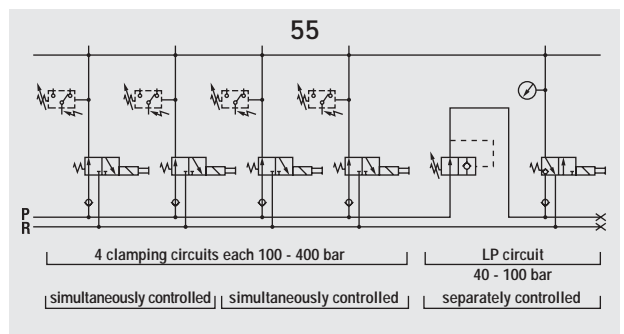
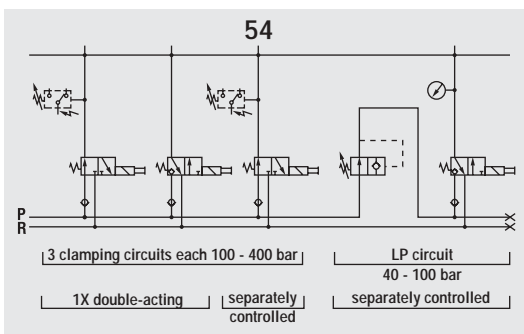
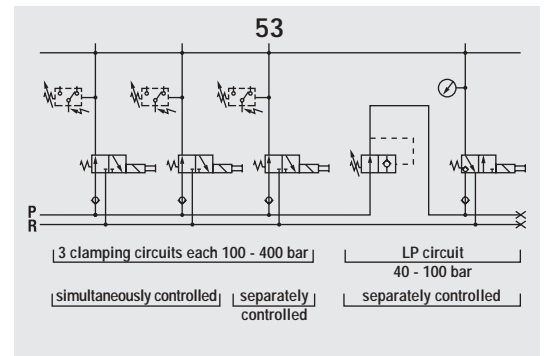
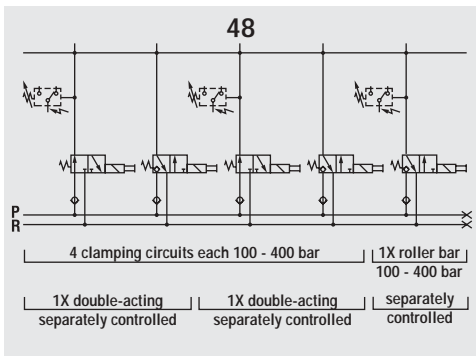
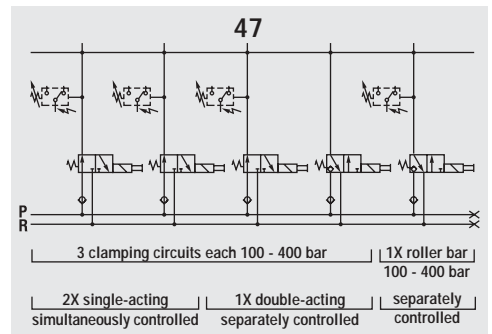
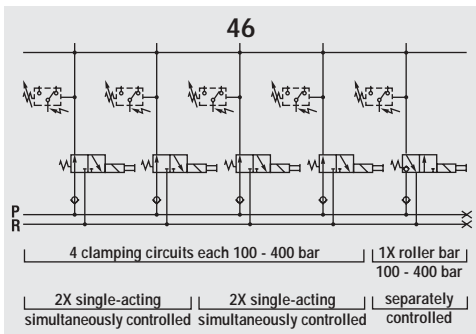
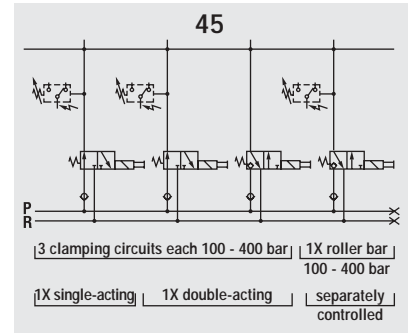
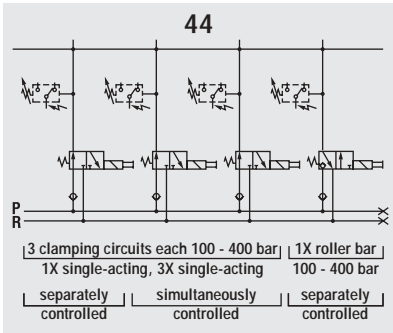


Hydraulic schematics / Control-configuration





Hydraulic schematics / Control-configuration



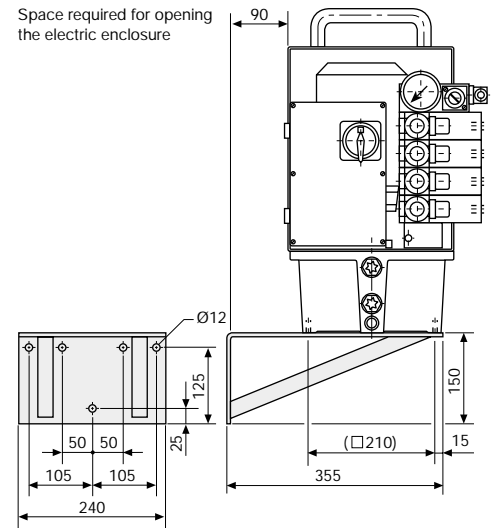


Wall bracket

For fastening the power unit on machine columns, supports, walls etc.

