

## Hydro-Pneumatic Pump

max. operating pressure 500 bar



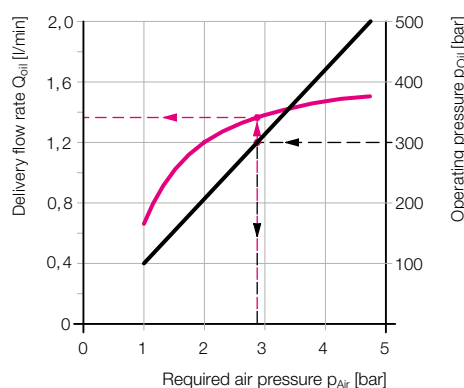
### Application

The hydraulic clamping pump is particularly suitable for small to medium-sized clamping and mounting devices having single-acting cylinders which operate primarily by intermittence (pressure build-up and pressure holding).

### Description

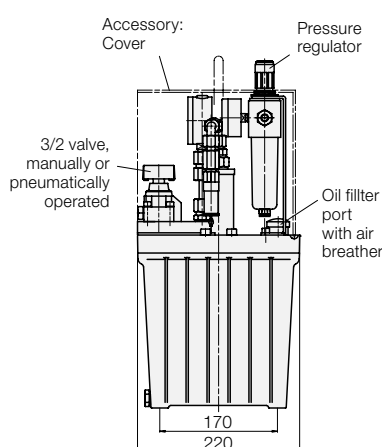
The tandem plunger pump is built into the oil reservoir in a space-saving manner. It operates with oscillating movements and automatic stroke reversal control by a pilot-operated 4/2 valve. The stroke frequency, and consequently the delivery flow rate depend on the air pressure and the hydraulic counterpressure.

Delivery flow rate without counterpressure



### Example:

To get the operating pressure  $p_{oil} = 300$  bar, an air pressure of  $p_{Air} = 2.8$  bar is set on the pressure regulator. The delivery flow rate  $Q_{oil}$  without counterpressure is 1.35 l/min.



### Control variants

#### Hand-operated 3/2 valve

This valve is equipped with a turning handle for direct operation on the unit.

#### Pneumatically operated 3/2 valve

This valve is mounted on the power unit allowing for pneumatic remote control, which, however, requires an additional hand lever valve (accessory). According to the length of the pneumatic piping between both valves, there is a longer or shorter time delay for the clamping and unclamping operation.

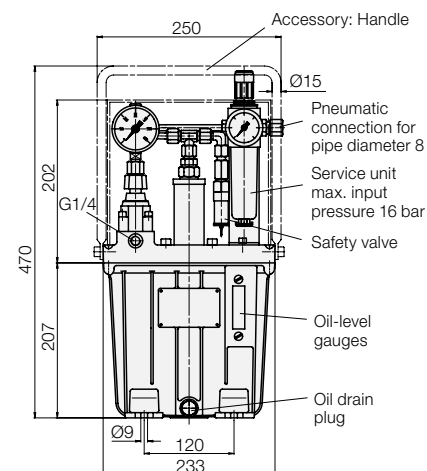
#### Without valve (external valve control)

This type is designed for external valve control connected with a pressure and return line each. The clamping pump keeps the set pressure constant.

A valve must never be used for depressurized circulation as the pump only serves for intermittent operation.

### Technical data

Max. delivery flow rate	[cm <sup>3</sup> /s]	25
	[l/min]	1.5
Max. operating pressure	[bar]	500
Min. operating pressure	[bar]	100
Max. air pressure	[bar]	4.7
Min. air pressure	[bar]	1.0
Transmission ratio		1:108
Max. air consumption	[l/min]	1200
Min. control pressure for pneumatic valve	[bar]	3
Max. charge	[l]	4.0
Usable oil volume	[l]	1.8
Viscosity range	[10 <sup>-6</sup> m <sup>2</sup> /s]	10...500
Recomm. viscosity grade as per DIN 51519		ISO VG 22
Recomm. hydraulic oil as per DIN 51524		HLP 22
Noise level	[dBA]	78
Weight	[kg]	20



### Delivery circuit

The units are delivered complete and ready for connection. On the pneumatic side there is a service unit with pressure reducer, and filter. And additional pressure relief valve prevents increase of pressure over 4.8 bar, and thus operating pressures over 500 bar on the hydraulic side.

