ROEMHELD HILMA ▪ STARK

Issue 7-15 E

# D 8.751

## Intensifiers 4.5 cm³

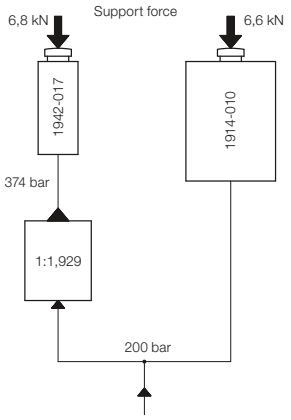
## Intensification ratio 1 : 1.929, max. operating pressure 265 / 500 bar double acting, with preloaded valve

### Advantages

- Compact design
- Integrated control elements
- Manifold-mounting connection for drilled channels
- High-pressure only where needed
- Expensive high-pressure pump not required
- Savings by use of smaller clamping elements and work supports

### Application example

Reduction in size of work supports by use of intensifiers




### Application

The compact intensifier converts the hydraulic pressure on the primary side (input) into a higher pressure on the secondary side (output).
This enables the use of the low pressure of machine tool hydraulics to pressurise a hydraulic cylinder with almost twice the pressure.

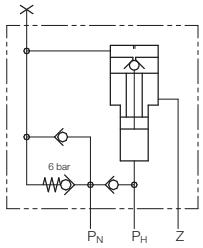
In conjunction with drilled channels, the reduced dimensions allow a space-saving installation directly on the clamping fixture.

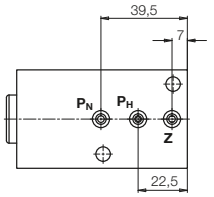
When using work supports, the higher pressure has the following advantages:

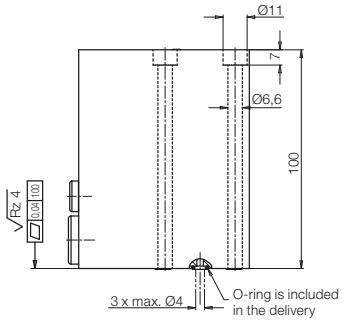
- Most of the work supports obtain their highest support force at 500 bar.
- Very often a smaller size can be installed.
- For installation in limited spaces, smaller work supports can be used.

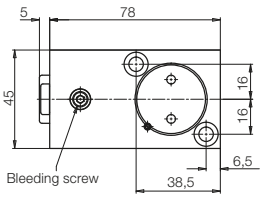
### Description

The piston in the compact intensifier has a intensification ratio of 1:1.929.
Since the high-pressure volume is only 4.5 cm³, the connected hydraulic cylinders are first moved into position by means of a filling valve.
As soon as the pressure is increased to 6 bar, the preloaded valve opens. Then, the piston starts moving and generates the high-pressure volume.
The piston returns via port Z. At the end of the stroke a tappet opens the built-in check valve in the piston, so that the connected cylinders can also return.




### Important notes

This hydraulic intensifier can only be used in conjunction with drilled channels. For applications with hydraulic hoses, the high-pressure volume is too low.
The entire hydraulic system must be bled very carefully.
Drilled channels have to be closed at the end with a bleeding screw.
Also the pressure intensifier has a bleeding possibility.
For safety reasons there should be a possibility of pressure control in the high-pressure range.

### Technical data

| | | |
|---|---|---|
| Transmission ratio | | 1 : 1.929 |
| Max. operating pressure | | |
| Low pressure $P_N$ | [bar] | 265 |
| High pressure $P_H$ | [bar] | 500 |
| Return line Z | [bar] | 265 |
| Min. operating pressure | | |
| Low pressure $P_N$ | [bar] | 20 |
| High pressure $P_H$ | [bar] | approx. 30 |
| Preload pressure | [bar] | 6 |
| Max. flow rate | [cm³/s] | 25 |
| Oil volume | | |
| advance stroke | [cm³] | 9.8 |
| return stroke | [cm³] | 4.7 |
| High-pressure volume | [cm³] | approx. 4.5 |
| Weight | [kg] | approx. 2.6 |
| **Part no.** | | **8753-102** |
| Spare O-ring 5 x 1.5 | | |
| **Part no.** | | **3000-340** |

### Pressure calculation

$P_H = 1.929 * (P_N - 6)$ [bar]