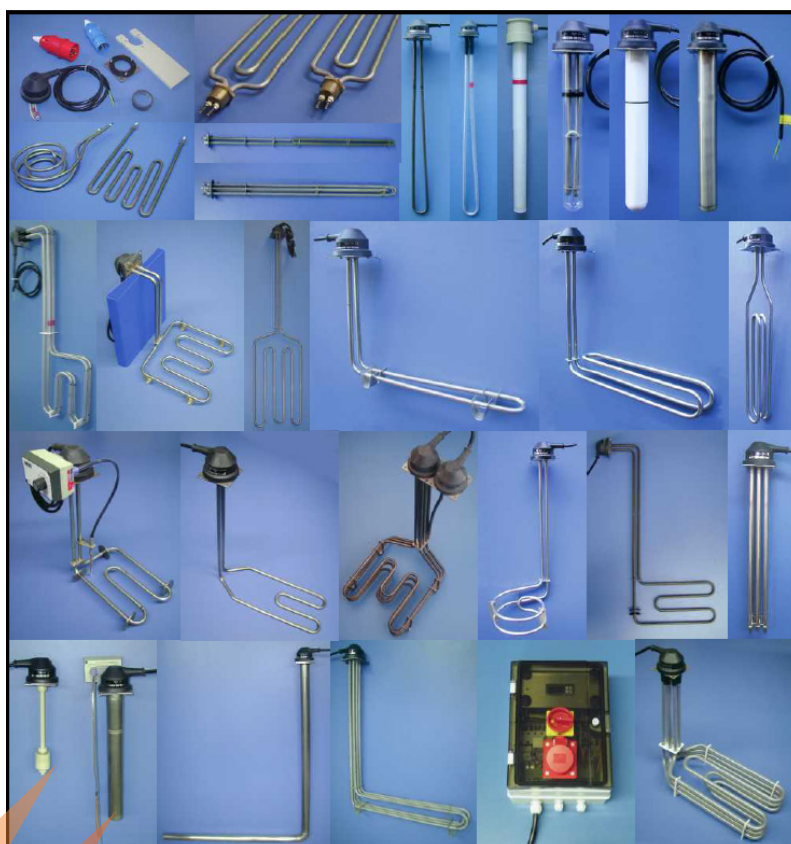


BADVARMERE



BADVARMERE

R- types

R- types are immersion heaters with a tube as coat .

They consist of:

- MAWO- Cover cap with supply line
- flange combination
- Heating insert/ heating cartridge
- casing tube

These components can also be purchased and exchanged separately.

R- types tube materials:

- R Mild Steel Ø 42 mm
- R Mild Steel Ø 45 mm
- R Stainless Steel 1.4571 Ø 42 mm
- R Titanium 3.7035 Ø 42 mm
- R Glass Ø 48 mm
- R Quartz glass Ø 48 mm
- R Hard porcelain Ø 48 mm
- R PTFE Ø 49 mm



R- types

Immersion heaters with a tube as coat

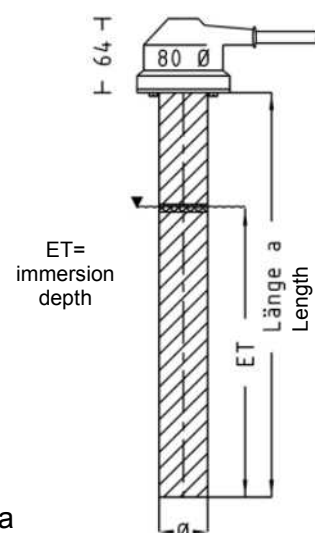
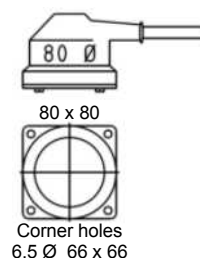
R Mild Steel Ø 42 mm

Length mm	ET mm	Power Watt	Availability	
			230V~	400V ³ ~ (also 230V 3~)
300	230	500	x	
350	250	500	x	
450	350	750	x	
450	350	1000	x	
450	350	1500	x	x
600	250	1000	x	
600	400	1300	x	
600	450	500	x	
600	450	1000	x	
600	450	1500	x	*
600	450	2000	x	x
600	450	2500	x	x
670	500	2000	x	x
670	500	3000	x	x
800	600	666	x	
800	600	888	x	
800	600	1500	x	x
800	600	2000	x	*
800	600	2500	x	*
800	600	3000	x	x
1000	700	3000	x	x
1000	800	2000	x	*
1000	800	2500	x	*
1000	800	3000	x	
1100	900	1000	x	
1100	900	3000	x	*
1100	900	3500	x	x
1100	900	5000		x
1300	900	3000	x	x
1300	900	5000		x
1300	1100	1000	x	
1300	1100	3000	x	
1400	1150	3000	x	x
1800	1100	4000		x
1800	1100	5000		x
1800	1400	4000		x
2000	1550	4000		x

* also available with 400V²~



Protection class IP 66



The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V



The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included. General conditions for the supply of products and services of the electrical industry.

R- types

Immersion heaters with a tube as coat

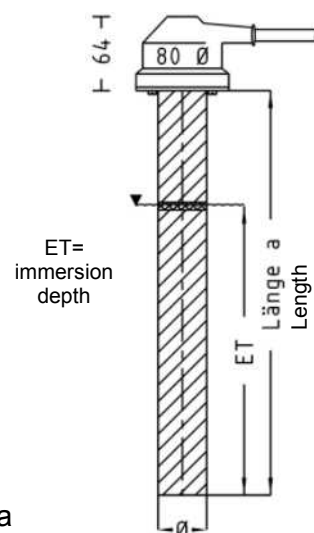
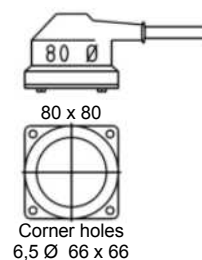
R Mild Steel Ø 45 mm

Length mm	ET mm	Power Watt	Availability	
			230V~	400V ³ ~ (also 230V 3~)
300	230	500	x	
350	250	500	x	
450	350	750	x	
450	350	1000	x	
450	350	1500	x	x
600	250	1000	x	
600	400	1300	x	
600	450	500	x	
600	450	1000	x	
600	450	1500	x	*
600	450	2000	x	x
600	450	2500	x	x
670	500	2000	x	x
670	500	3000	x	x
800	600	666	x	
800	600	833	x	
800	600	1500	x	x
800	600	2000	x	*
800	600	2500	x	*
800	600	3000	x	x
1000	700	3000	x	x
1000	800	2000	x	*
1000	800	2500	x	*
1000	800	3000	x	
1100	900	1000	x	
1100	900	3000	x	*
1100	900	3500	x	x
1100	900	5000		x
1300	900	3000	x	x
1300	900	5000		x
1300	1100	1000	x	
1300	1100	3000	x	
1400	1150	3000	x	x
1800	1100	4000		x
1800	1100	5000		x
1800	1400	4000		x
2000	1550	4000		x

* also available with 400V²~



Protection class IP 66



The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

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R- types

Immersion heaters with a tube as coat

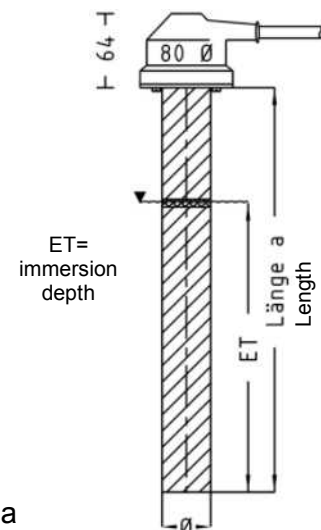
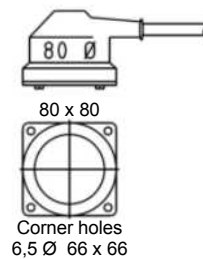
R Stainless Steel 1.4571 Ø 42 mm

Length mm	ET mm	Power Watt	Availability	
			230V~	400V ³ ~ (also 230V 3~)
300	230	500	x	
350	250	500	x	
450	350	750	x	
450	350	1000	x	
450	350	1500	x	x
600	250	1000	x	
600	400	1300	x	
600	450	500	x	
600	450	1000	x	
600	450	1500	x	*
600	450	2000	x	x
600	450	2500	x	x
670	500	2000	x	x
670	500	3000	x	x
800	600	666	x	
800	600	833	x	
800	600	1500	x	x
800	600	2000	x	*
800	600	2500	x	*
800	600	3000	x	x
1000	700	3000	x	x
1000	800	2000	x	*
1000	800	2500	x	*
1000	800	3000	x	
1100	900	1000	x	
1100	900	3000	x	*
1100	900	3500	x	x
1100	900	5000		x
1300	900	3000	x	x
1300	900	5000		x
1300	1100	1000	x	
1300	1100	3000	x	
1400	1150	3000	x	x
1800	1100	4000		x
1800	1100	5000		x
1800	1400	4000		x
2000	1550	4000		x

* also available with 400V²~



Protection class IP 66



The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V



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R- types

Immersion heaters with a tube as coat

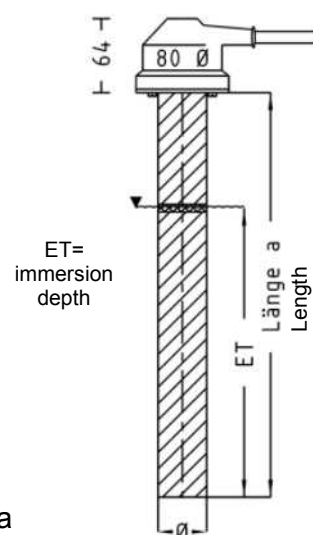
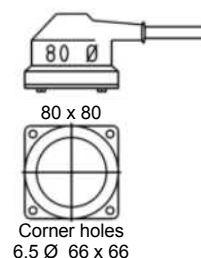
R Titanium 3.7035 Ø 42 mm

Length mm	ET mm	Power Watt	230V~	400V ³ ~ (also 230V 3~)
300	230	500	x	
350	250	500	x	
450	350	750	x	
450	350	1000	x	
450	350	1500	x	x
600	250	1000	x	
600	400	1300	x	
600	450	500	x	
600	450	1000	x	
600	450	1500	x	*
600	450	2000	x	x
600	450	2500	x	x
670	500	2000	x	x
670	500	3000	x	x
800	600	666	x	
800	600	833	x	
800	600	1500	x	x
800	600	2000	x	*
800	600	2500	x	*
800	600	3000	x	x
1000	700	3000	x	x
1000	800	2000	x	*
1000	800	2500	x	*
1000	800	3000	x	
1100	900	1000	x	
1100	900	3000	x	*
1100	900	3500	x	x
1100	900	5000		x
1300	900	3000	x	x
1300	900	5000		x
1300	1100	1000	x	
1300	1100	3000	x	
1400	1150	3000	x	x
1800	1100	4000		x
1800	1100	5000		x
1800	1400	4000		x
2000	1550	4000		x

* also available with 400V²~



Protection class IP 66



The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

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R- types

Immersion heaters with a tube as coat

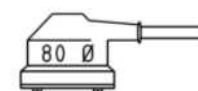
R Glass Ø 48 mm

Length mm	ET mm	Power Watt	Availability	
			230V~	400V ³ ~ (also 230V 3~)
350	250	500	x	
450	350	750	x	
450	350	1000	x	
450	350	1500	x	x
600	250	1000	x	
600	400	1300	x	
600	450	500	x	
600	450	1000	x	
600	450	1500	x	x
600	450	2000	x	x
600	450	2500	x	x
670	500	2000	x	x
670	500	3000	x	x
800	600	666	x	
800	600	833	x	
800	600	1500	x	x
800	600	2000	x	x
800	600	2500	x	x
800	600	3000	x	x
1000	700	3000	x	x
1000	800	2000	x	
1000	800	2500	x	
1000	800	3000	x	
1100	900	1000	x	
1100	900	3000	x	x
1100	900	3500	x	x
1100	900	5000		x
1300	900	3000	x	x
1300	900	5000		x
1300	1100	1000	x	
1300	1100	3000	x	
1800	1100	4000		x
1800	1100	5000		x
1800	1400	4000		x

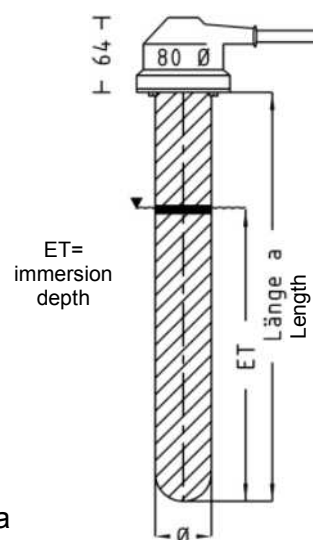
* also available with 400V²~



Protection class IP 66



80 x 80
Corner holes
6,5 Ø 66 x 66



The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V



The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included. General conditions for the supply of products and services of the electrical industry.

