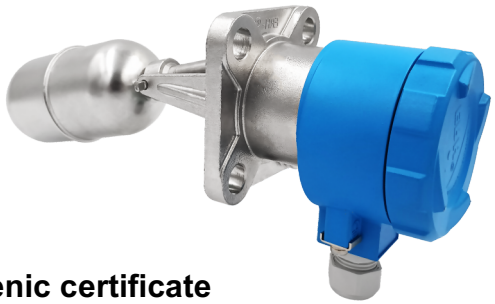
Level switches ERH

- ✓ **Reliable switching method**
- ✓ **Horizontal or vertical mounting**
- ✓ **Flanged connections 92x92 and DN80/ANSI 3” or threaded R2", G2" and 2"NPT**
- ✓ **Full stainless steel option**
- ✓ **Enclosure protection IP66 or IP68**
- ✓ **DNV, BV and PRS maritime certificates, ATEX explosion-proof certificate and PZH hygienic certificate**

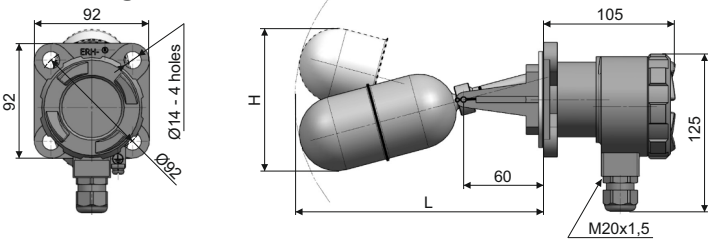


Description

Level switches are designed for signaling limit levels or two-state control of liquid levels in open and closed pressure vessels, in explosive atmospheres too. The switches can operate in aggressive liquids that do not affect 316/316L stainless steel.

Dimensions

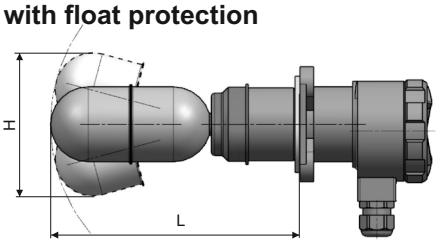
ERH-01- basic version with flange connection 92x92



Dimensions for standard versions (for non-hazardous area)
ERH-01-04 (-06,-07); ERH-02-04 (-06,-07)

CODE	H mm	L mm	Hysteresis mm
- 1	120	190	10
- 2	140	230	20
- 3	150	255	30

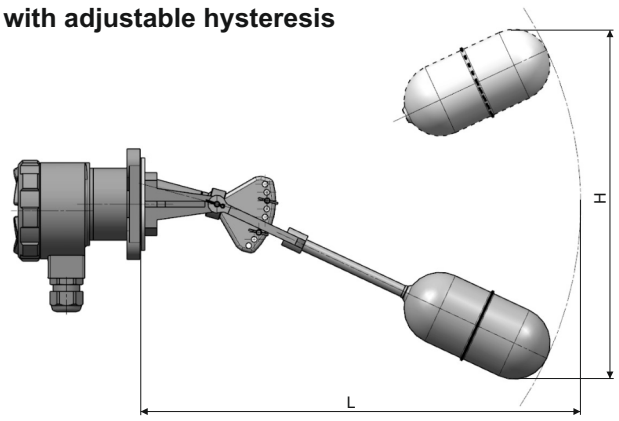
ERH-02- version with float protection



Dimensions for explosion proof versions
ERH-01-16 (-16.1); ERH-02-16 (-16.1)

CODE	H mm	L mm	Hysteresis mm
- 1	140	230	10
- 2	180	305	20
- 3	240	405	30

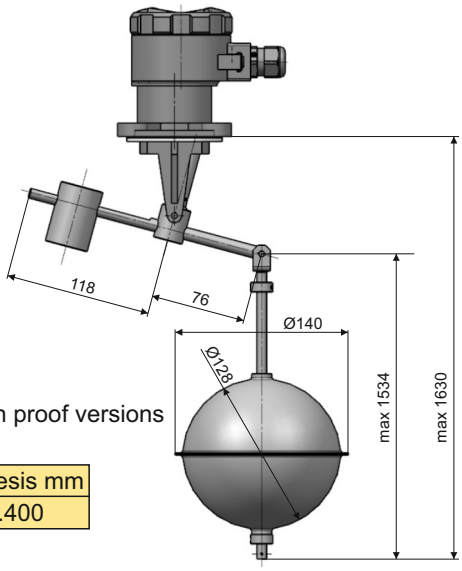
ERH-03- version with adjustable hysteresis