### Part no.

Pump with hand-operated valve	<b>8600-110</b>
Pump with pneumatic valve	<b>8600-111</b>
Pump without valve	<b>8600-112</b>

### Accessories

Handle	<b>0353-217</b>
Cover	<b>0353-714</b>

### Accessory for pneumatic remote control of 8600-111

Hand lever valve with catch	<b>3812-005</b>
Sound absorber for hand lever valve	<b>3887-015</b>
Foot valve with catch incl. cover	<b>0381-206</b>
Air hose NB 6	<b>3890-059</b>
Screwed socket G1/4	<b>3890-071</b>
Hose clamp	<b>3890-076</b>

### Example for ordering

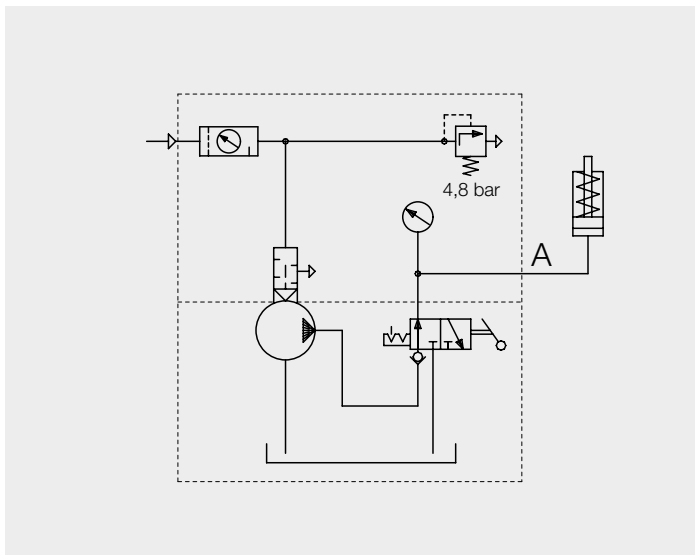


Pump with hand-operated valve	<b>8600-110</b>
Handle	<b>0353-217</b>
Cover	<b>0353-714</b>

**Operation:**

Manually operated 3/2 valve

**Part no. 8600-110**

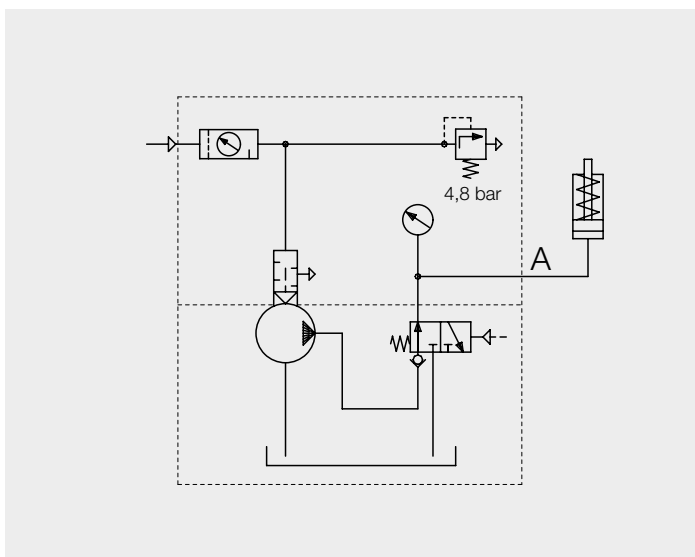


**Operation:**

Pneumatically operated 3/2 valve

**Part no. 8600-111**

Accessory for pneumatic remote control  
see page 1



**Operation**

External valve control (remote control)

**Part no. 8600-112**