R- types

Immersion heaters with a tube as coat

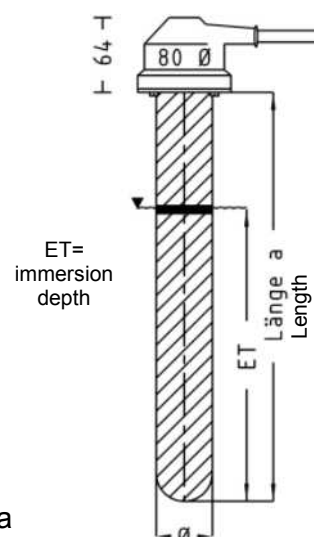
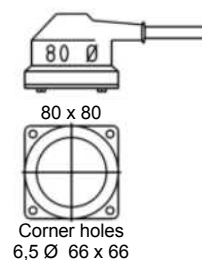
R Quartz glass Ø 48 mm

Length mm	ET mm	Power Watt	Availability	
			230V~	400V ³ ~ (also 230V 3~)
300	230	500	x	
350	250	500	x	
450	350	750	x	
450	350	1000	x	
450	350	1500	x	x
600	250	1000	x	
600	400	1300	x	
600	450	500	x	
600	450	1000	x	
600	450	1500	x	*
600	450	2000	x	x
600	450	2500	x	x
670	500	2000	x	x
670	500	3000	x	x
800	600	666	x	
800	600	833	x	
800	600	1500	x	x
800	600	2000	x	*
800	600	2500	x	*
800	600	3000	x	x
1000	700	3000	x	x
1000	800	2000	x	*
1000	800	2500	x	*
1000	800	3000	x	
1100	900	1000	x	
1100	900	3000	x	*
1100	900	3500	x	x
1100	900	5000		x
1300	900	3000	x	x
1300	900	5000		x
1300	1100	1000	x	
1300	1100	3000	x	
1800	1100	4000		x
1800	1100	5000		x
1800	1400	4000		x

* also available with 400V²~



Protection class IP 66



The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

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R- types

Immersion heaters with a tube as coat

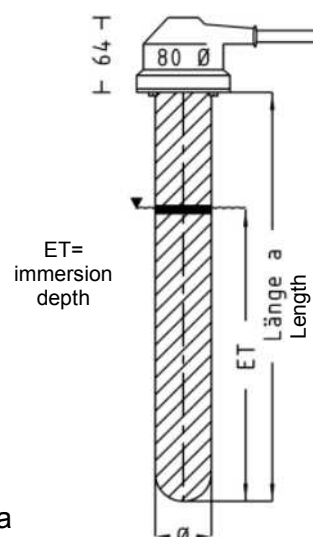
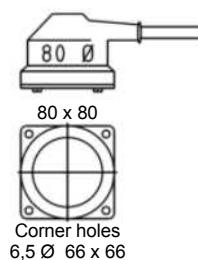
R Hard Porcelain Ø 48 mm

Length mm	ET mm	Power Watt	Availability	
			230V~	400V ³ ~ (also 230V 3~)
300	230	500	x	
350	250	500	x	
450	350	750	x	
450	350	1000	x	
450	350	1500	x	x
600	250	1000	x	
600	400	1300	x	
600	450	500	x	
600	450	1000	x	
600	450	1500	x	*
600	450	2000	x	x
600	450	2500	x	x
670	500	2000	x	x
670	500	3000	x	x
800	600	666	x	
800	600	833	x	
800	600	1500	x	x
800	600	2000	x	*
800	600	2500	x	*
800	600	3000	x	x
1000	700	3000	x	x
1000	800	2000	x	*
1000	800	2500	x	*
1000	800	3000	x	
1100	900	1000	x	
1100	900	3000	x	*
1100	900	3500	x	x
1100	900	5000		x
1300	900	3000	x	x
1300	900	5000		x
1300	1100	1000	x	
1300	1100	3000	x	

* also available with 400V²~



Protection class IP 66



The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V



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R- types

Immersion heaters with a tube as coat

R PTFE Ø 49 mm

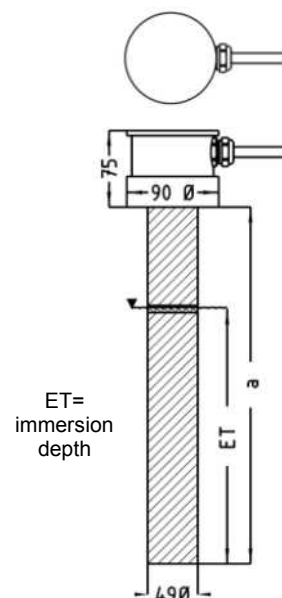
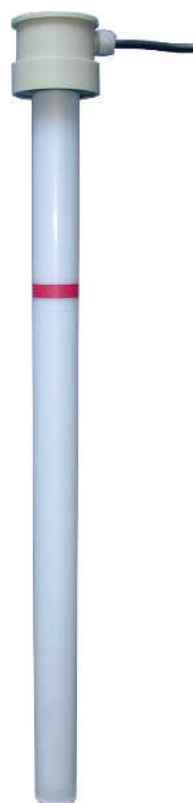
**230V alternating current (AC)- or
400V three-phase- version:**

R- Type PTFE Ø 49 mm				230V~	400V ³ ~ (also 230V3~)
Power Watt	a mm	ET mm	T max. °C		
750	450	350	110 °C	x	-
1000	600	450	110 °C	x	x
1500	800	600	110 °C	x	x
2000	1000	750	110 °C	x	x
2500	1200	950	110 °C	x	x
3000	1400	1150	110 °C	x	x
4000	2000	1550	110 °C	-	x



T max. = maximum bath temperature

All listed types are also available with other power (wattage) and immersion depths (ET) on request.



The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

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General conditions for the supply of products and services of the electrical industry.



R- types

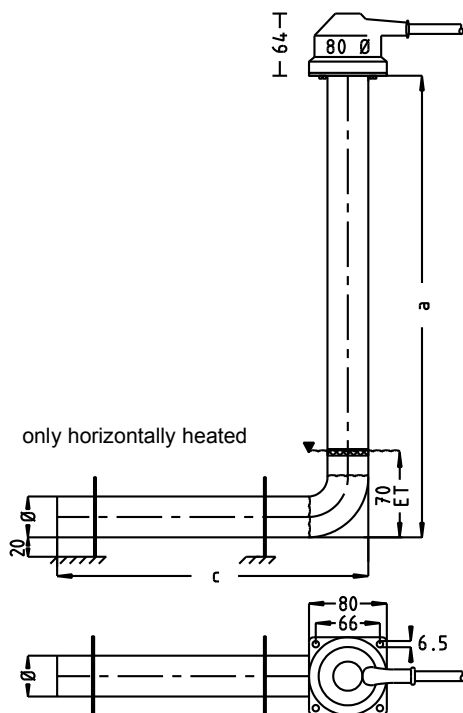
Immersion heaters with a tube as coat

R Angular Immersion Heaters Ø 42 mm

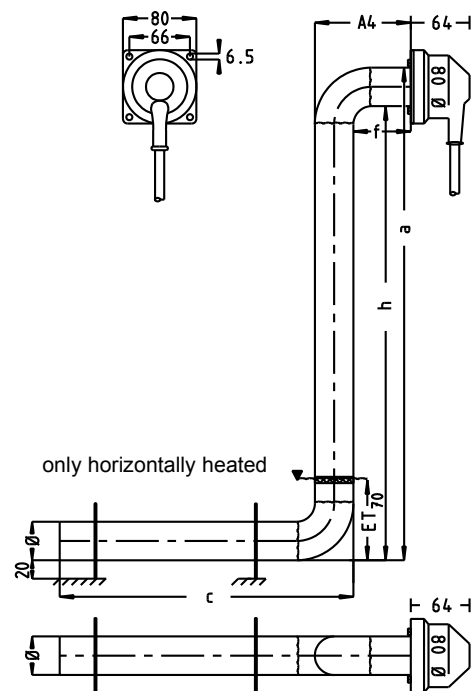
Mild Steel

Stainless Steel 1.4571

Titanium 3.7035



ET=
immersion
depth



Protection class IP 66

Individual production according to customer requirements.
Various versions with 230V~, 400V²~, 230V³~ and 400V³~ possible.

Price on request.

The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V



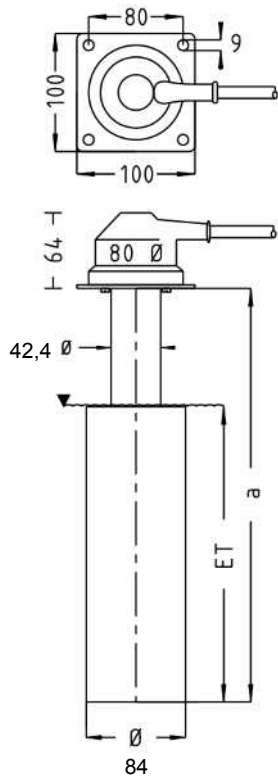
The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.

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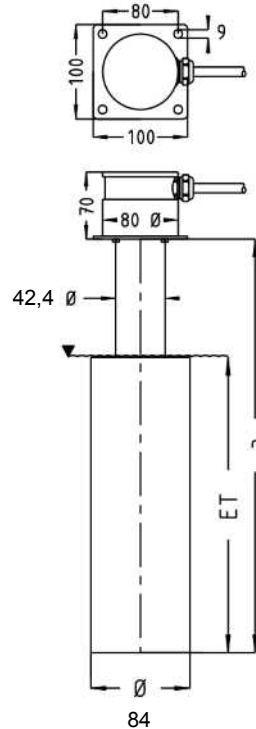
R- types

Immersion heaters with a tube as coat

R Stainless Steel 1.4571 Ø 84 mm / 42,4 mm with reduced surface charge



alternatively
with flange
80 x 80 [mm]



ET=
immersion
depth



Protection class IP 66



on photo with flange 80x80

Stainless Steel immersion heaters with reduced surface load.
Purpose: for example phosphating baths
Individual production according to customer requirements.
Various versions with 230V~, 400V²~, 230V³~ and 400V³~ possible.

Price on request.

The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

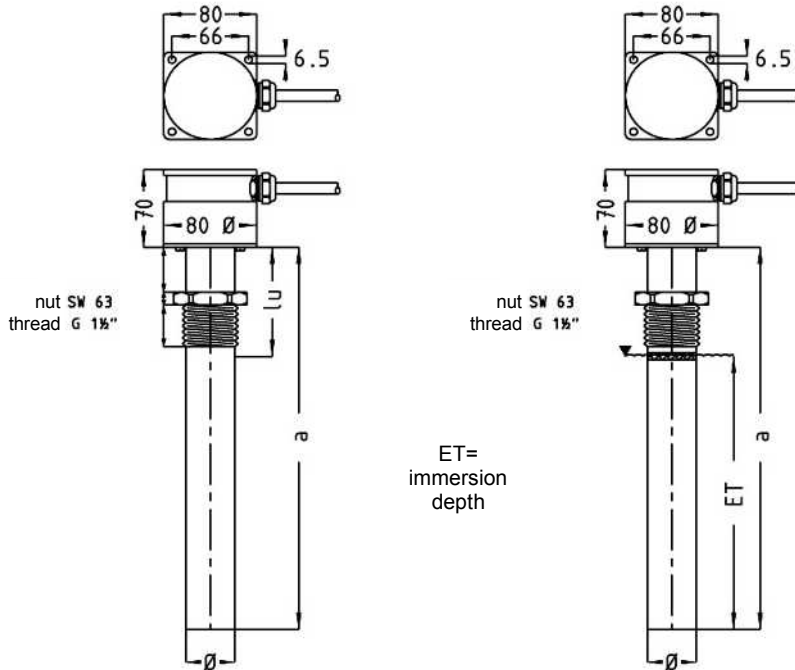
The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.



R- types

Immersion heaters with a tube as coat

R Stainless Steel 1.4571 Ø 42 mm alternatively Ø 42,4 mm with welded nut and thread



Individual production according to customer requirements.
Various versions with 230V~, 400V²~, 230V³~ and 400V³~ possible.

Price on request.

The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V



The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.

230V alternating current (AC)- Cartridges

Cartridges for replacement

R- types

Length mm	ET mm	Power Watt	Cartridge for replacement 230V~
300	230	500	x
350	250	500	x
450	350	750	x
450	350	1000	x
450	350	1500	x
600	250	1000	x
600	400	1300	x
600	450	500	x
600	450	1000	x
600	450	1500	x *
600	450	2000	x
600	450	2500	x
670	500	2000	x
670	500	3000	x
800	600	666	x
800	600	833	x
800	600	1500	x
800	600	2000	x *
800	600	2500	x *
800	600	3000	x
1000	700	3000	x
1000	800	2000	x *
1000	800	2500	x *
1000	800	3000	x
1100	900	1000	x
1100	900	3000	x *
1100	900	3500	x
1300	900	3000	x
1300	1100	1000	x
1300	1100	3000	x
1400	1150	3000	x

* also available with 400V²~

ET=
immersion
depth



400V three-phase- Cartridges

Length mm	ET mm	Power Watt	Cartridge for replacement 400V ³ ~ (also 230V 3~)
450	350	1500	x
600	450	1500	x
600	450	2000	x
600	450	2500	x
670	500	2000	x
670	500	3000	x
800	600	1500	x
800	600	2000	x
800	600	2500	x
800	600	3000	x
1000	700	3000	x
1100	900	3000	x
1100	900	3500	x
1100	900	5000	x
1300	900	3000	x
1300	900	5000	x
1400	1150	3000	x
1800	1100	4000	x
1800	1100	5000	x
1800	1400	4000	x
2000	1550	4000	x

Special voltages possible,
e.g. 115V, 127V, 208V, 277V, 415V,
440V, 460V, 480V



The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.



Tubes for replacement R-types

Mild Steel 42 Ø

Length mm	ET mm	Tube for replacement
300	230	x
350	250	x
450	350	x
600	250	x
600	400	x
600	450	x
670	500	x
800	600	x
1000	700	x
1000	800	x
1100	900	x
1300	900	x
1300	1100	x
1400	1150	x
1800	1100	x
1800	1400	x
2000	1550	x



ET=
immersion
depth

Mild Steel 45 Ø

Length mm	ET mm	Tube for replacement
300	230	x
350	250	x
450	350	x
600	250	x
600	400	x
600	450	x
670	500	x
800	600	x
1000	700	x
1000	800	x
1100	900	x
1300	900	x
1300	1100	x
1400	1150	x
1800	1100	x
1800	1400	x
2000	1550	x

Stainless Steel 1.4571 42 Ø

Length mm	ET mm	Tube for replacement
300	230	x
350	250	x
450	350	x
600	250	x
600	400	x
600	450	x
670	500	x
800	600	x
1000	700	x
1000	800	x
1100	900	x
1300	900	x
1300	1100	x
1400	1150	x
1800	1100	x
1800	1400	x
2000	1550	x



Titanium 3.7035 42 Ø

Length mm	ET mm	Tube for replacement
300	230	x
350	250	x
450	350	x
600	250	x
600	400	x
600	450	x
670	500	x
800	600	x
1000	700	x
1000	800	x
1100	900	x
1300	900	x
1300	1100	x
1400	1150	x
1800	1100	x
1800	1400	x
2000	1550	x

Titanium: Price surcharge reserved

Stainless Steel: Price surcharge reserved



The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.