Dimensions for standar versions
(for non-hazardous area) ERH-03-04 (-06,-07)

CODE	H mm	L mm	Hysteresis mm
- 1	680	510	100...400
- 2	450	380	50...250

ERH-04- version with adjustable hysteresis (top mounted)



Dimensions for explosion proof versions
ERH-03-16 (-16.1)

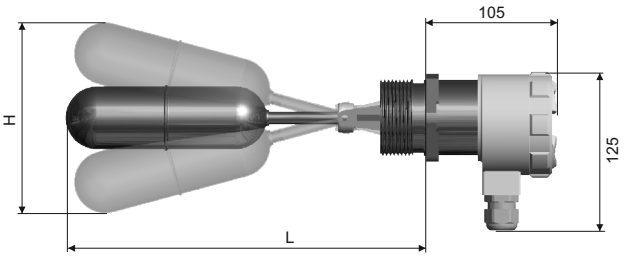
H mm	L mm	Hysteresis mm
680	510	50...400

ERH-07-, ERH-08-, ERH-09- threaded versions

ThreadR2"	ThreadG2"	Thread2"NPT	H mm	L mm	Hysteresis mm
ERH-07-04-1 ERH-07-06-1 ERH-07-07-1	ERH-08-04-1 ERH-08-06-1 ERH-08-07-1	ERH-09-04-1 ERH-09-06-1 ERH-09-07-1	124	231	18
ERH-07-04-2 ERH-07-06-2 ERH-07-07-2	ERH-08-04-2 ERH-08-06-2 ERH-08-07-2	ERH-09-04-2 ERH-09-06-2 ERH-09-07-2	139	260	26
ERH-07-04-3 ERH-07-06-3 ERH-07-07-3	ERH-08-04-3 ERH-08-06-3 ERH-08-07-3	ERH-09-04-3 ERH-09-06-3 ERH-09-07-3	152	285	32
ERH-07-16-1 ERH-07-16.1-1	ERH-08-16-1 ERH-08-16.1-1	ERH-09-16-1 ERH-09-16.1-1	139	260	13
ERH-07-16-2 ERH-07-16.1-2	ERH-08-16-2 ERH-08-16.1-2	ERH-09-16-2 ERH-09-16.1-2	178	335	24
ERH-07-16-3 ERH-07-16.1-3	ERH-08-16-3 ERH-08-16.1-3	ERH-09-16-3 ERH-09-16.1-3	230	435	37

Remark! Level switches with threaded process connection available only with float ER2-1661.

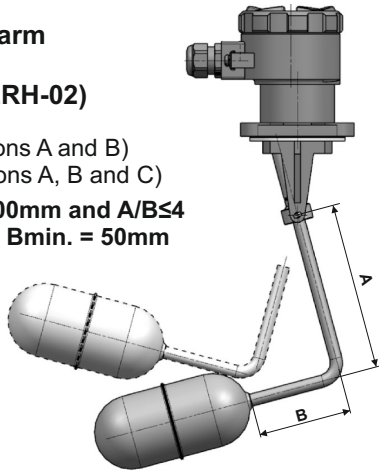
Certificates



Level switch with cranked arm (available for ERH-01 and ERH-02)

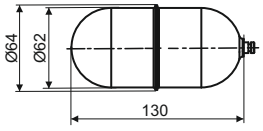
L-type (dimensions A and B)
Z-type (dimensions A, B and C)

A+B = max. 1000mm and A/B≤4
Amin. = 50mm; Bmin. = 50mm



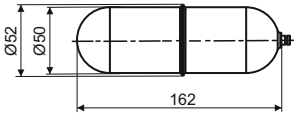
Floats

Float in standard execution:
- **ER2-1101** *for ERH-01(02)-04-1*
  ERH-01(02)-06-1
  ERH-01(02)-07-1
- **ER2-1024** *for other types of ERH, including Ex verison*



Float in special version*:
- **ER2-1661-1** *for ERH-01(02)-04-1*
  ERH-01(02)-06-1
  ERH-01(02)-07-1
- **ER2-1661-2** *for other types of ERH, including Ex version*

