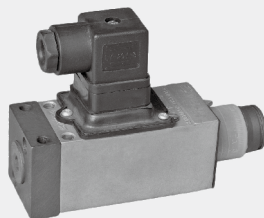


8.2

# Pressure switch

## Type HED 4... 10

Pressure up to 350bar



### Contents

|                            |       |
|----------------------------|-------|
| Function and configuration | 02    |
| Terminal allocation        | 02    |
| Circuit example            | 02    |
| Ordering code              | 03    |
| Technical data             | 03    |
| Characteristic curves      | 04    |
| Unit dimensions            | 05-07 |
| Installation guidelines    | 08    |

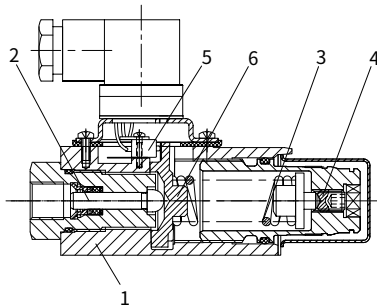
### Features

- For sub-plate mounting
- For pipe installation
- Vertical stacking piece in the horizontal assembled valves

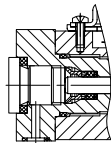
## Function and configuration

Hydro-electric pressure switches type HED 4 are piston type pressure switches . They basically consist of the housing(1), cartridge with spool (2),compression spring (3), adjustment element (4) and switch(5). The pressure fluid is applied to the piston (2) , then the piston (2) supports itself on the spring seat (6) and acts against the infinitely adjustable force of the compression spring (3). The spring seat (6) transfers the movement of the piston (2) to the switch (5). The switch (5) acts on-off as the designing requirement.

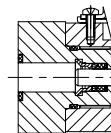
### Type HED 4 OA 10/...



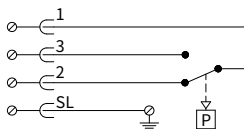
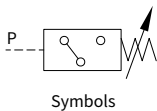
Type HED 4 OP 10/...



Type HED 4 OH 10/...

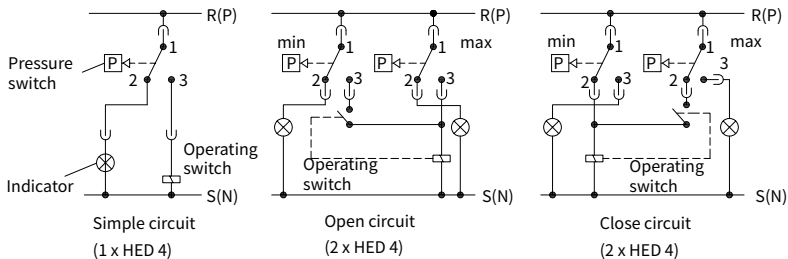


## Terminal allocation



Terminal connection-Z14 small-scale plug

## Circuit example



## Ordering code

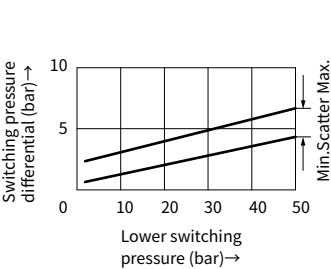
|                                      |  |        |  |       |  |                               |  |
|--------------------------------------|--|--------|--|-------|--|-------------------------------|--|
| HED4                                 |  | - 10 / |  | Z14 / |  | *                             |  |
| Piston type                          |  |        |  |       |  | Further details in clear text |  |
| pressure switch                      |  |        |  |       |  | No code = NBR seals           |  |
| Sub-plate mounting =OP               |  |        |  |       |  | V = FKM seals                 |  |
| Pipe installation =OA                |  |        |  |       |  | Connection thread:            |  |
| Vertical stacking systems =OH        |  |        |  |       |  | Inch threaded (G1/4)          |  |
| Series 10 =10                        |  |        |  |       |  | Metric threaded (M14×1.5)     |  |
| max. adjustable pressure 50bar = 5   |  |        |  |       |  | Z14 = small-scale plug-in     |  |
| max. adjustable pressure 100bar = 10 |  |        |  |       |  |                               |  |
| max. adjustable pressure 350bar = 35 |  |        |  |       |  |                               |  |