Tubes for replacement R-types

Glass 48 Ø

Length mm	ET mm	Tube for replacement
350	250	x
450	350	x
600	250	x
600	400	x
600	450	x
670	500	x
800	600	x
1000	700	x
1000	800	x
1100	900	x
1300	900	x
1300	1100	x
1800	1100	x
1800	1400	x



Quartz glass 48 Ø

Length mm	ET mm	Tube for replacement
300	230	x
350	250	x
450	350	x
600	250	x
600	400	x
600	450	x
670	500	x
800	600	x
1000	700	x
1000	800	x
1100	900	x
1300	900	x
1300	1100	x
1800	1100	x
1800	1400	x



ET=
immersion
depth

Hard porcelain 48 Ø

Length mm	ET mm	Tube for replacement
300	230	x
350	250	x
450	350	x
600	250	x
600	400	x
600	450	x
670	500	x
800	600	x
1000	700	x
1000	800	x
1100	900	x
1300	900	x
1300	1100	x

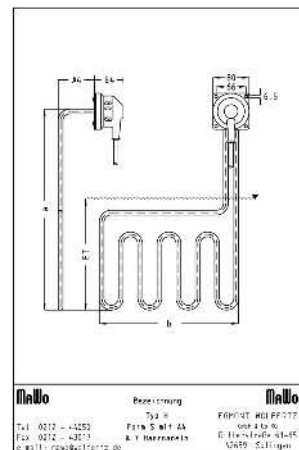
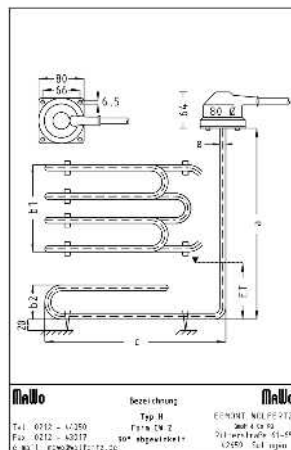
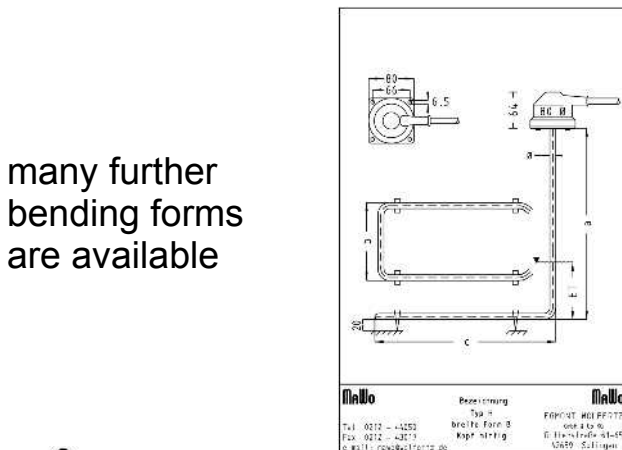
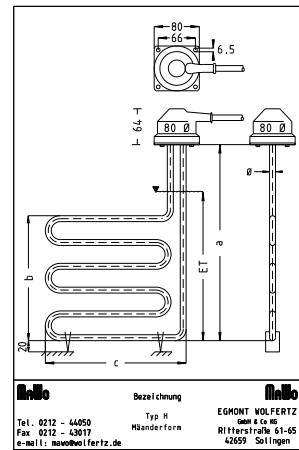
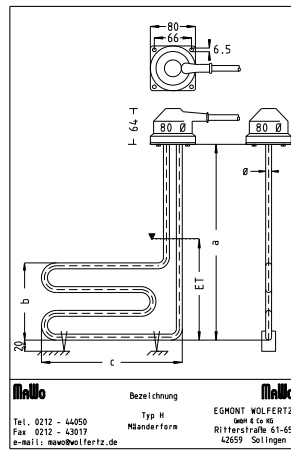
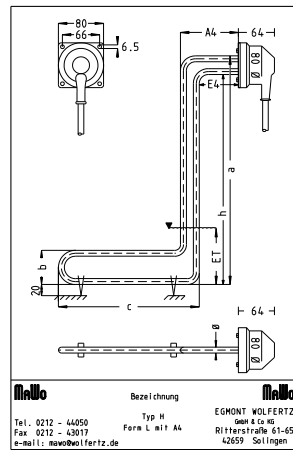
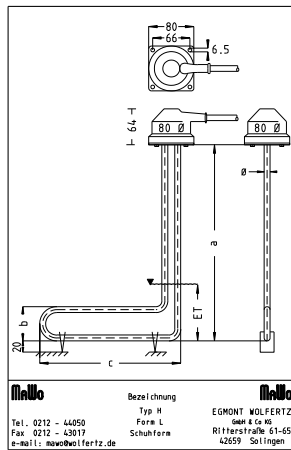
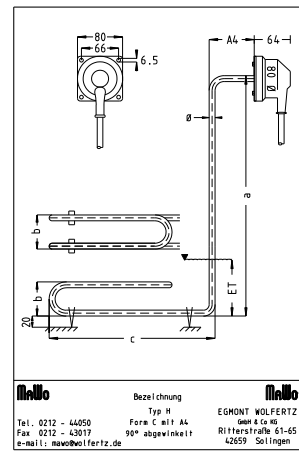
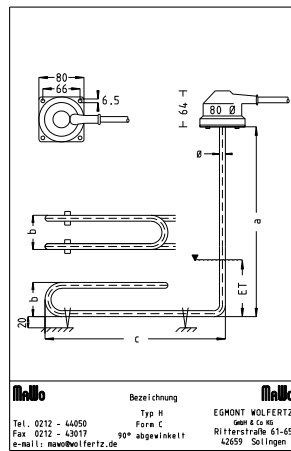
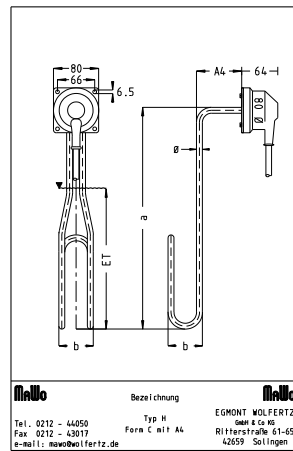
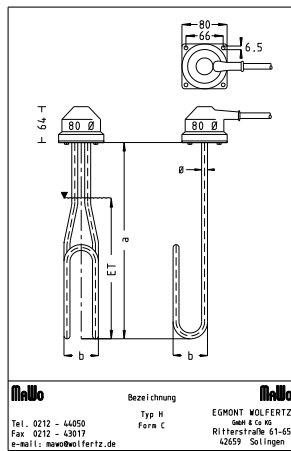
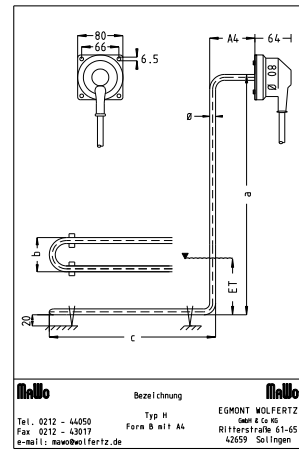
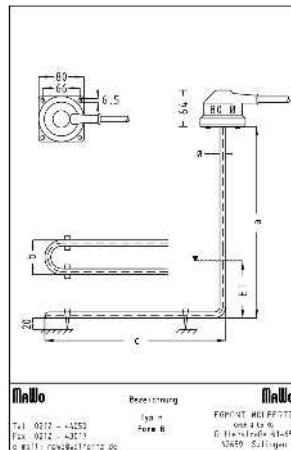
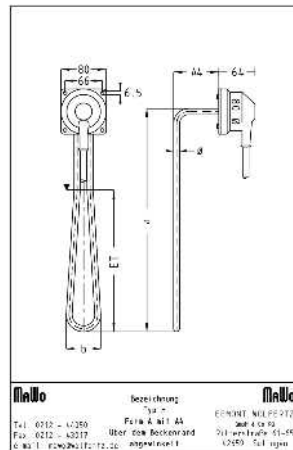
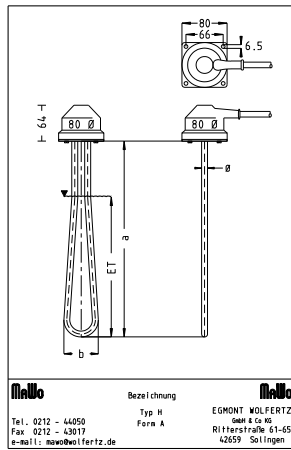


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H- types

Bending forms, 1-part, alternating current

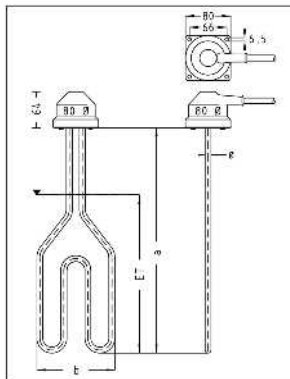


many further
bending forms
are available

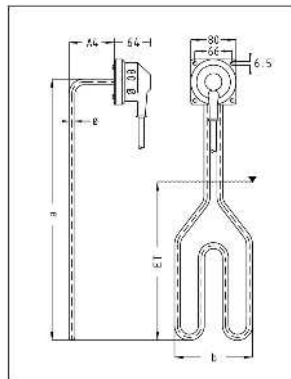


H- types

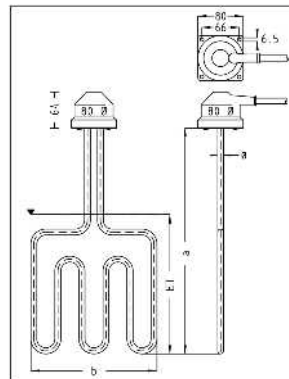
Bending forms, 1-part, alternating current



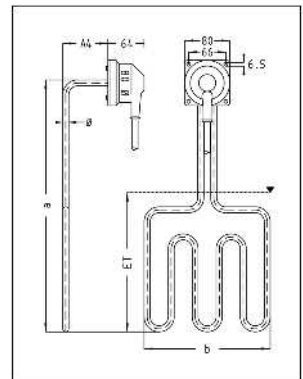
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Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



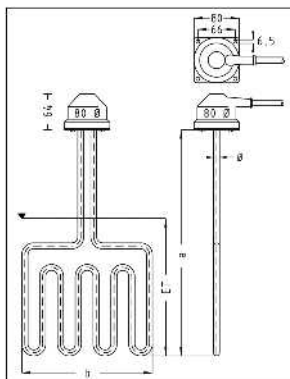
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Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit A4**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



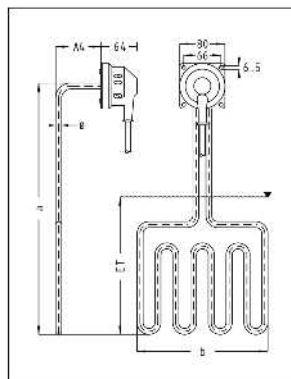
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Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit 5 Harnrodeln**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



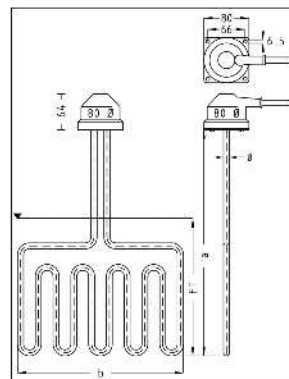
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Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit A4 & 1 Harnrodel**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



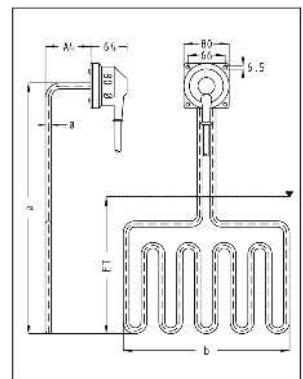
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Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit 7 Harnrodeln**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



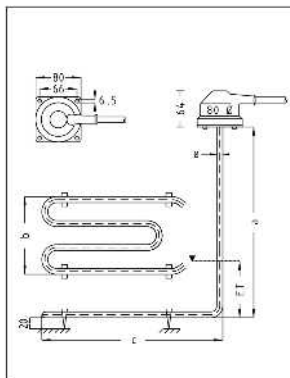
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Typ: **Typ H**
Form: **Form W mit A4 & 1 Harnrodel**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



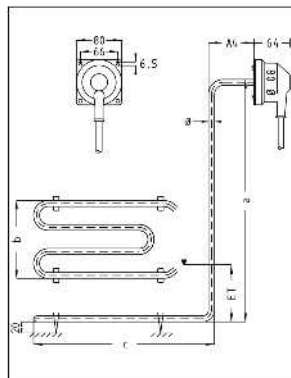
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Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit 9 Harnrodeln**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



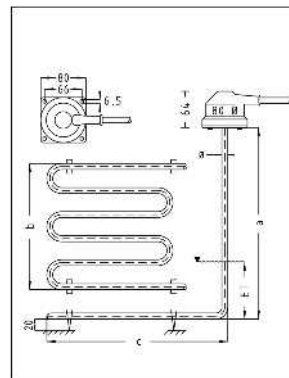
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Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



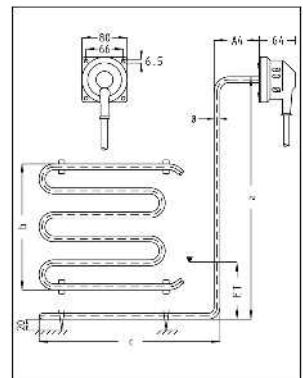
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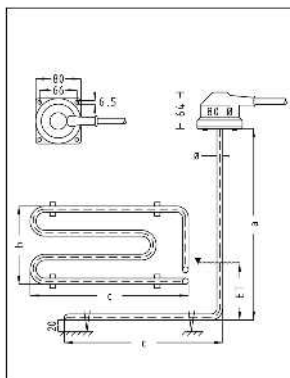
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Form: **Form W mit A4 & 1 Harnrodel**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



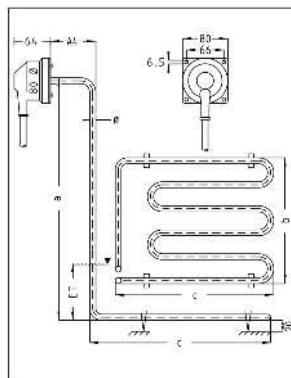
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Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit 5 Harnrodeln**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



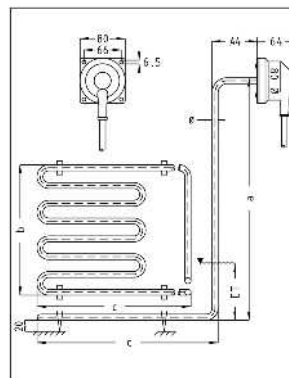
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Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit A4 & 9 Harnrodeln**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



NeWo **NeWo**
Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit 3 Harnrodeln**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



NeWo **NeWo**
Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit 5 Harnrodeln**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



NeWo **NeWo**
Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit 5 Harnrodeln**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk



NeWo **NeWo**
Bezeichnung: **FORMAT NULP-212**
Typ: **Typ H**
Form: **Form W mit 5 Harnrodeln**
Teil: 0212 - 4250
Fax: 0212 - 42517
E-Mail: cfw@newtronic.dk

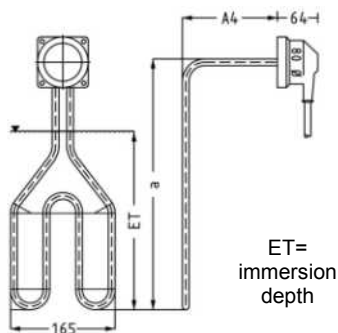
many further
bending forms
are available



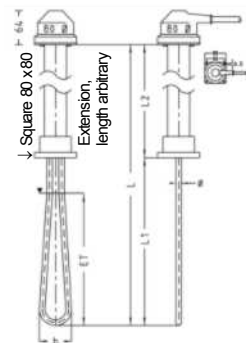
H- types

Titanium- and Stainless Steel- Immersion heaters

with bent head (A4):



with extension:



with assembled thermostat:



with assembled thermostat
and with temperature safety device:



with temperature safety device:



A sensor tube with a temperature fuse is attached to the immersion heater. The connection cable of the cover cap has two more marked wires which are checked for interruption (for example with the contact protection relay). In the case of a dry run, the thermal fuse breaks and this circuit is interrupted. Thereafter, the thermal fuse must be replaced. Suitable thermal fuses can be obtained from us.

