



# ROEMHELD

# F 9.425

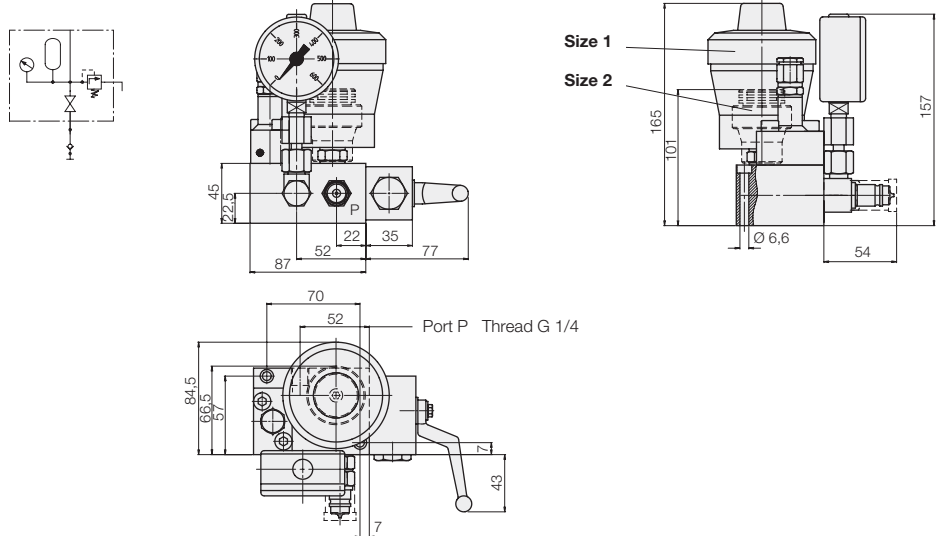
## Coupling Unit

for manual operation, for single-acting and double-acting cylinders  
max. operating pressure 500 bar



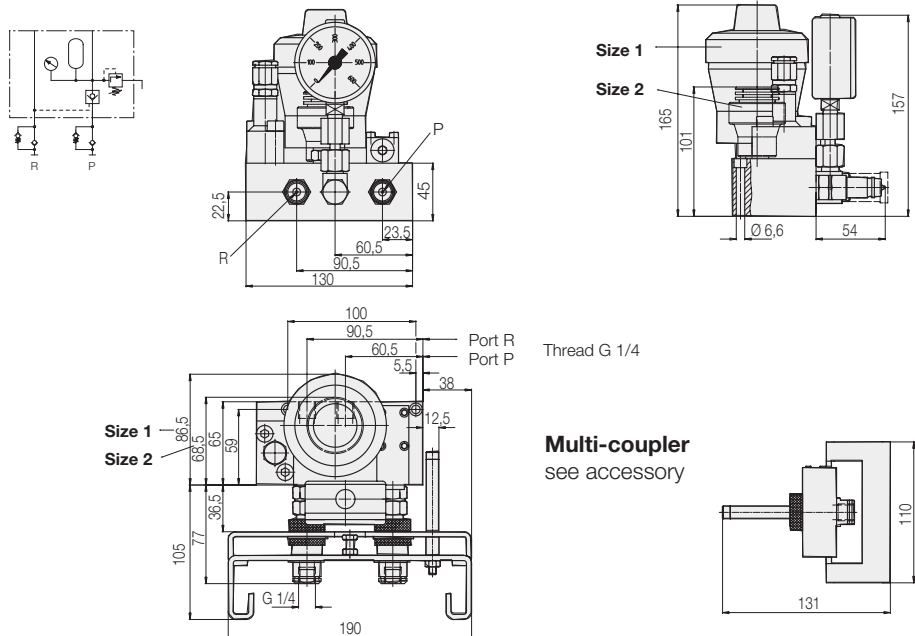
**Coupling unit**  
for single-acting cylinders, size 1