** standard version for ERH with threaded connection*



Certificates vs. types of ERH

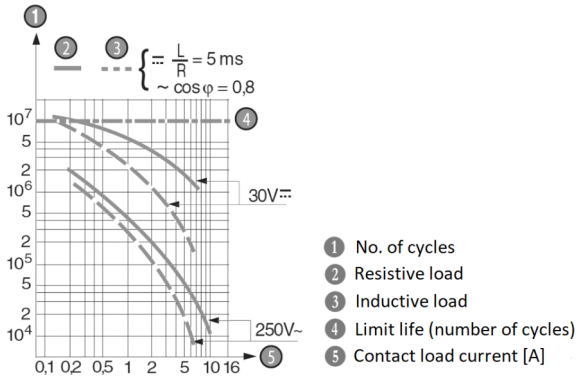
Type	Description	IP class	ATEX	DNV	BV	PRS	PZH
ERH-xx-04	Standard version	IP66					
ERH-xx-06	Maritime version	IP66		☑	☑	☑	☑
ERH-xx-07	Submersible version	IP68		☑	☑	☑	
ERH-xx-16	Version for hazardous area (explosion-proof)	IP66	☑	☑	☑	☑	
ERH-xx-16.1	Submersible version for hazardous area (explosion-proof)	IP68	☑	☑	☑	☑	

Technical data

Parameters		ERH-01-	ERH-02-	ERH-03-	ERH-04-	ERH-07- ERH-08- ERH-09-
Hysteresis	**ERH-xx-04, -06, -07**	10, 20, 30 mm [1]		50…250 mm 100…400 mm	32… 1350 mm [1]	18, 26, 32 mm
	ERH-xx-16, -16.1			50…400mm		13, 24, 37 mm
Min. medium density		0,60 g/cm^3				
Max. medium pressure	**ERH-xx-04, -06, -16**	2,5 MPa [2]			1,6 MPa	2,5 MPa [2]
	ERH-xx-07, -16.1	0,2 MPa				
Max. medium temperature	**ERH-xx-04, -06**	250^{O}C				
	ERH-xx-16	100^{O}C				
	ERH-xx-07, -16.1	70^{O}C				
Ambient temperature		-25…+70^{O}C				
Ingress protection class	**ERH-xx-04, -06, -16**	IP66				
	ERH-xx-07, -16.1	IP68				
Weight	**ERH-xx-yy**	1,8 kg	2,0 kg	2,1 kg	3,0 kg	1,8 kg
	ERH-xx-yy-k	2,6 kg	2,8 kg	2,9 kg	3,8 kg	2,6 kg
	1mb of cable	0,2 kg				
Explosion proof	**ERH-xx-16, -16.1**	II 1/2G c Ex de IIB T4 Ga/Gb				
Application		Liquids without contamination by solid suspensions	Liquids with contamination by solid suspensions	Liquids without contamination by solid suspensions	Liquids without and with contamination by solid suspensions	Liquids without contamination by solid suspensions
Electrical parameters	**ERH-xx-04, -06**	AC15* U ≤ 400V, (50…60)Hz; I ≤ 10A; durability of contacts ≥ 3x10^5 DC13** U_e ≤ 220V=; I ≤ 0,6A; durability of contacts ≥ 0,3x10^5 Minimum voltage and switching current 5V; 5mA Cross section of connecting cables: one-wire 1…2,5mm^2 multi-wire 0,75…1,5mm^2				
	ERH-xx-16, -16.1, -07	AC15* U ≤ 230V, (50…60)Hz; I ≤ 2,5A; durability of contacts ≥ 1x10^7 DC13** U_e ≤ 220V; I ≤ 0,3A; durability of contacts ≥ 1x10^7 Minimum voltage and switching current 5V; 5mA Cross section of connecting cables: one-wire 1mm^2 multi-wire 1mm^2				

Category of usage:
** acc. PN-EN 60947-5-1, Electromagnet control (>72VA)*
*** acc. PN-EN 60947-5-1, Electromagnet control*

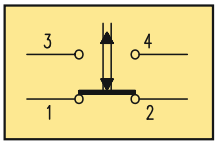
Calculation of contact life for any load



Microswitches

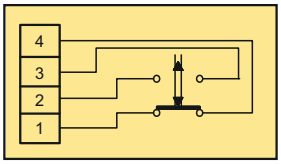
2 independent Single Pole Single Throw (SPST) contact sets

ERH-xx-04, -06, -07



Microswich for standard version **83 140**

ERH-xx-16, -16.1



Microswitch for Ex version **ER3-1536**

1) Larger hysteresis (rod length) available upon request
2) 4 MPa pressure version available upon request