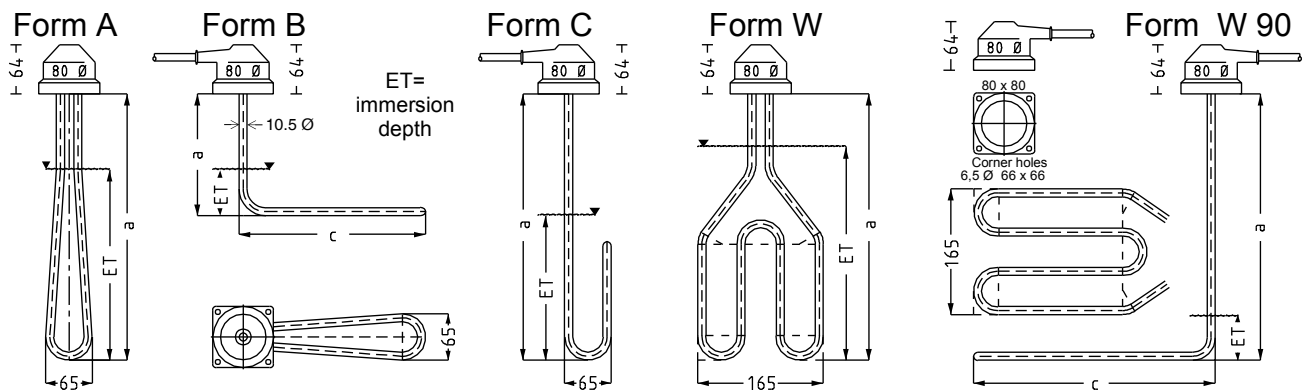
many further bending forms:



many further bending forms and versions:



Titanium- and Stainless Steel Immersion heater



H- Type	Form A		Form B			Form C		Form W		Form W 90			Stainless Steel	Titanium
Power	a	ET	a	c	ET	a	ET	a	ET	a	c	ET	Form A**	Form A**
Watt	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	230V~	230V~
500	350	250	160	210	60	240	130						x	x
alternative 1000W 750	450	350	160	310	60	290	180						x	x
750	530	320	210	350	30	370	160	320	190	210	200	30	x	x
1000	600	450	140	480	30	390	230						x	x
1000	750	450	290	480	30	520	220	550	270	290	260	30	x	x
1500	600	450	140	480	30	390	230						x	x
alternative 1500W 2000	800	600	190	630	30	515	305						x	x
2500	900	700	190	730	30	565	355						x	x
alternative 2000W 3000	1100	900	190	930	30	665	455						x	x
4000*	1100	900	190	930	30	665	455						x	x
4000	1350	1150	180	1250	30	800	600	900	700	600	450	400	x	x
1500	870	470	400	500	30	670	270	670	280	400	280	30	x	x
1500	1050	450	570	490	30	820	240	840	265	580	280	30	x	x
1500*	1850	1600	240	1650	30	1100	850	1100	850	240	900	30	x	x
1600	1000	500	500	520	30	770	260	770	280	500	290	30	x	x
2000	1000	600	400	620	30	715	305	720	330	400	340	30	x	x
2000	1100	600	500	620	30	815	305	820	330	500	340	30	x	x
2000	1250	600	640	640	30	970	330	975	330	650	350	30	x	x
2000	1350	950	400	970	30	880	490	890	500	400	520	30	x	x
2000	1700	1200	530	1190	30	1120	600	1150	630	530	650	30	x	x
3000	1400	900	500	920	30	965	455	980	490	500	500	30	x	x
3000	1700	1500	200	1540	30	965	750	1150	930	200	780	30	x	x
3000	1900	1500	400	1540	30	1165	775	1170	780	400	800	30	x	x
3000	2150	1500	600	1590	30	1400	750	1600	950	660	800	30	x	x
3000*	2500	2100	400	2150	30	1500	1100	1600	1200	400	1100	30	x	x
4000*	1300	900	400	920	30	865	455	870	480	400	480	30	x	x
4000*	1500	900	590	940	30	1060	470	1080	485	600	500	30	x	x
4000*	1600	1200	400	1220	30	1010	600	1020	630	400	635	30	x	x
4500*	1850	1600	240	1650	30	1100	850	1100	850	240	900	30	x	x
5500*	1900	1500	400	1520	30	1165	755	1165	775	400	780	30	x	x
2000	1800	600	1100	750	30	1500	400	1450	440	1000	450	30	x	x
3000	2100	900	1100	1050	30	1650	550	1600	590	1000	600	30	x	x
4000*	2100	900	1100	1050	30	1650	550	1600	590	1000	600	30	x	x
4000*	2750	2000	780	2000	30	1800	1150	2000	1250	700	1100	30	x	x
5500*	2500	1300	1100	1450	30	1850	750	1800	790	1000	800	30	x	x
2500*	2900	1900	1000	1900	30	1900	1000	2000	1000	1000	1000	30	x	x

*) only 400 V ~ All types are also available in Mild Steel or Incoloy.

**) Forms B, C, W and W90 +surcharge

x Types with reduced surface load

Many further bending forms are available.
Tell us your heating problem. We propose suitable bending forms.

You can order the Forms B, C, W and W 90 with other bending measurements.

If necessary for the installation space, you can order the outside measures of the bends with approx. 40mm.

The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

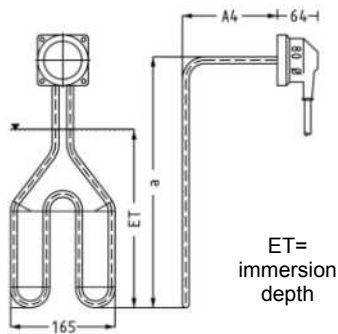
Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.



H- types PFA- (PTFE)- Immersion heaters

with bent head (A4):



with assembled thermostat:



many further bending forms and versions:



H- types

PFA- (PTFE)- Immersion heaters

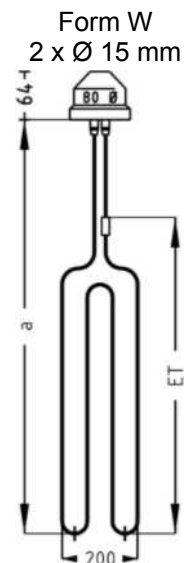
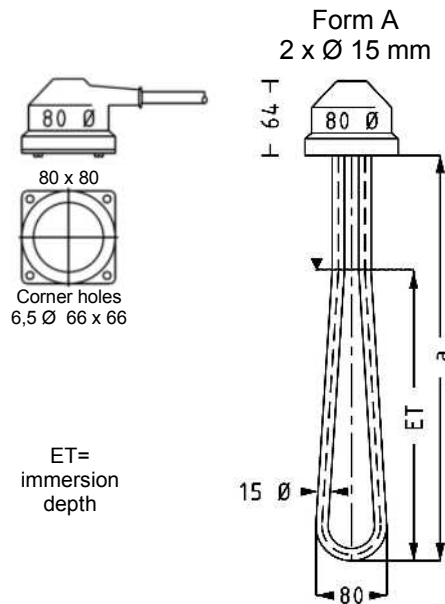
PFA- (PTFE-) 230V~ Immersion heaters 2 x Ø 15 mm

H- Type PFA (PTFE) Form A** 2x Ø 15 mm

Power Watt	a mm	ET mm	T max. °C	230V~
500	350	250	55 °C	x
750	450	350	55 °C	x
1000	600	450	55 °C	x
1400	800	600	55 °C	x
2000	1100	900	55 °C	x
833	800	600	90 °C	x
1000	800	600	90 °C	x
1000	1150	630	90 °C	x
1333	1730	950	90 °C	x
1500	1100	900	90 °C	x
1500	1600	1050	90 °C	x
1500	1700	1050	90 °C	x
2000	1750	1350	90 °C	x
2000	1900	1400	90 °C	x
2000	2000	1450	90 °C	x
2000	2100	1450	90 °C	x
2000	2250	1450	90 °C	x
3000	2600	2100	90 °C	x
3000	2800	2000	90 °C	x
3000	3200	2100	90 °C	x

T max. = maximum bath temperature

** Forms B, C, W and W 90 also possible, Surcharge



All specified types are also available with other bending forms. Please tell us your desired measurements and we design a suitable immersion heater for you. Surcharge.

The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included. General conditions for the supply of products and services of the electrical industry.



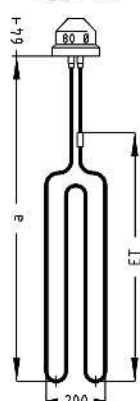
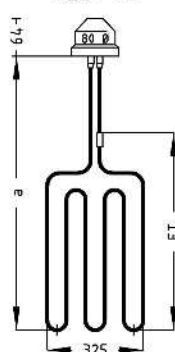
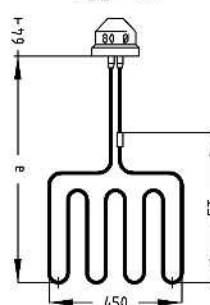
Bending examples of PFA- (PTFE-) Immersion heaters

Form A



Form A		Form A		Form A
Power Watt	Volt	a mm	ET mm	
1500	230	1600	1050	x
1500	230	1700	1050	x
2000	230	1900	1450	x
2000	230	2000	1450	x
2000	230	2100	1450	x
2000	230	2250	1450	x
3000	230	2600	2150	x
3000	230	2800	2000	x

outer sheath:
15 mm Ø PFA-tubing,
suitable up to
bath temperatures of 90°C

Form W
Typ W1Form W
Typ W2Form W
Typ W3

ET=
immersion
depth

Forms W		TYP W1		TYP W2		TYP W3		Forms W
Power Watt	Volt	a mm	ET mm	a mm	ET mm	a mm	ET mm	
1500	230	1100	580	930	420	770	300	x
1500	230	1200	580	1030	420	870	300	x
2000	230	1200	750	950	550	800	400	x
2000	230	1300	750	1050	550	900	400	x
2000	230	1400	750	1150	550	1000	400	x
2000	230	1550	750	1300	550	1150	400	x
3000	230	1550	1100	1200	800	1000	600	x
3000	230	1850	1050	1530	750	1350	600	x

All specified types are also available with other bending forms. Please tell us your desired measurements and we design a suitable immersion heater for you.

The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

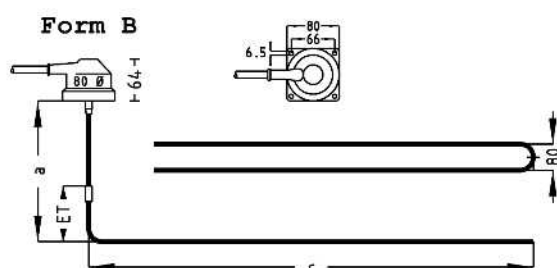
Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V



The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.

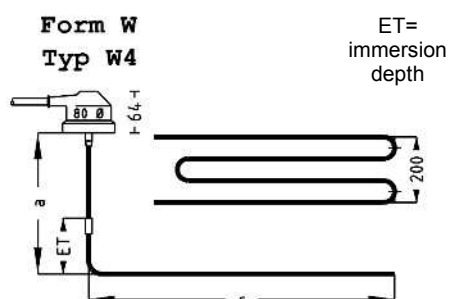
Bending examples of PFA- (PTFE-) Immersion heaters

outer sheath: 15 mm Ø PFA-tubing, suitable up to bath temperatures of 90°C

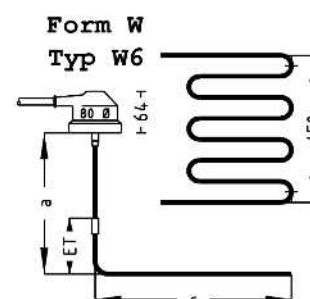
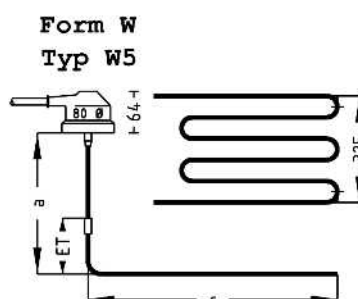


Form B		Form B		Form B
Power Watt	Volt	a mm	c mm	
1500	230	540	1100	x
1500	230	640	1100	x
2000	230	460	1500	x
2000	230	560	1500	x
2000	230	660	1500	x
2000	230	810	1500	x
3000	230	460	2200	x
3000	230	810	2100	x

all bending forms: ET = 35 mm, heating area only in horizontal part



ET=
immersion
depth



Forms W		TYP W4		TYP W5		TYP W6		Forms W
Power Watt	Volt	a mm	c mm	a mm	c mm	a mm	c mm	
1500	230	540	560	540	380	540	240	x
1500	230	640	560	640	380	640	240	x
2000	230	460	760	460	520	460	360	x
2000	230	560	760	560	520	560	360	x
2000	230	660	760	660	520	660	360	x
2000	230	810	760	810	520	810	360	x
3000	230	460	1120	460	750	460	550	x
3000	230	810	1050	810	710	810	500	x

All specified types are also available with other bending forms. Please tell us your desired measurements and we design a suitable immersion heater for you.

The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

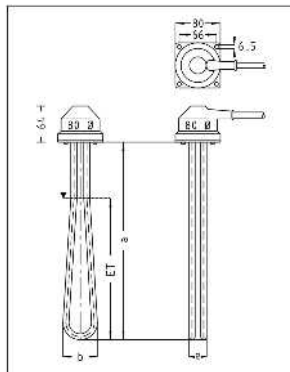
Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included. General conditions for the supply of products and services of the electrical industry.

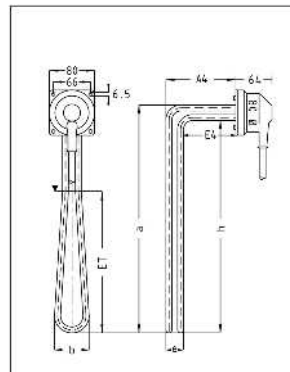


H- types

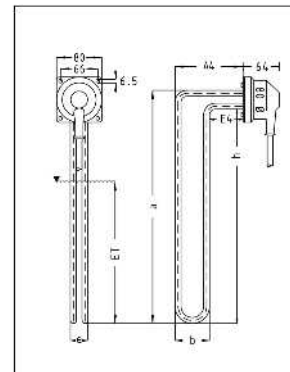
Bending forms, 2-parts, alternating current



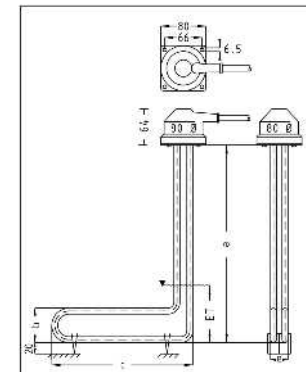
NeWo **NeWo**
Bezeichnung: Typ H
Form A
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



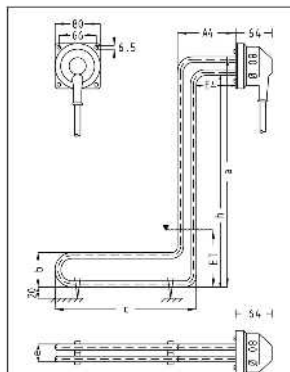
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



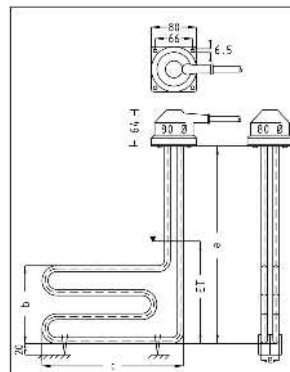
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



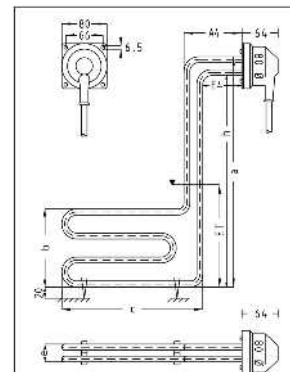
NeWo **NeWo**
Bezeichnung: Typ H
Form A, Schutzhülle
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