### Single-acting version



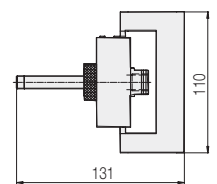
**Coupling unit**  
for double-acting cylinders, size 2

### Double-acting version



**Multi-coupler**  
Aluminium version

**Multi-coupler**  
see accessory



### Application

This coupling unit is used if the clamping fixture is manually separated from the pressure generator, e.g. in flexible manufacturing systems or when using one pressure generator only for several clamping fixtures. It can be supplied with two different accumulators: Size 1 for clamping fixtures with a large oil volume. Size 2 for clamping fixtures with a small oil volume.

		Size 1	Size 2
Nominal volume	[cm <sup>3</sup> ]	75	13
Gas preload	[bar]	100	100
Accumulated volume at max. operating pressure	[cm <sup>3</sup> ]	55	10

### Coupling unit for single-acting cylinders

**Accessory:** Coupler (Push-Pull), see F 9.381

Dust cap for coupler

Safety support for coupler, s.a.

Coupling nipple (spare part)

### Coupling unit for double-acting cylinders

**Accessory:** Multi-coupler, aluminium version

Dust cap for coupler

Safety support for multi-coupler, d.a.

Coupling nipple (spare part)

Coupler for multi-coupler (spare part)

Part-no.	Part-no.
9425-011	9425-012
9384-106	9384-106
9384-300	9384-300
0942-001	0942-001
9384-206	9384-206
9425-021	9425-022
9425-102	9425-102
9384-300	9384-300
0942-002	0942-002
9384-624	9384-624
9384-100	9384-100



## Power unit

Oil supply can be effected by means of a power unit as per data sheet D 8.011. However, the versions for double-acting cylinders require another switch which has to be connected instead of the normal hand switch according to the electric circuit diagram shown below.

## Control panel

for double-acting cylinders, with green signal lamp for "Clamped" and selector switch with 3 positions "unclamp - clamp - couple".



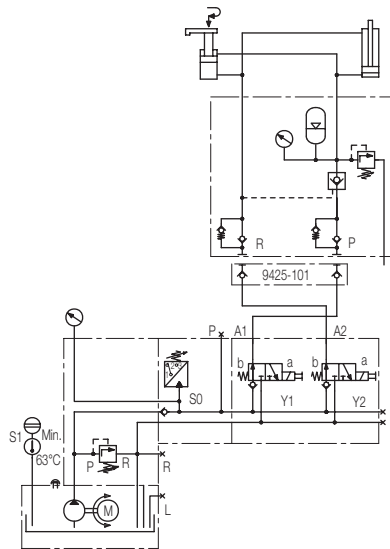
Part-no. 0840-006

Power unit as per data sheet D 8.011 including hand switch

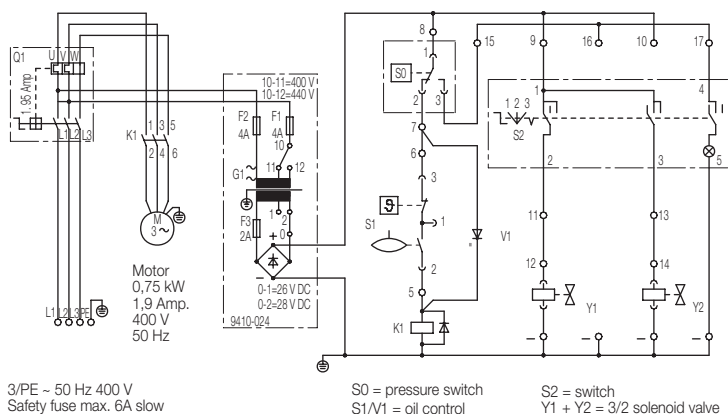
	Part-no.
500 bar	6810-110
250 bar	6812-111
160 bar	6818-040

Power units with two-hand safety control are available on request (see page D 8.013).

