

## Clamping modules - hydraulic

Hydraulic clamps with universal clamping plate and screw pump, max. clamping force 2.5 kN



Clamping module with hydraulic clamps

### Application

With *modulog* clamping modules workpieces for manual assembly operations are easily and reliably positioned, fixed and clamped. Thus the fitter can exert forces on the workpiece without displacing it. The quality of the assembly process will be improved.

### Principal use

- Assembly of heavy components
- Assembly of frequently changing components
- Workshop applications
- Clamping during test cycles
- Machining of cylinder heads
- Assembly of electric motors

### Mounting

The clamping modules are screwed onto the grid of the universal clamping plate with socket head cap screws M12. The screws have to be tightened with 80 Nm.

The screw pump is fixed with 2 socket head cap screws M8 at the bottom side of the universal clamping plate.

The universal clamping plate can be mounted with 4 socket head cap screws M10 with flat head on other *modulog* modules.

### Important note!

For dimensioning of the clamps it has to be distinguished if the forces act against a fixed stop or if clamping forces are used by friction.

### Advantages

- Quicker and simpler clamping process
- Uniform, reproducible clamping force by hydraulic clamping
- Quick and easy retrofitting
- Complete sets including universal clamping plate
- Every point on the universal clamping plate is approachable with the clamping elements
- Easy handling for retrofitting due to universal clamping plate made of aluminium
- Easy fixing of the universal clamping plate on other *modulog* modules by the *modulog* interface

### Description

The *modulog* clamping module consists of 2 clamping elements, which are connected by hydraulic hoses to a screw pump. For each clamping element a corresponding fixed stop can be positioned on the universal clamping plate.

The universal clamping plate is provided with a grid for mounting of the clamping elements. This allows flexible positioning of the clamping elements for clamping of very different workpieces.

Also the screw pump is fixed on the universal clamping plate.

The universal clamping plate is equipped with a 140 x 140 *modulog* interface in the centre, so that it can be easily mounted on other *modulog* lifting or rotating modules the workpiece can be moved to the ergonomically ideal height or rotating position.

The elements are also available as component parts. The kit contains the complete system, filled with hydraulic oil and bled, with screw pump kit and clamping elements.

### Material

Clamping elements: high-tensile aluminium, steel, partially hardened

Universal clamping plate: high-tensile aluminium  
 Screw pump: steel

### modulog

### Clamping modules - hydraulic



### Clamping module with hydraulic clamps, universal clamping plate and screw pump

Max. clamping force: 2.5 kN  
 Max. clamping stroke: 5 mm  
 Operation with wrench

Part-no. 8903-02-04-H

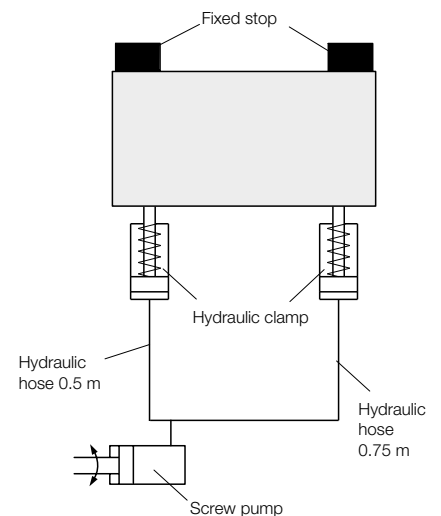
### Universal clamping plate

with grid 50 mm – M12  
 with *modulog* interface  
 140 x 140 mm - counterbore for  
 DIN 912 M10

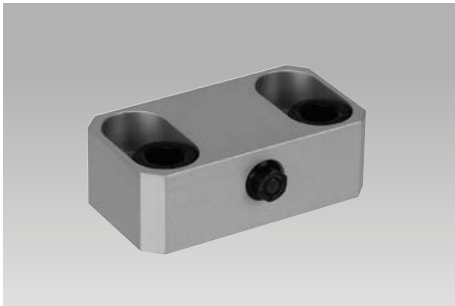
### Screw pump

Max. operating pressure: 500 bar  
 Function: single acting  
 Operation with wrench