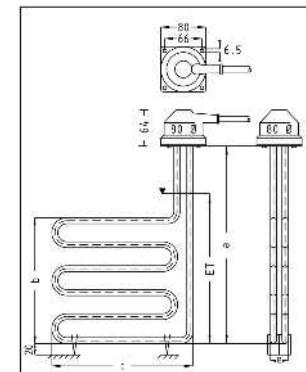
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



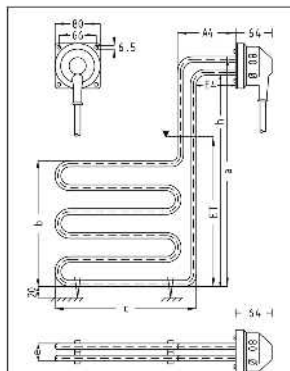
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



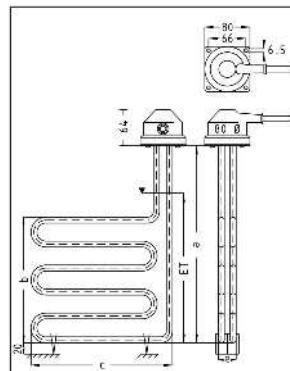
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



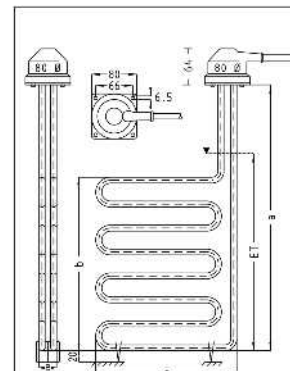
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



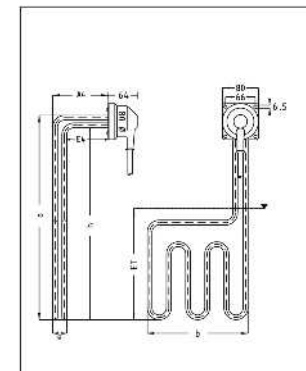
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



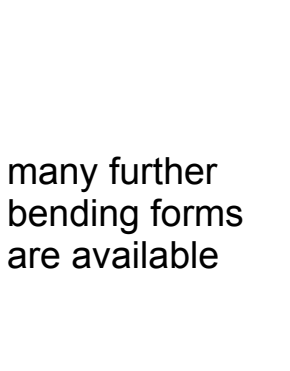
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



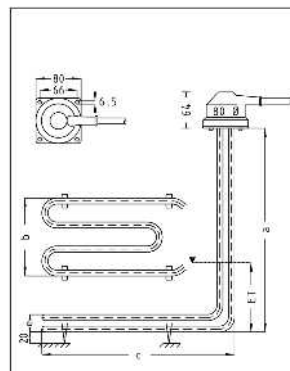
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



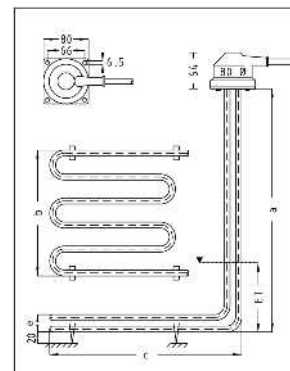
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



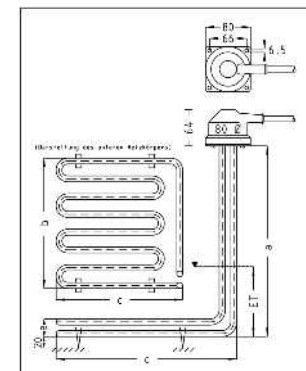
NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20



NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20

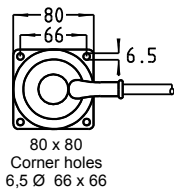
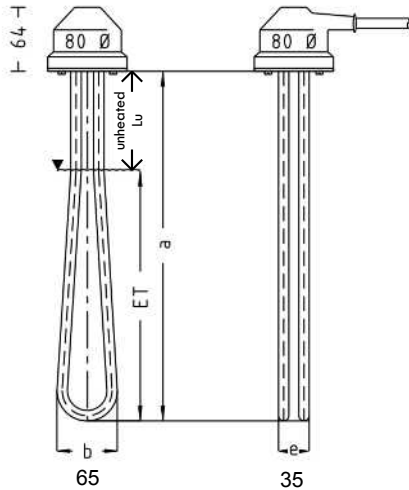


NeWo **NeWo**
Bezeichnung: Typ H
Form A mit 45°
Teil: 0112 - 0120
Fol: 0212 - 0217
G.W. 1. 02W0201/12.20

many further
bending forms
are available



Stainless Steel / Incoloy / Titanium- 2- parts Immersion heaters

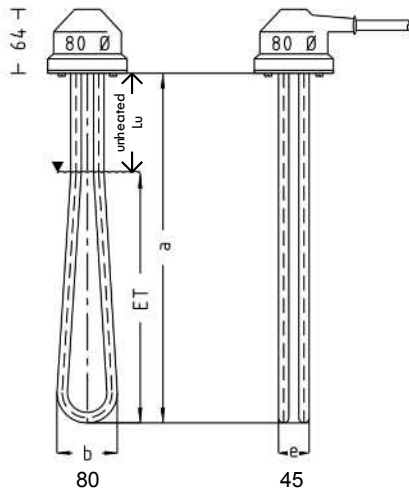


ET=
immersion
depth

H-Type Form A				Stainless Steel 230V~ Price DKK	Incoloy 230V~ Price DKK	Titanium 230V~
Length a mm	ET mm	Lu mm	Power Watt			
350	250	100	1000	x	x	x
450	350	100	1500	x	x	x
450	350	100	2000	x	x	x
530	320	210	1500	x	x	x
600	450	150	2000	x	x	x
600	450	150	3000	x	x	x
750	450	300	2000	x	x	x
800	600	200	3000	x	x	x
870	470	400	3000	x	x	x
1000	500	500	3200	x	x	x
1050	450	600	3000	x	x	x
1850	1600	250	3000	x	x	x

All types are also available in Mild Steel.

PFA- (PTFE-) 2- parts Immersion heaters



H- Type PFA (PTFE) Form A 4x Ø 15 mm 230V~

Power Watt	a mm	ET mm	T max. °C	
1000	350	250	55 °C	x
1500	450	350	55 °C	x
2000	600	450	55 °C	x
2800	800	600	55 °C	x
1666	800	600	90 °C	x
2000	800	600	90 °C	x
2000	1150	630	90 °C	x
2666	1730	950	90 °C	x
3000	1100	900	90 °C	x
3000	1600	1050	90 °C	x
3000	1700	1050	90 °C	x

T max. = maximum bath temperature

All specified types are also available with other bending forms. Please tell us your desired measurements and we design a suitable immersion heater for you. Surcharge.

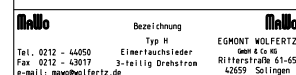
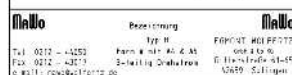
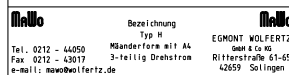
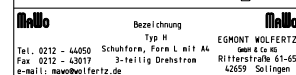
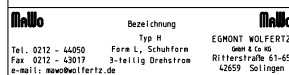
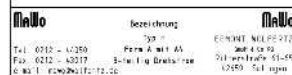
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Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

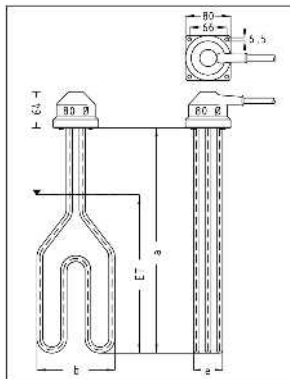
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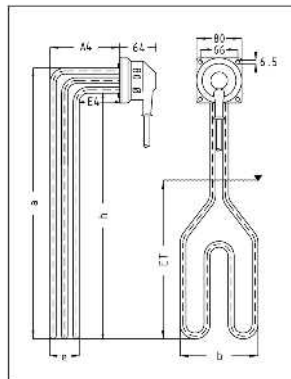


H- types

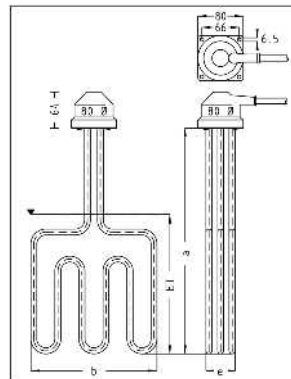
Bending forms, 3-parts, three-phase



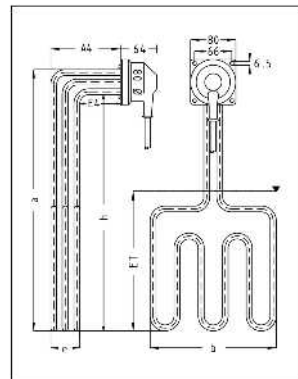
NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



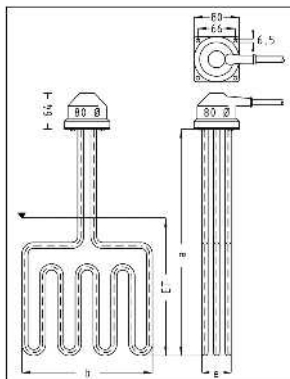
NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 4x
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



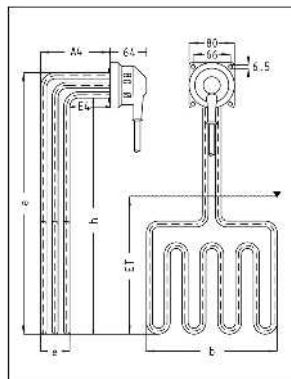
NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 5 Beardschleif
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



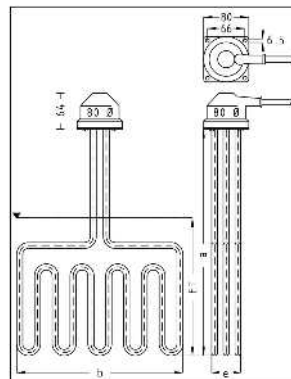
NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 6x
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



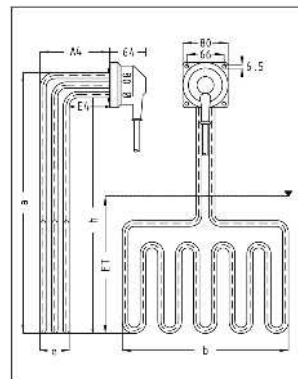
NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 1 Beardschleif
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



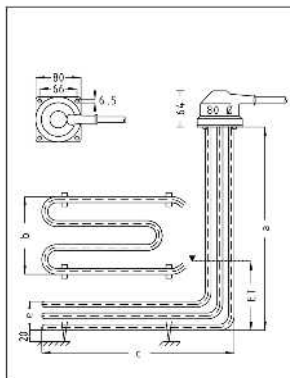
NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 1 Beardschleif
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



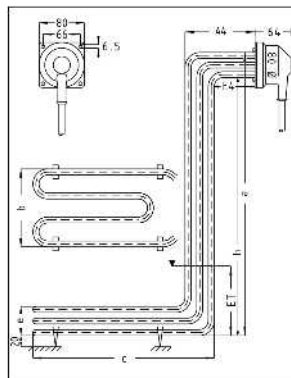
NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 1 Beardschleif
 Fax: 0212 - 42517 3-teilig Drabstrom
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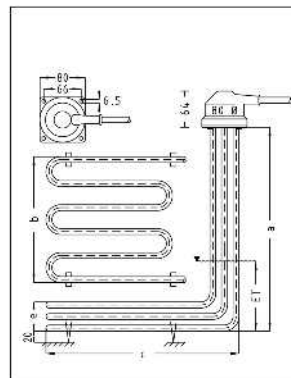
NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 1 Beardschleif
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



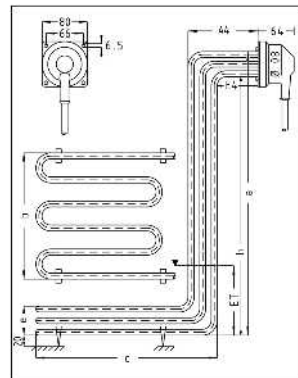
NeWo **NeWo**
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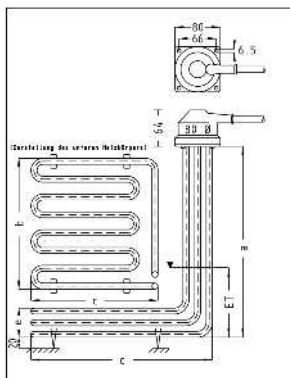
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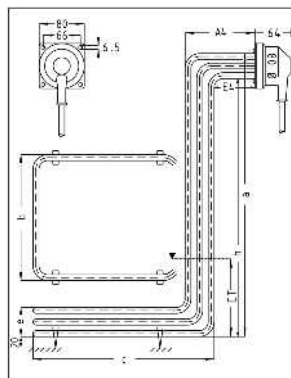
NeWo **NeWo**
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 Teil: 0212 - 4250 Form H mit 1 Beardschleif
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



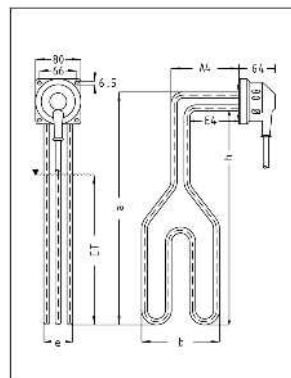
NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 1 Beardschleif
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 1 Beardschleif
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 1 Beardschleif
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20



NeWo **NeWo**
 Bezeichnung: Typ H
 Teil: 0212 - 4250 Form H mit 1 Beardschleif
 Fax: 0212 - 42517 3-teilig Drabstrom
 0 No 1: 02W0211/0212-20

many further
bending forms
are available



H- types, 3-parts, three-phase Stainless Steel/Steel/Incoloy/Titanium

Form A:



Form L (shoe shaped):



with bent head (A4):

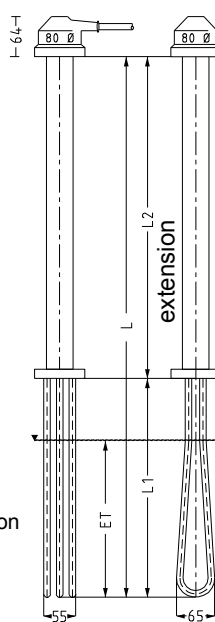


many further bending forms and versions:

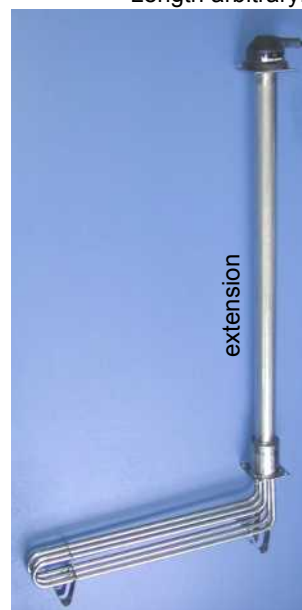


with extension:

All types can be extended.
Length arbitrary.