## Hydraulic circuit diagram for double-acting cylinders



## Electric circuit diagram with hand switch for double-acting cylinders



## Operating sequence of clamping/unclamping

### a) Single-acting cylinders

Operating sequence of **unclamping** with coupling unit for single-acting cylinders:

- 1) Remove dust cap and clean coupling parts, if necessary.
- 2) Connect coupler of quick-disconnect coupling in depressurised mode.
- 3) Open high-pressure shut-off valve.

Operating sequence of **clamping** with coupling unit for single-acting cylinders:

- 1) Coupler of quick-disconnect coupling is coupled and high-pressure shut-off valve is opened.
- 2) Actuate power unit until pressure gauge shows required clamping pressure.
- 3) Shut high-pressure shut-off valve.
- 4) Set pressure generator to unclamping position.
- 5) Disconnect coupler of quick-disconnect coupling and put it into a safety support, if necessary.
- 6) Attach dust cap to coupling nipple and coupler.

### b) Double-acting cylinders

Operating sequence of **unclamping** with coupling unit for double-acting cylinders:

- 1) Remove dust cap and clean coupling parts.
- 2) Connect multi-coupler in depressurised mode: For this purpose switch selector switch to "couple".
- 3) Switch selector switch to "unclamp"

Operating sequence of **clamping** with coupling unit for double-acting cylinders:

- 1) Multi-coupler is coupled.
- 2) Switch selector switch to "clamp". After pressure build up the green lamp is signaled.
- 3) Setting multi-coupler to depressurised mode. For this purpose switch selector switch to "couple".
- 4) Disconnect multi-coupler and put it in safety support, if necessary.
- 5) Attach dust cap to coupling nipple and coupler.

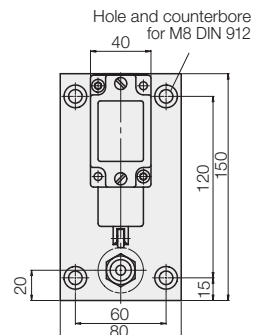
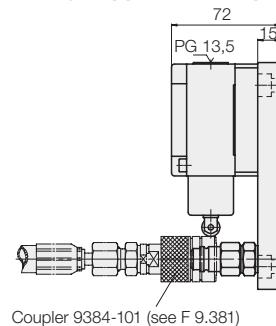
## Design and application

The coupling units with the accumulator for a max. of 500 bar and an oil volume of 13 cm<sup>3</sup> should only be used for small clamping fixtures having a total oil volume of 100 cm<sup>3</sup>. Operating pressure should not exceed 400 bar so that, in case of a rise in temperature, the maximum operating pressure of 500 bar will not be exceeded and no oil can be lost through the pressure relief valve. By means of the pressure gauge attached, a visual pressure control should be effected. Constant pressure drop after uncoupling indicates a leakage which of course must be repaired immediately.

## Safety elements

- 1) Coupling units are equipped with a pressure relief valve, which is adjusted to an opening pressure of 500 bar to protect the accumulator against overload (safety valve).
- 2) All coupling nipples are provided with a preloaded valve, which limits a pressure increase in the nipple in decoupled mode to a possible leakage to approx. 5 bar.
- 3) The coupling units for double-acting cylinders are provided with a pilot controlled check valve. Thereby a higher operating safety is achieved. These coupling units can also be used for single-acting cylinders, however a power unit for double-acting cylinders has to be used as pressure generator.
- 4) With coupling units for double-acting cylinders a multi-coupler can be used
  - a) to simplify the coupling motion
  - b) to prevent the exchange of the clamping and unclamping line.
- 5) The safety support is used as holder for coupler or multi-coupler after uncoupling has been made. The release signal of the integrated switch makes sure that the clamping fixture can only be moved if the coupler or multi-coupler has been correctly removed from the clamping fixture.

## Safety support for coupler



## Safety support for multi-coupler