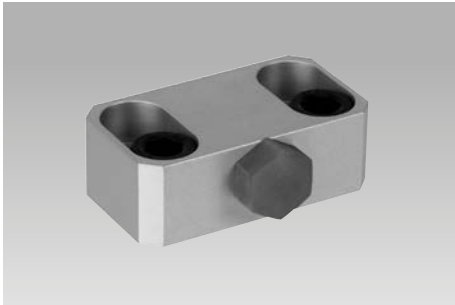
### Hydraulic circuit diagram



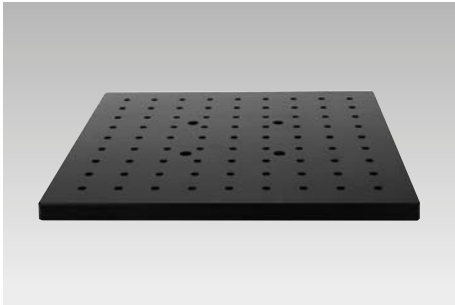
# Clamping module with hydraulic clamps



Hydraulic clamp 6505-339



Fixed stop 6505-340



Universal clamping plate 6311-572



Screw pump of the kit 6505-341

## Description

This clamping module contains 2 hydraulically-operated hydraulic clamps and 2 fixed stops. Both hydraulic clamps are clamped and unclamped with the screw pump.

The hydraulic clamps excel by their compactness and their simple operation.

## Installation and operation

If possible the workpiece has to be clamped so that the highest forces act against the fixed stop. The workpiece must safely rest.

The screw pump is operated with a socket or a wrench SW 13 and thus the workpiece is safely clamped against the 2 fixed stops.

## Important notes!

When mounting, pay attention to the maximum clamping stroke.

The maximum clamping force is obtained with maximum operating pressure of the screw pump. The required torque at the screw pump is 53 Nm. (see diagram)

## Part numbers

**Clamping module with hydraulic clamps** 8903-02-04-H

Delivery:

- 2 off hydraulic clamps
- 2 off fixed stops
- 1 off universal clamping plate
- 1 off screw pump kit including 2 hydraulic hoses with fittings

## Part numbers individual elements:

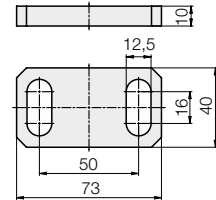
Hydraulic clamp: **6505-339**  
 Fixed stop: **6505-340**  
 Universal clamping plate: **6311-572**  
 Screw pump kit: **6505-341**

## Technical characteristics

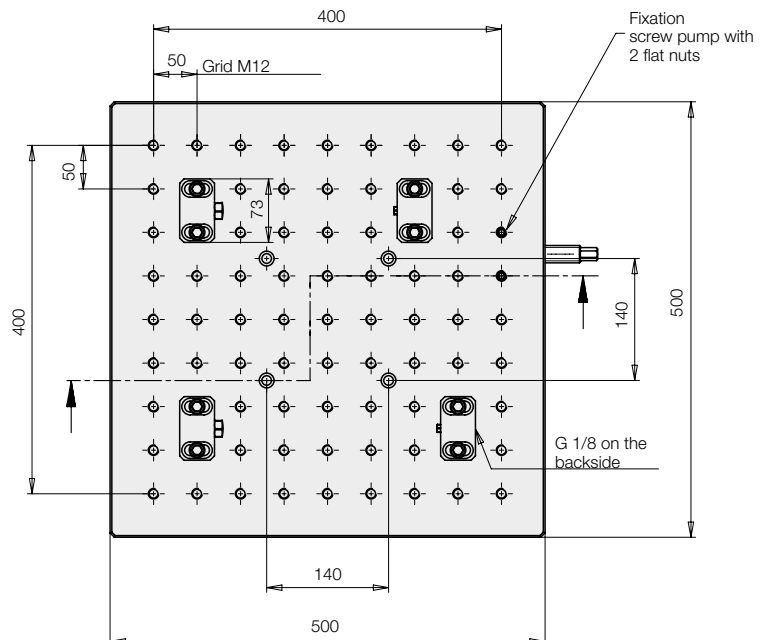
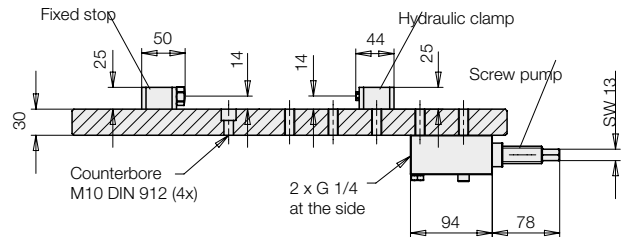
Function:	single acting
Clamping force (per hydraulic clamp):	[kN] 2.5
Clamping stroke:	[mm] max. 5
Max. operating pressure:	[bar] 500
Hose nominal diameter:	ND 4

## Accessory

**Height plate**  
 Part-no. 6311-633



## Dimensions



## Operating torques at the screw pump