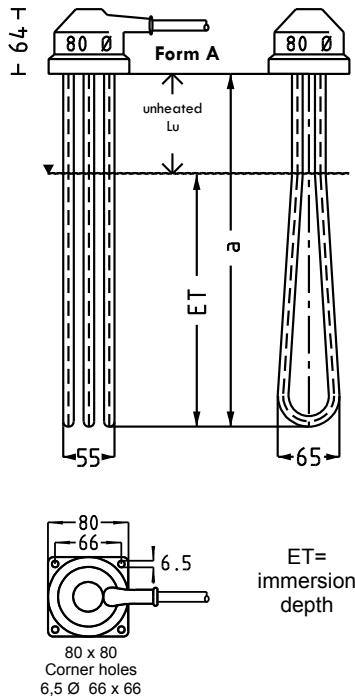
with temperature safety device, double head version:



with temperature safety device, Version with PP or PVDF cover cap with 2 PVDF cable glands:



Stainless Steel / Incoloy / Titanium- three-phase- Immersion heaters



All specified types are also available with other bending forms. Please tell us your desired measurements and we design a suitable immersion heater for you. Surcharge.

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Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

H-Type Form A				Stainless Steel	Incoloy	Titanium
Length a mm	ET mm	Lu mm	Power Watt	400V ^{2~} (also 230V3~)	400V ^{2~} (also 230V3~)	400V ^{2~} (also 230V3~)
350	250	100	1500 *	x	x	x
450	350	100	2250 *	x	x	x
450	350	100	3000 *	x	x	x
530	320	210	2250 *	x	x	x
600	450	150	1000 ^x *	x	x	x
600	450	150	1500 ^x *	x	x	x
600	450	150	3000 *	x	x	x
600	450	150	4500	x	x	x
750	450	300	3000 *	x	x	x
800	600	200	1500 ^x *	x	x	x
800	600	200	2000 ^x *	x	x	xx
800	600	200	4500	x	x	x
800	600	200	6000	x	x	x
870	470	400	4500	x	x	x
900	700	200	2500 ^x *	x	x	x
900	700	200	7500	x	x	x
1000	500	500	4800	x	x	x
1000	600	400	6000	x	x	x
1050	450	600	4500	x	x	x
1100	600	500	2000 ^x *	x	x	x
1100	600	500	6000	x	x	x
1100	900	200	3000 ^x *	x	x	x
1100	900	200	4000 ^x	x	x	x
1100	900	200	6000	x	x	x
1100	900	200	9000	x	x	x
1100	900	200	12000	x	x	x
1250	600	650	6000	x	x	x
1300	900	400	4000 ^x	x	x	x
1300	900	400	12000	x	x	x
1350	950	400	6000	x	x	x
1350	1150	200	12000	x	x	x
1400	900	500	3000 ^x *	x	x	x
1400	900	500	9000	x	x	x
1500	900	600	4000 ^x	x	x	x
1500	900	600	12000	x	x	x
1600	1200	400	4000 ^x	x	x	x
1600	1200	400	12000	x	x	x
1700	1200	500	6000	x	x	x
1700	1500	200	9000	x	x	x
1800	600	1200	6000	x	x	x
1850	1600	250	4500 ^x	x	x	x
1850	1600	250	13500	x	x	x
1900	1500	400	5500 ^x	x	x	x
1900	1500	400	9000	x	x	x
1900	1500	400	16500	x	x	x
2100	900	1200	3000 ^x *	x	x	x
2100	900	1200	4000 ^x	x	x	x
2100	900	1200	9000	x	x	x
2100	900	1200	12000	x	x	x
2150	1500	650	9000	x	x	x
2500	1300	1200	5500 ^x	x	x	x
2500	1300	1200	16500	x	x	x
2500	2100	400	9000 ^x	x	x	x
2750	2000	750	4000 ^x	x	x	x
2750	2000	750	12000	x	x	x
2900	1900	1000	7500 ^x	x	x	x

All types are also available in Mild Steel.

* also available with 230V~

X Types with reduced surface load

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H- types PFA (PTFE), 3-parts, three-phase

with bent head (A4):



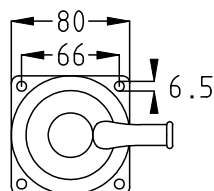
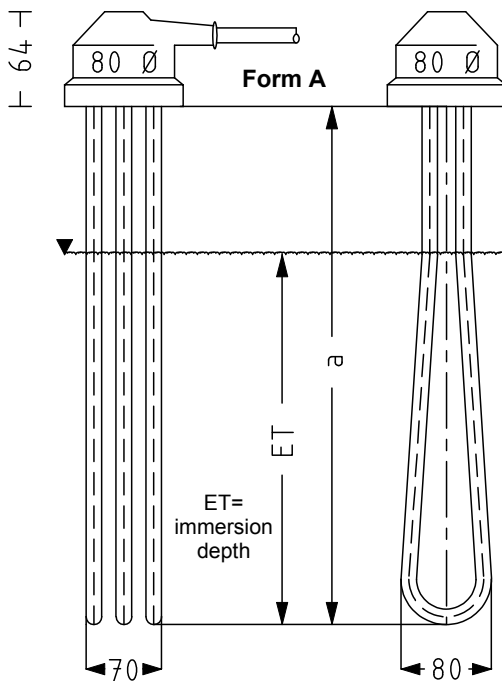
Version with PTFE plate with construction for sealing closed tank:



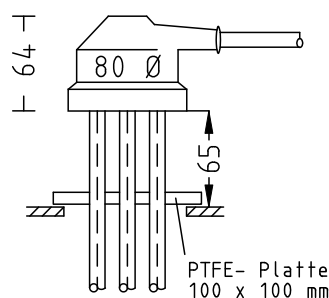
many further bending forms and versions:



PFA- (PTFE-) three-phase- Immersion heaters



Special version:
with PTFE plate
for sealing
closed tank



H- Type PFA (PTFE) Form A** 6x Ø 15 mm

Power Watt	a mm	ET mm	T max. °C	400V ^{3~} (also 230V3~)
1500*	350	250	55 °C	x
2250*	450	350	55 °C	x
3000*	600	450	55 °C	x
4200	800	600	55 °C	x
6000	1100	900	55 °C	x
2500*	800	600	90 °C	x
3000*	800	600	90 °C	x
3000*	1150	630	90 °C	x
4000	1730	950	90 °C	x
4500	1100	900	90 °C	x
4500	1600	1050	90 °C	x
4500	1700	1050	90 °C	x
6000	1750	1350	90 °C	x
6000	1900	1400	90 °C	x
6000	2000	1450	90 °C	x
6000	2100	1450	90 °C	x
6000	2250	1450	90 °C	x
9000	2600	2100	90 °C	x
9000	2800	2000	90 °C	x
9000	3200	2100	90 °C	x

* also with 230V monophase

T max. = maximum bath temperature

All specified types are also available with other bending forms. Please tell us your desired measurements and we design a suitable immersion heater for you. Surcharge.

The prices are valid for immersion heaters with a cover cap including a conducting cable with a length of 1,6m.

Longer cable lengths are available for a surcharge. All connecting cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see on our page [Spare parts \(accessories\)](#).

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 415V, 440V, 460V, 480V

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included. General conditions for the supply of products and services of the electrical industry.



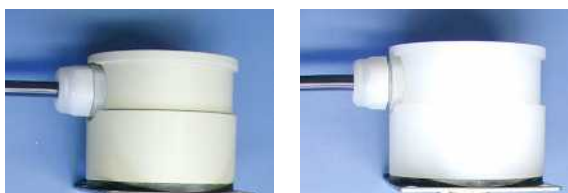
Individual solutions on request

*Cable protection
especially for
aggressive media*



*Extra high feet
(mud feet)*

*PP- or PVDF- cover caps
available on request*



Surcharge PVDF cover cap with Viton- sealing
Surcharge PP cover cap with Viton- sealing

*PTFE- plate with
construction for
sealing closed
tank*



H- types and R- types

Spare parts / accessories and repairs

The prices of all immersion heaters are valid with a cover cap including a conducting cable with a length of 1,6 m. Longer cable lengths are available for a surcharge. All connection cables are also available with CEE plugs. For more details on our cover caps, cables, plugs, etc., please see this page.



Accessories

Cover cap

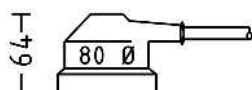
The round cover cap has a square flange with 4 drill holes for fixing.

The power connection and the waterproof cap are an integrated unit.

Alternating current	230 V~:	3 x 1,5-2,5 mm ² , without plug
	400 V~:	3 x 1,5-2,5 mm ² , without plug
Three-phase	230 V ³ ~:	4 x 1-4 mm ² , without plug
	400 V ³ ~:	4 x 1-4 mm ² , without plug

On request (additional order) the connecting cables are also available with Schuko plug (16 A, 230 V) or with CEE- plug.

Cover cap with power connection



	(~)	(³ ~)
1,6 m	x	x
3,5 m	x	x
5,0 m	x	x
10,0 m	x	x



Surcharge *Mounting CEE- plug (16A):*

Surcharge *Mounting CEE- plug (32A):*

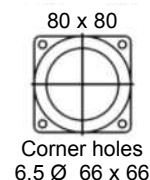
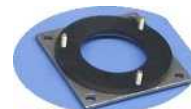


Filling ring:



Flange combination:

Stainless steel flange, seal, 3 stainless steel screws:



Mantling / Dismantling for repairs:

Mounting support:

Material PPH, 90 x 250 mm:



Repairs

If you have any questions do not hesitate to contact us.

If you wish that we repair your defective heater in our house, please send the affected Immersion heater with a brief description of the fault and the cause.

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included. General conditions for the supply of products and services of the electrical industry.

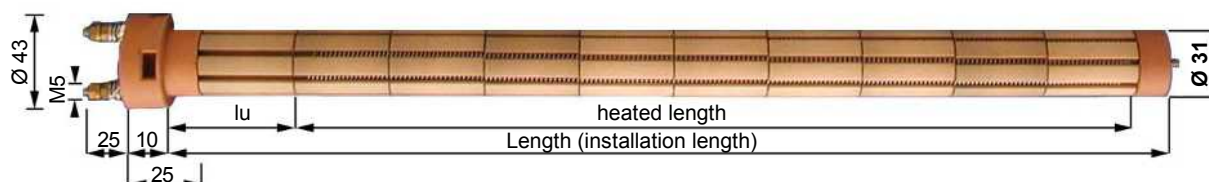


Heating cartridges Ø 31 mm

Heating cartridges consists out of ceramic heating element supports in whose open slots the heating conductors are inserted.

Prices of heating cartridges with other diameters on request.

Bolt connection: M5



Ceramic heating cartridges Ø 31 mm		
Length mm	Power Watt*	
340	700	x
390	800	x
440	1000	x
490	1250	x
540	1400	x
590	1600	x
640	1800	x
740	2200	x
840	2500	x
940	3000	x
1040	3250	x
1190	3500	x
1490	4500	x
1790	5500	x

Prices are valid for horizontal mounting,
230 V or 400 V alternating current version,
Tubes are not included in the price

* is valid for water with approx. 4 W/cm²
for oil half power, 2 W/cm²

Three-phase version: 152 kr. surcharge

for vertical mounting: 10 % surcharge

Tubes: inside Ø 33 to 35 mm
(e.g. Steel 36 x 1,5 mm)

Other lengths and powers on request.

unheated length lu

Standard version: lu = 25 mm (1 element unheated)

on request: lu = 15 mm (0 element unheated)
lu = 35 mm (2 elements unheated)
lu = 45 mm (3 elements unheated)
etc.

Alternating current / Three-phase

Standard version: 230 V or 400 V alternating current

on request: Three-phase: surcharge

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 400V

horizontal / vertical mounting

Standard version: for horizontal mounting

on request: for vertical mounting: 10 % surcharge

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General conditions for the supply of products and services of the electrical industry.

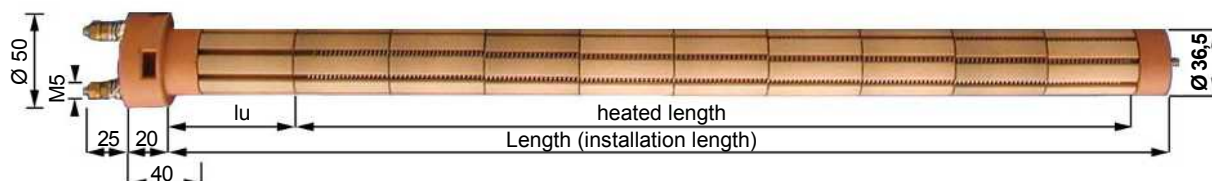


Heating cartridges Ø 36,5 mm

Heating cartridges consists out of ceramic heating element supports in whose open slots the heating conductors are inserted.

Prices of heating cartridges with other diameters on request.

Bolt connection: M5



Ceramic heating cartridges Ø 36,5 mm

Length mm	Power Watt*	
340	1000	x
390	1250	x
440	1500	x
490	1750	x
540	2000	x
590	2250	x
640	2500	x
740	3000	x
840	3250	x
940	3500	x
1040	4000	x
1190	5000	x
1490	6000	x
1790	7000	x

Prices are valid for horizontal mounting,
230 V or 400 V alternating current version,
Tubes are not included in the price

* is valid for water with approx. 4 W/cm²
for oil half power, 2 W/cm²

Three-phase version: 152 kr. surcharge

for vertical mounting: 10 % surcharge

Tubes: inside Ø 38 mm

Other lengths and powers on request.

unheated length *lu*

Standard version: *lu* = 70 mm (1 element unheated)

on request: *lu* = 20 mm (0 element unheated)
lu = 120 mm (2 elements unheated)
lu = 170 mm (3 elements unheated)
etc.

Alternating current / Three-phase

Standard version: 230 V or 400 V alternating current

on request: Three-phase: surcharge

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 400V

horizontal / vertical mounting

Standard version: for horizontal mounting

on request: for vertical mounting: 10 % surcharge

Tubes for welding into tanks and for drying ovens

Standard version: Tubes are not included in the price.

on request: Tubes out of mild steel, stainless steel, titanium with bottom and flange available.
Prices on request.

Minimum length = Length (installation length of the heating cartridge) + 20 mm

e.g. Mild Steel 45 x 3 mm

Stainless Steel 42,4 x 2 mm

Stainless Steel 42 x 1 mm

Titanium 42 x 1 mm

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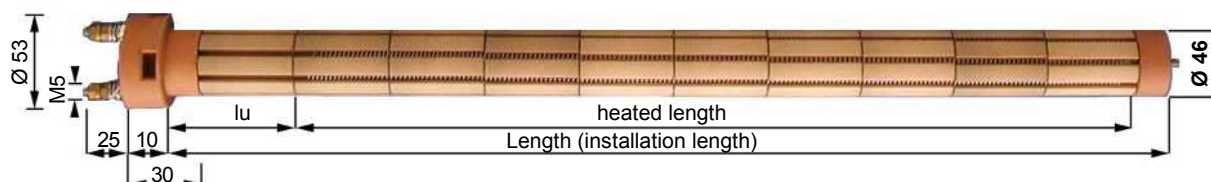


Heating cartridges Ø 46 mm

Heating cartridges consists out of ceramic heating element supports in whose open slots the heating conductors are inserted.