Part no. 5100-001 Series 5

Part no. 5.0330.0205 Series 6



Pedestal

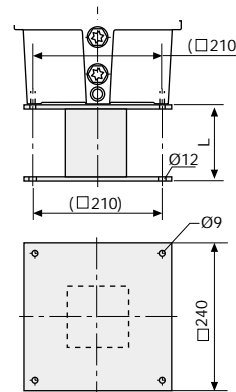
For fastening the power unit on the floor, on machine beds, on the press head etc. etc.

Part no. 5100-002 for L = 250 mm Series 5

Part no. 5100-003 for L = 1000 mm Series 5

Part no. 5.0330.0206 for L = 250 mm Series 6

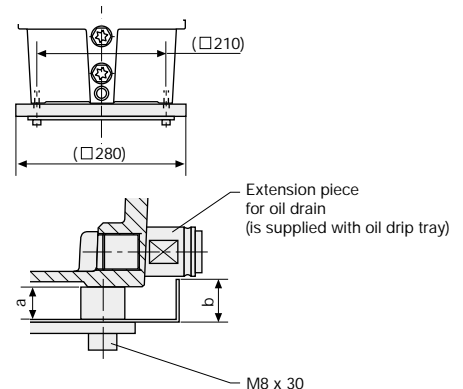
Part no. 5.0330.0207 for L = 1000 mm Series 6



Oil drip tray

Prevents oil around the power unit splashed during filling or escaped due to leakage.

a (mm)	15	72
b (mm)	20	80
Part no.	5100-004	5100-007



Mounting bars

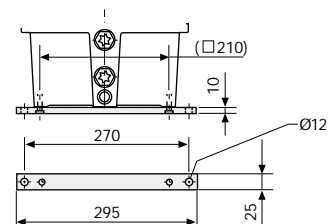
are fastened to the underside of the oil tank using screws. The brackets extending on the sides are used for fastening the power unit from above using screws M19.

Supply package:

2 mounting bars

4 pan head screws M6 x 16, DIN 7984

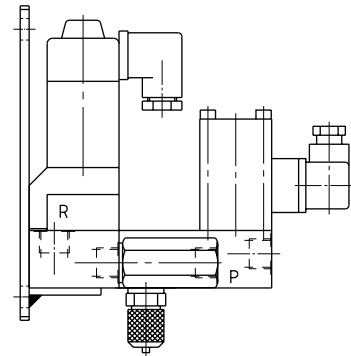
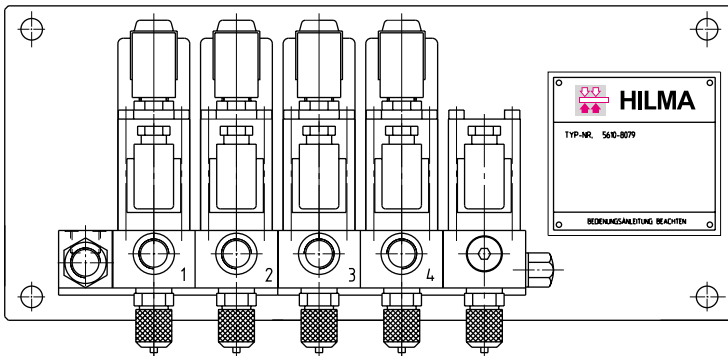
Part no. 5100-005



For other hydraulic accessories, please see product group 11



Valve packages fastened to the press ram or the press bed



4-circuit valve packages with pump pressure switch

Technical data

Max. flow	8 l/min
Oil port	G 3/8
Hydraulic fluid	Hydraulic oil HLP 46 to DIN 51524
Type of valve	Seat valves, leak proof, max. 500 bar
Solenoid voltage	24 V DC

Other versions are available upon request

The service we offer you

In addition to the cost effectiveness of our products, our customers also benefit from our efficient service.

Our service includes

- preparation and installation of hydraulic systems to suit specific applications
- manufacture, installation and commissioning of complete hydraulic systems
- repair and maintenance of hydraulic cylinders, clamping elements and power units supplied
- trouble-shooting and repair on the customer's premises
- constant repair service and fast response on our premises

All over the world our service is ready to act and to guarantee immediate help.

Specially trained, experienced staff make sure that problems are solved rapidly and proficiently.

You can rely on it!