Ordering procedure

ERH-01	Level switch with flange connection 92x92		
ERH-02	Level switch with flange connection 92x92 with protection sleeve		
	-04	Standard version IP66	
	-06	Maritime version IP66	
	-07	Submersible version IP68	
	-16	Explosion proof version IP66	
	-16.1	Submersible explosion proof version IP68	
		-1	Hysteresis 10mm
		-2	Hysteresis 20mm
		-3	Hysteresis 30mm
	*	**-4-0**	Bent arm A=125mm B=125mm
		-4-1	Bent arm A=185mm B=80mm
		-4-2	Bent arm A=250mm B=125mm
		-4-3	Bent arm A=140mm B=120mm
		-4-4	Bent arm A=100mm B=120mm
		-4-5	Bent arm A=120mm B=80mm
		-4-6	Bent arm A=150mm B=80mm
		-4-x	Bent arm acc. to customer specification
Options for ERH-xx-04, -06, -07		**-1**	Without cable
		-2	With 3m of cable – other length upon request
		-k	Stainless steel version

** for cranked arm (type L) the following conditions must be met:*
A+B=max.1000mm and A/B≤4; Amin.=50mm; Bmin.=50mm

ERH-03	Level switch with flange connection 92x92 with adjustable hysteresis		
	-04	Standard version IP66	
	-06	Maritime version IP66	
	-07	Submersible version IP68	
	-16	Explosion proof version IP66	
	-16.1	Submersible explosion proof version IP68	
	Options for ERH-xx-04, -06, -07 **		
		-1	Hysteresis 100…400mm
		-2	Hysteresis 50…250mm
Options for ERH-xx-04, -06, -07		**-1**	Without cable
		-2	With 3m of cable – other length upon request
		-k	Stainless steel version

*** for ERH-xx-16 and -16.1 there is one version with hysteresis 50…200mm*

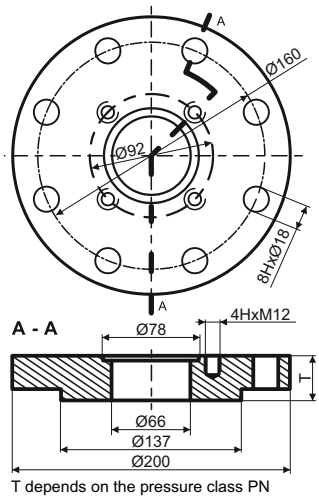
ERH-04	Level switch with flange connection 92x92 top mounted		
	-04	Standard version IP66	
	-06	Maritime version IP66	
	-07	Submersible version IP68	
	-16	Explosion proof version IP66	
	-16.1	Submersible explosion proof version IP68	
Options for ERH-xx-04, -06, -07		**-1**	Without cable
		-2	With 3m of cable – other length upon request
		-k	Stainless steel version

ERH-07	Level switch with threaded connection R2” (2”BSPT)		
ERH-08	Level switch with threaded connection G2” (2”BSPP)		
ERH-09	Level switch with threaded connection 2”NPT		
	-04	Standard version IP66	
	-06	Maritime version IP66	
	-07	Submersible version IP68	
	-16	Explosion proof version IP66	
	-16.1	Submersible explosion proof version IP68	
		-1	Hysteresis 18mm (for Ex version 13mm)
		-2	Hysteresis 26mm (for Ex version 24mm)
		-3	Hysteresis 32mm (for Ex version 37mm)
Options for ERH-xx-04, -06, -07		**-1**	Without cable
		-2	With 3m of cable – other length upon request
		-k	Stainless steel version

Level switches ERH-01 and ERH-02 with float ER2-1661 avaliable upon request.

Accessories

Flange DN80/ANSI 3"
stainless steel 316L



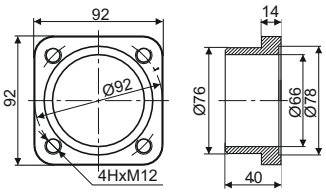
T depends on the pressure class PN

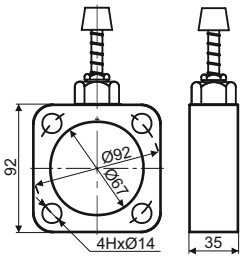
Connection flange according to customer specification (DIN, ANSI, JIS) upon request.

Counterflange

ER2-1646-1 alloy steel 4130
ER2-1646-2 stainless steel 316

For assembly with a tester:
ER2-1646-1/L alloy steel 4130
ER2-1646-2/L stainless steel 316



Spindles, washers and nuts included.

Tester ER3-1560-2
stainless steel 316/316L