Prices of heating cartridges with other diameters on request.

Bolt connection: M5



Ceramic heating cartridges Ø 46 mm		
Length mm	Power Watt*	
340	1250	x
390	1500	x
440	1750	x
490	2000	x
540	2250	x
590	2500	x
640	2750	x
740	3500	x
840	3750	x
940	4000	x
1040	4500	x
1190	5000	x
1490	6000	x
1790	7000	x

Prices are valid for horizontal mounting,
230 V or 400 V alternating current version,
Tubes are not included in the price

* is valid for water with approx. 4 W/cm²
for oil half power, 2 W/cm²

Three-phase version: 152 kr. surcharge	
for vertical mounting: 10 % surcharge	
Tubes:	inside Ø 48 to 50 mm (e.g. Steel 52 x 2 mm)
Other lengths and powers on request.	

unheated length lu

Standard version: lu = 50 mm (1 element unheated)

on request: lu = 20 mm (0 element unheated)
lu = 30 mm (depending on the element)
lu = 40 mm
etc.

Alternating current / Three-phase

Standard version: 230 V or 400 V alternating current

on request: Three-phase: surcharge

Special voltages possible, e.g. 115V, 127V, 208V, 277V, 400V

horizontal / vertical mounting

Standard version: for horizontal mounting

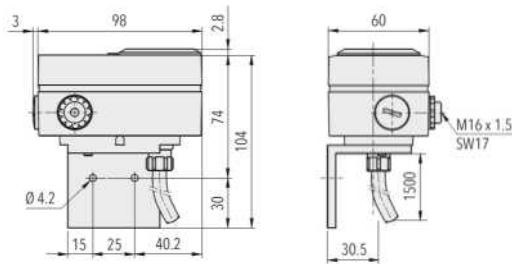
on request: for vertical mounting: 10 % surcharge

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.

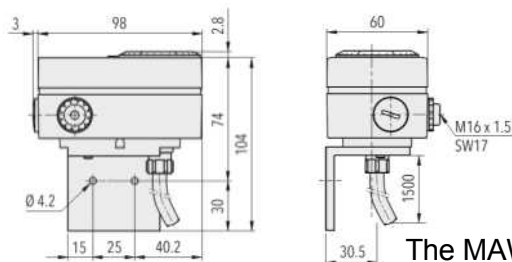


Thermostat

Internal adjustment



External adjustment



The MAWO thermostat is designed for operation in galvanic baths with corrosive media. The housing made of Polycarbonate is closed on all sides and equipped with corrosion-resistant accessories. The sensor system is protected with a FEP Teflon tube.

Switch point adjustment: knob inside (*Internal* adjustment)
optionally knob outside (*External* adjustment)

Setting range: 5°C to 95°C Switching differential: 2,5°C (fix)
optionally Medium temperature (Sensor): max 105 °C

on request: 20°C to 150°C Switching differential: 3,0°C (fix)
Medium temperature (Sensor): max 165 °C

Frost protection: -10°C to 35°C Switching differential: 2,5°C (fix)
Medium temperature (Sensor): max 50 °C

Capillary tube length L: L = 1500 mm
optionally L = 900 mm
L = 600 mm
L = 350 mm

Switching capacity: AC 230 V / 400 V 15 A

Protection class: IP54

Operating temperature: -30...+70 °C

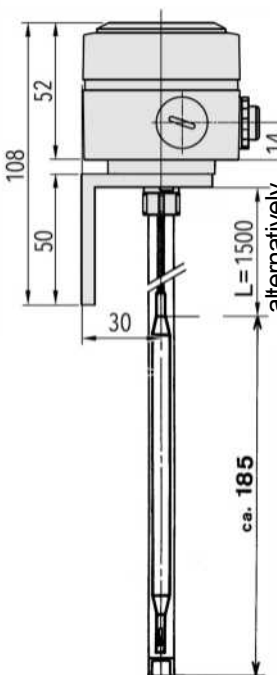
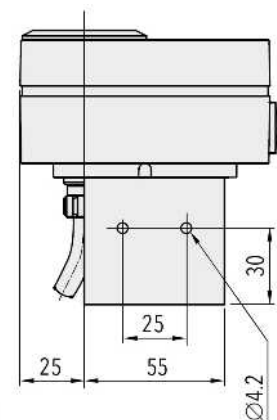
Output signal: Potential-free changeover contact

Sensor: Capillary tube with freely mountable sensor

Sensor material: Copper with Teflon protection tube FEP

Electrical connection: Screw terminal

Electronic temperature controllers and Pt100 resistance thermometers on request.



Thermostat with

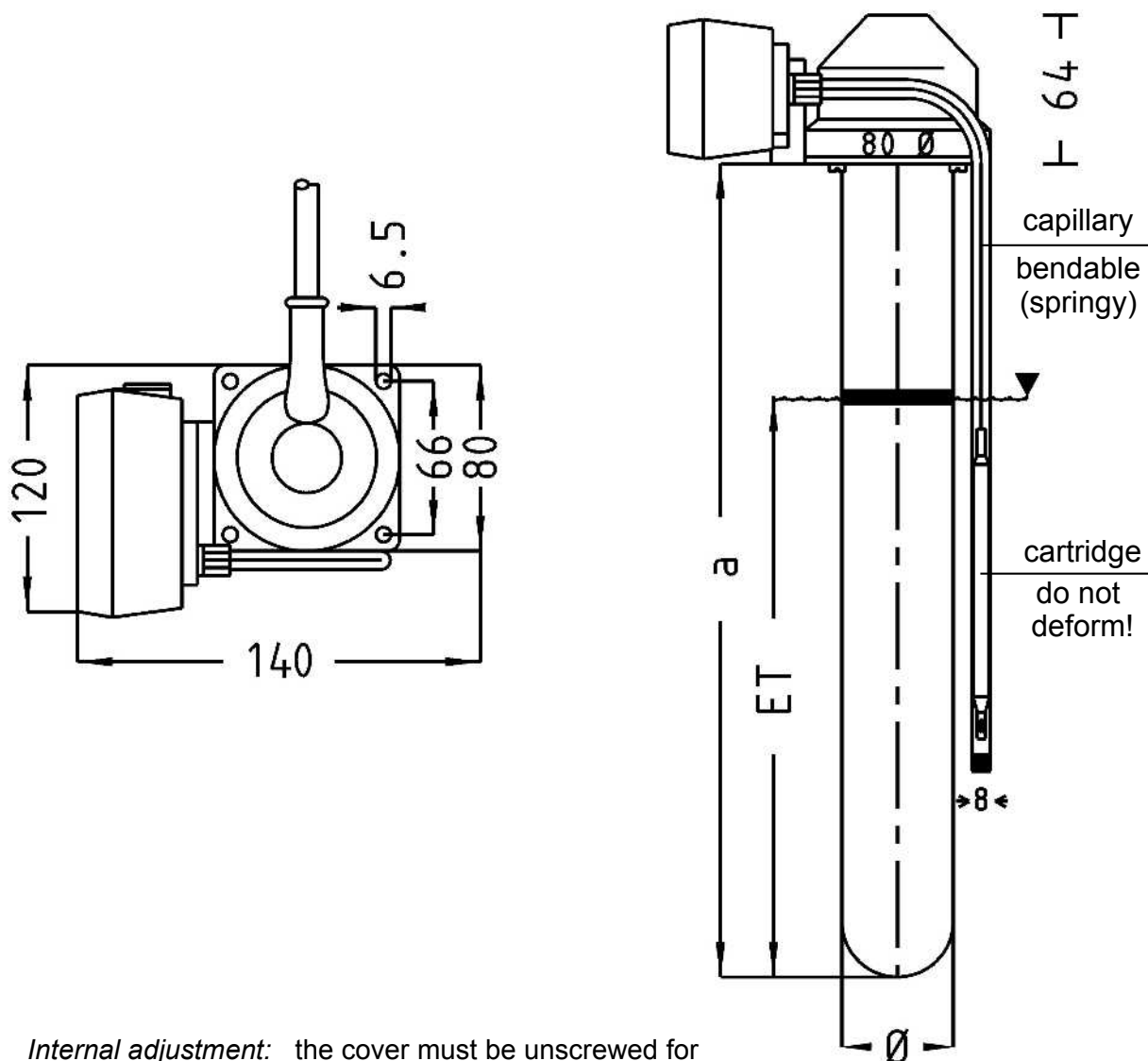
Internal adjustment	x
External adjustment	x
Frost protection, however with internal adjustment	x



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Thermostat

Immersion heater with mounted thermostat



Internal adjustment: the cover must be unscrewed for temperature adjustment

External adjustment: the temperature adjustment button is accessible from the outside

For fixing to the edge of the tank a mounting bracket is supplied.

On request the MAWO thermostat can also be fixed to the immersion heater.

Costs for fixing directly to an immersion heater:

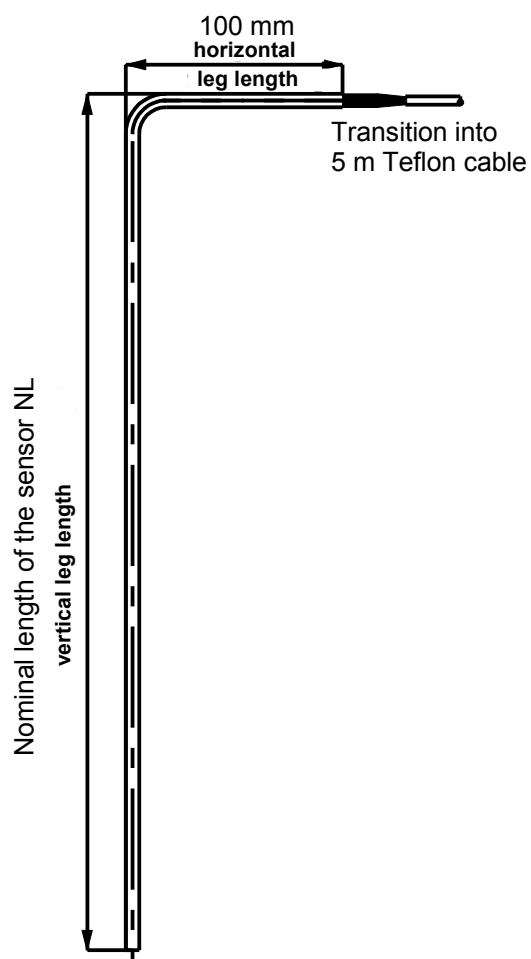
Temperature probe / Temperatur sensor

Temperature sensor Pt100

TYPE ST 400 EDST

Nominal length of the sensor NL = 300 mm
 Material Stainless steel 1.4571, Ø 6 mm
 Angled 90 ° at the top and passing there in 5 m Teflon cable
 Three-wire circuit

Surcharge for 100 mm additional sensor length:
 (up to NL = 1000 mm, NL > 1000 mm Price on request)



TYPE ST 400 PTFE

Nominal length of the sensor NL = 300 mm
 Material Stainless steel coated with PTFE-tube, Ø 8 mm
 Angled 90 ° at the top and passing there in 5 m Teflon cable
 Three-wire circuit

Surcharge for 100 mm additional sensor length:
 (up to NL = 1000 mm, NL > 1000 mm Price on request)



in the same design **also available with other sensors / probes**

PTC, NTC, IC, Pt, e.g.

KTY 81-110, KTY 81-210

NTC 1,8kΩ , NTC 5kΩ , NTC 10kΩ , NTC 20kΩ

LM235Z, DS18B20,

Pt500, Pt1000

CE The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
 General conditions for the supply of products and services of the electrical industry.

Temperature probe / Temperatur sensor

Temperature sensor Pt100

TYPE MAWO EDST

Nominal length of the sensor NL = 300 mm
Material Stainless steel 1.4571, Ø 8 mm
with MAWO- cover cap with 1,6 m cable
Three-wire circuit

Surcharge for 100 mm additional sensor length:

TYPE MAWO INCOLOY

Nominal length of the sensor NL = 300 mm
Material Incoloy 2.4858, Ø 8 mm
with MAWO- cover cap with 1,6 m cable
Three-wire circuit

Surcharge for 100 mm additional sensor length:

TYPE MAWO TITAN

Nominal length of the sensor NL = 300 mm
Material Titanium 3.7035, Ø 8 mm
with MAWO- cover cap with 1,6 m cable
Three-wire circuit

Surcharge for 100 mm additional sensor length:



in the same design **also available with other sensors / probes**

PTC, NTC, IC, Pt, e.g.

KTY 81-110, KTY 81-210

NTC 1,8kΩ , NTC 5kΩ , NTC 10kΩ , NTC 20kΩ

LM235Z, DS18B20,

Pt500, Pt1000

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General conditions for the supply of products and services of the electrical industry.



Temperature probe / Temperatursensor

Temperature sensor Pt100

TYPE MAWO PTFE

Nominal length of the sensor NL = 300 mm
Material Stainless steel coated with PTFE-tube, 8 mm Ø
with MAWO- cover cap with 1,6 m cable
Three-wire circuit

Surcharge for 100 mm additional sensor length:
(up to NL = 1000 mm, NL > 1000 mm Price on request)



**Special versions for
particularly aggressive media**
on request



in the same design **also available with other sensors / probes**

PTC, NTC, IC, Pt, e.g.

KTY 81-110, KTY 81-210

NTC 1,8kΩ , NTC 5kΩ , NTC 10kΩ , NTC 20kΩ

LM235Z, DS18B20,

Pt500, Pt1000



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Temperature probe / Temperatur sensor

Resistance thermometer Pt100

- Length according to customer requirements
- PTFE tube Ø 6 mm
- Flexibly bendable
- „Bottom“ tightly welded
- Pt100 probe directly passing into Teflon cable
- Optionally 2-wire, 3-wire or 4-wire technology



TYPE MAWO FLEX PTFE

Nominal length of the sensor NL = 2000 mm
Pt100 sensor coated with PTFE-tube, Ø 6 mm,
passing into 100 mm Teflon cable and wires for connection
Three-wire circuit

Surcharge for 100 mm additional sensor length:

in the same design **also available with other sensors / probes**

PTC, NTC, IC, Pt, e.g.