## Technical data

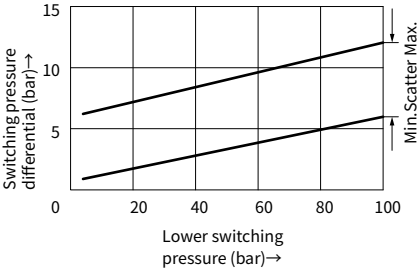
|                                                                                                          |                 |                             |                                                                                              |                       |     |                    |     |
|----------------------------------------------------------------------------------------------------------|-----------------|-----------------------------|----------------------------------------------------------------------------------------------|-----------------------|-----|--------------------|-----|
| Fluid                                                                                                    |                 |                             | Mineral oil suitable for NBR and FKM seal                                                    |                       |     |                    |     |
|                                                                                                          |                 |                             | Phosphate suitable for FKM seal                                                              |                       |     |                    |     |
| Fluid temperature                                                                                        |                 | °C                          | - 20 ~ + 80 (for FKM seal)                                                                   |                       |     |                    |     |
|                                                                                                          |                 | °C                          | - 30 ~ + 80 (for NBR seal)                                                                   |                       |     |                    |     |
| Viscosity range                                                                                          |                 | mm²/s                       | 2.8~500                                                                                      |                       |     |                    |     |
| Degree of contamination:                                                                                 |                 |                             | Maximum permissible degree of fluid contamination:<br>NAS 1638 class 9. and ISO4406 20/18/15 |                       |     |                    |     |
| Switching accuracy (repeatability)                                                                       |                 | %                           | <±1% of setting range                                                                        |                       |     |                    |     |
| Permissible switching frequency                                                                          |                 | times/min                   | 120                                                                                          |                       |     |                    |     |
| Electrical connection                                                                                    |                 |                             | Plug-in connector to DIN 43 650 form A, 3...pin +PE                                          |                       |     |                    |     |
| Rated pressure(bar)                                                                                      |                 | Max. setting pressure (bar) |                                                                                              | Offset pressure (bar) |     | Act pressure (bar) |     |
|                                                                                                          |                 |                             |                                                                                              | min                   | max | min                | max |
| 50                                                                                                       |                 | 50                          |                                                                                              | 2                     | 46  | 4                  | 50  |
| 100                                                                                                      |                 | 100                         |                                                                                              | 3                     | 89  | 8                  | 100 |
| 350                                                                                                      |                 | 350                         |                                                                                              |                       | 322 | 20                 | 350 |
| Max. connection cross sectional area                                                                     |                 | mm²                         | 1.5                                                                                          |                       |     |                    |     |
| Protection degree to DIN 43650                                                                           |                 |                             | IP 65                                                                                        |                       |     |                    |     |
| (With DC inductive loading, a spark suppresser must be provided in order to increase the service life .) |                 |                             |                                                                                              |                       |     |                    |     |
| Contact load:                                                                                            | AC              |                             | 250V/5A;                                                                                     |                       |     |                    |     |
|                                                                                                          | DC              |                             | 50V/1A, 250V/0.2A                                                                            |                       |     |                    |     |
| Weight                                                                                                   | pressure switch |                             | 0.6                                                                                          |                       |     |                    |     |
|                                                                                                          | stacking plate  |                             | 0.8 ( size 6 )<br>1.9 ( size 10 )                                                            |                       |     |                    |     |

**Characteristic curves** (Measured at  $\vartheta_{oil}=40^{\circ}\text{C} \pm 5^{\circ}\text{C}$  , using HLP46)

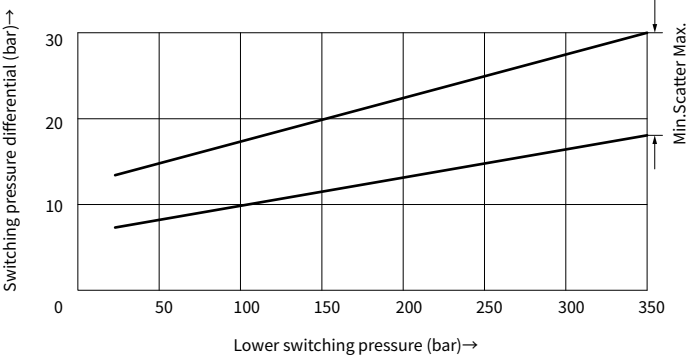
Rated pressure 50bar



Rated pressure 100bar



Rated pressure 350bar



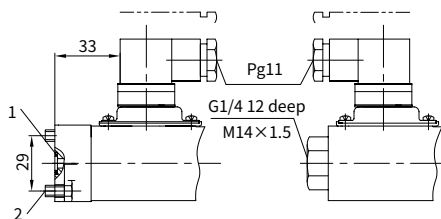
## Unit dimensions

(Dimensions in mm)

- **Pressure switch**

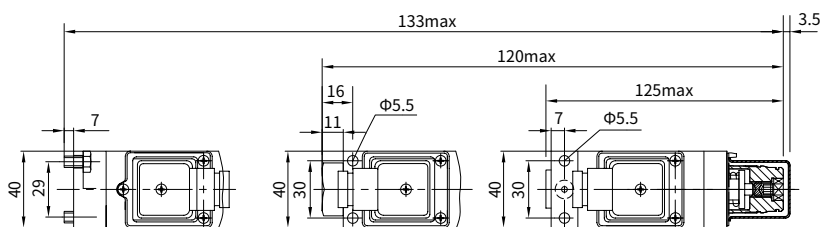
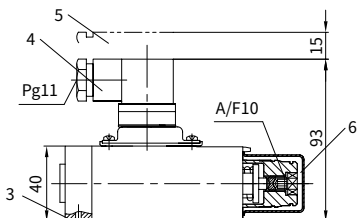
Type HED4 OH...

## Vertical stacking systems



Type HED4 OA...

## Pipe installation

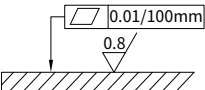
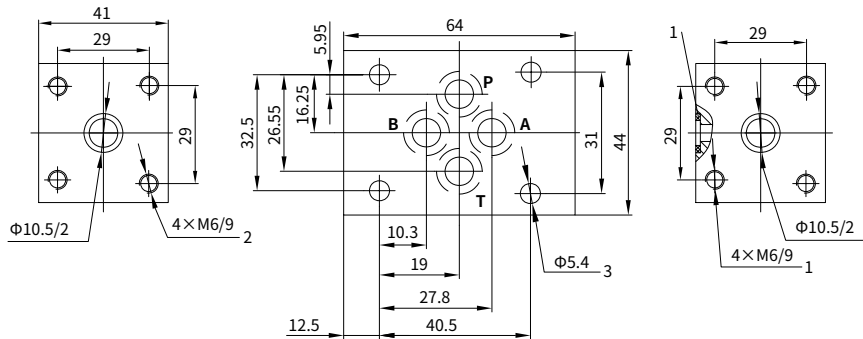


- 1 O-ring 13×2
- 2 Valve fixing screw O-ring 2 pcs M6×12
- 3 O-ring 7×1.5
- 4 Plug 90° rotary
- 5 Space required to remove the plug
- 6 Protected cap

Unit dimensions

(Dimensions in mm)

• Stacking plate size 6 (for HED4 OH...vertical stacking)



Requirement for  
mounting surface

- 1 O-ring 9.25×1.78
- 2 Fixing screw holes of pressure switch
- 3 Fixing screw holes of stacking plate size 6

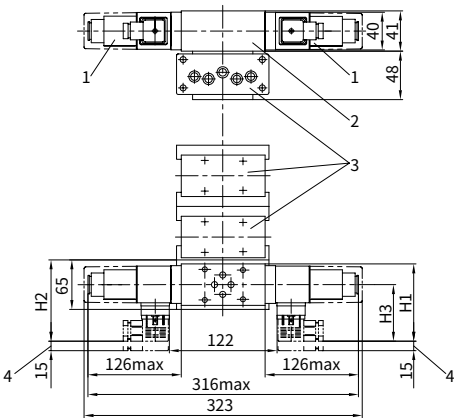
|                              |     |        |        |        |        |        |
|------------------------------|-----|--------|--------|--------|--------|--------|
| Pipeline for pressure switch |     |        |        |        |        |        |
| Type                         | NBR | 308400 | 308401 | 308402 | 308403 | 308404 |
|                              | FKM | 308436 | 308437 | 308438 | 308439 | 308440 |
| Pipeline for pressure switch |     |        |        |        |        |        |
| Type                         | NBR | 308405 | 308406 | 308407 | 308408 | 317606 |
|                              | FKM | 308441 | 308442 | 308443 | 308444 | 317607 |



Installation guideline

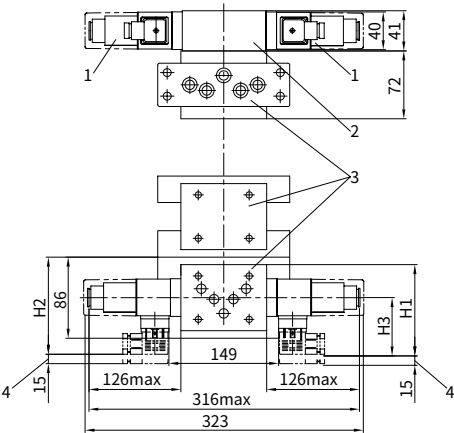
(Dimensions in mm)

• For applying the pressure switch HED4 OH...in stacking assemblies size 6



- 1 Pressure switch HED4OH...for use in stacking assemblies(can be rotated 4×90° for mounting).  
The mounting possibilities of the pressure switch depends on the design of the adjacent stacking plates.
- 2 Stacking plate size 6 used.  
for mounting stacking pressure switch.
- 3 Horizontal assembling module.
- 4 Space required to remove the plug-in connector.

• For applying the pressure switch HED4 OH...in stacking assemblies size 10



- 1 Pressure switch HED4OH...for use in stacking assemblies(can be rotated 4×90° for mounting).  
The mounting possibilities of the pressure switch depends on the design of the adjacent stacking plates.
- 2 Stacking plate size 10 used.  
for mounting stacking pressure switch.
- 3 Horizontal assembling module.
- 4 Space required to remove the plug-in connector.

| Size | H1  | H2  | H3 |
|------|-----|-----|----|
| 6    | 95  | 98  | 74 |
| 10   | 108 | 116 | 74 |