KTY 81-110, KTY 81-210

NTC 1,8k Ω , NTC 5k Ω , NTC 10k Ω , NTC 20k Ω

LM235Z, DS18B20,

Pt500, Pt1000

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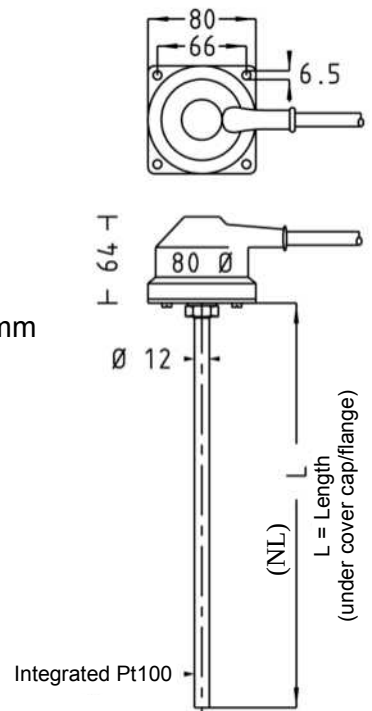
Temperature probe / Temperatur sensor

Temperature sensor Pt100 made of PP



TYPE MAWO PP

Nominal length of the sensor NL = 300 mm
Material PP up to 80°C bath temperature, Ø 12 mm
with MAWO- cover cap with 1,6 m cable
Three-wire circuit



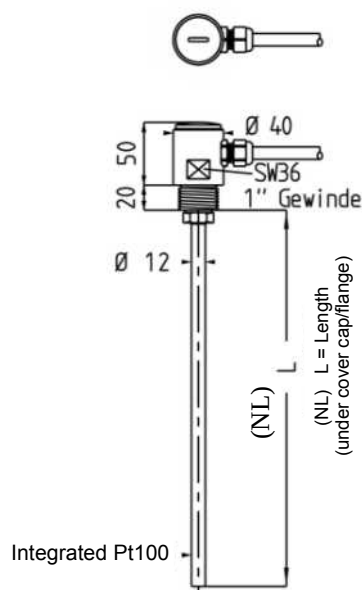
Surcharge *Mini-PPH- cap with 1" thread:*

Surcharge *PP cover cap with Viton- sealing:*

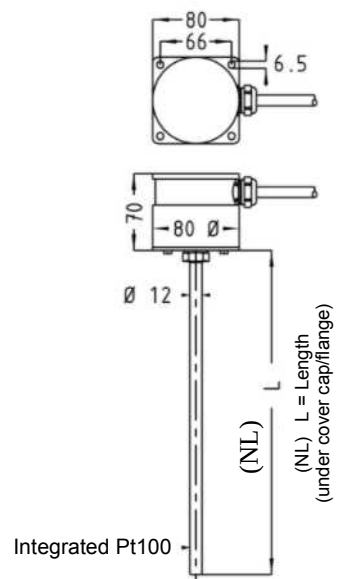
PPH- holder 250 x 90 x 10 (LxWxH) in mm for *MAWO-/PP- cover cap:*

PPH- holder 80 x 45 x 10 (LxWxH) in mm with thread ½" or 1" for *Mini-PPH- cap:*

with Mini-PPH- cap:



with PPH- cap:



CE The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.

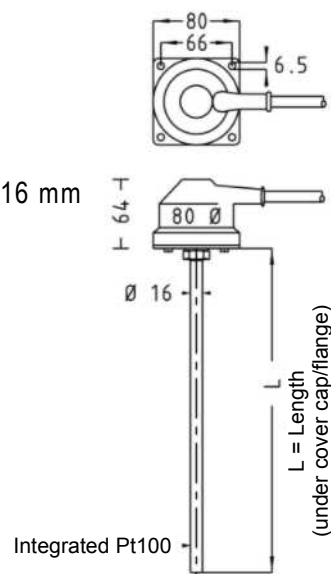
Temperature probe / Temperatur sensor

Temperature sensor Pt100 made of PVDF



TYPE MAWO PVDF

Nominal length of the sensor NL = 300 mm
Material PVDF up to 130°C bath temperature, Ø 16 mm
with MAWO- cover cap with 1,6 m cable
Three-wire circuit

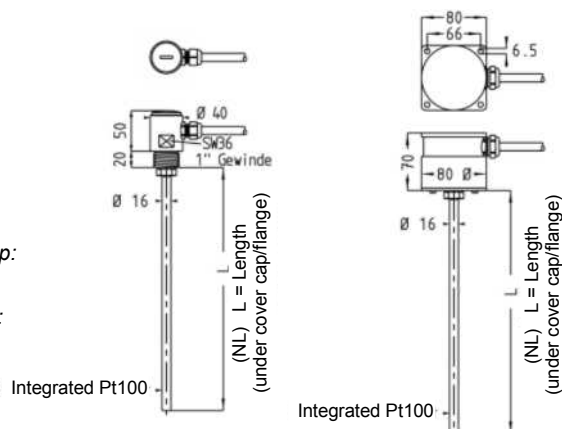


Surcharge *Mini-PPH- cap with 1" thread:*
Surcharge *Mini-PVDF- cap with 1" thread:*
Surcharge *PP cover cap with Viton- sealing:*
Surcharge *PVDF cover cap with Viton- sealing:*

PPH- holder 250 x 90 x 10 (LxWxH) in mm for MAWO-/PP-/PVDF- cover cap:

PPH- holder 80 x 45 x 10 (LxWxH) in mm with thread ½" or 1" for Mini- cap:

PVDF-holder 80 x 45 x 10 (LxWxH) in mm with thread ½" or 1" for Mini- cap:



with Mini-PPH- cap:



with Mini-PVDF- cap:



with PPH- cap:



with PVDF- cap:



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General conditions for the supply of products and services of the electrical industry.



Dry-running protection

Level Switch made of PPH

Applications: Level switches monitor the levels of liquids against dry run and / or overfilling. By means of a contact protection relay and if necessary a contactor immersion heaters, pumps or similar can be switched directly.

The float must always remain freely movable and must not crust, stick together or be affected by contamination of the process fluid.

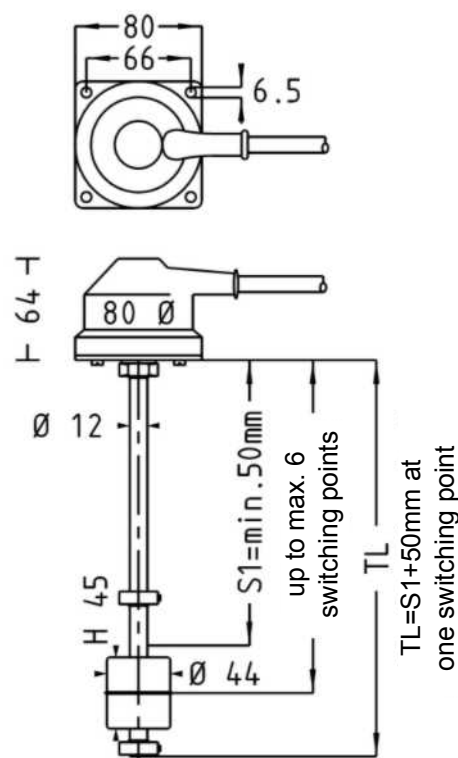
Function: A permanent magnet is installed in the float. This actuated by its magnetic field the installed reed switch in the pipe. Possible reed switch functions are: normally open, normally closed or changeover.

Standard version:

One switching point S1, dry run protection function, a reed switch as 1-pole contact opens at falling level and closes at ascending level, MAWO- cover cap.

S1 = 50mm/100mm/150mm/200mm/250mm/300mm/400mm/500mm
or freely selectable
measured from the support surface
until the switching point

Material PPH up to 80°C bath temperature



Standard version:



Standard version PPH with MAWO- cover cap (1,6m cable)	
Level Switch with S1 = 50 mm	x
Level Switch with S1 = 100 mm	x
Level Switch with S1 = 150 mm	x
Level Switch with S1 = 200 mm	x
Level Switch with S1 = 250 mm	x
Level Switch with S1 = 300 mm	x
Level Switch with S1 = 400 mm	x
Level Switch with S1 = 500 mm	x
Level Switch with S1 user-defined	on request

with PPH- cap:



with Mini-PPH- cap:



Switching power:

Normally open/Normally closed: 230 V AC; 100 VA; 1 A AC
230 V DC; 50 W; 0,5 A DC

Change-over contact: 230 V AC; 40 VA; 1 A AC
230 V DC; 20 W; 0,5 A DC

on request:

- several switching points (2 to max. 6) possible
- Switch contacts NC / NO / changeover switch selectable

Version with

- PPH- cap with PVDF- screw connection or
- Mini-PPH- cap with PVDF- screw connection possible

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.



General conditions for the supply of products and services of the electrical industry.

Dry-running protection

Level Switch made of Stainless steel

Applications: Level switches monitor the levels of liquids against dry run and / or overfilling. By means of a contact protection relay and if necessary a contactor immersion heaters, pumps or similar can be switched directly.

The float must always remain freely movable and must not crust, stick together or be affected by contamination of the process fluid.

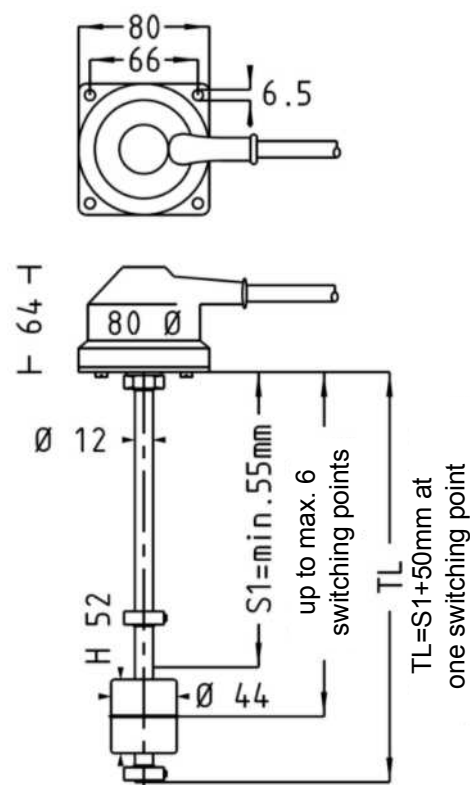
Function: A permanent magnet is installed in the float. This actuated by its magnetic field the installed reed switch in the pipe. Possible reed switch functions are: normally open, normally closed or changeover.

Standard version:

One switching point S1, dry run protection function, a reed switch as 1-pole contact opens at falling level and closes at ascending level, MAWO- cover cap.

S1 = 50mm/100mm/150mm/200mm/250mm/300mm/400mm/500mm
or freely selectable
measured from the support surface
until the switching point

Material Stainless steel 1.4571 up to 140°C bath temperature



Standard version:



Standard version Stainless steel with MAWO- cover cap (1,6m cable)	
Level Switch with S1 = 50 mm	x
Level Switch with S1 = 100 mm	x
Level Switch with S1 = 150 mm	x
Level Switch with S1 = 200 mm	x
Level Switch with S1 = 250 mm	x
Level Switch with S1 = 300 mm	x
Level Switch with S1 = 400 mm	x
Level Switch with S1 = 500 mm	x
Level Switch with S1 user-defined	on request

with PPH- cap:



with PVDF- cap:



with Mini-
PPH- cap:



with Mini-
PVDF- cap:



Switching power:

Normally open/Normally closed: 230 V AC; 100 VA; 1 A AC
230 V DC; 50 W; 0,5 A DC
Change-over contact: 230 V AC; 40 VA; 1 A AC
230 V DC; 20 W; 0,5 A DC

on request:

- several switching points (2 to max. 6) possible
- Switch contacts NC / NO / changeover switch selectable

Version with

- PPH- cap with PVDF- screw connection
- PVDF- cap with PVDF- screw connection
- Mini-PPH- cap with PVDF- screw connection
- Mini-PVDF- cap with PVDF- screw connection possible

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.



Level Switch made of PVDF

Applications: Level switches monitor the levels of liquids against dry run and / or overfilling. By means of a contact protection relay and if necessary a contactor immersion heaters, pumps or similar can be switched directly.

The float must always remain freely movable and must not crust, stick together or be affected by contamination of the process fluid.

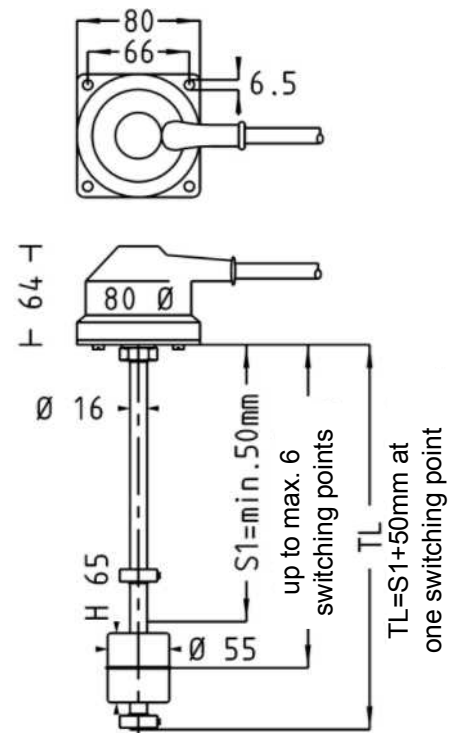
Function: A permanent magnet is installed in the float. This actuated by its magnetic field the installed reed switch in the pipe. Possible reed switch functions are: normally open, normally closed or changeover.

Standard version:

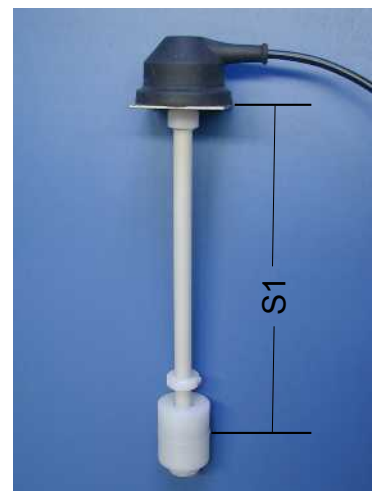
One switching point S1, dry run protection function, a reed switch as 1-pole contact opens at falling level and closes at ascending level, MAWO- cover cap.

S1 = 50mm/100mm/150mm/200mm/250mm/300mm/400mm/500mm
or freely selectable
measured from the support surface
until the switching point

Material PVDF up to 130°C bath temperature



Standard version:



Standard version PVDF with MAWO- cover cap (1,6m cable)	
Level Switch with S1 = 50 mm	
Level Switch with S1 = 100 mm	
Level Switch with S1 = 150 mm	
Level Switch with S1 = 200 mm	
Level Switch with S1 = 250 mm	
Level Switch with S1 = 300 mm	
Level Switch with S1 = 400 mm	
Level Switch with S1 = 500 mm	
Level Switch with S1 user-defined	on request

with PPH- cap:



with PVDF- cap:



with Mini-
PPH- cap:



with Mini-
PVDF- cap:



Switching power:

Normally open/Normally closed: 230 V AC; 100 VA; 1 A AC
230 V DC; 50 W; 0,5 A DC

Change-over contact: 230 V AC; 40 VA; 1 A AC
230 V DC; 20 W; 0,5 A DC

on request:

- several switching points (2 to max. 6) possible
- Switch contacts NC / NO / changeover switch selectable

Version with

- PPH- cap with PVDF- screw connection
- PVDF- cap with PVDF- screw connection
- Mini-PPH- cap with PVDF- screw connection
- Mini-PVDF- cap with PVDF- screw connection possible

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.



General conditions for the supply of products and services of the electrical industry.

Level Switch with temperature sensor Pt100

Level Switch made of PPH with Pt100 sensor

Applications: Level switches monitor the levels of liquids against dry run and / or overfilling. By means of a contact protection relay and if necessary a contactor immersion heaters, pumps or similar can be switched directly.

The float must always remain freely movable and must not crust, stick together or be affected by contamination of the process fluid.

Function: A permanent magnet is installed in the float. This actuated by its magnetic field the installed reed switch in the pipe. Possible reed switch functions are: normally open, normally closed or changeover. The Pt100 positioned at the bottom of the tube measures the bath temperature.

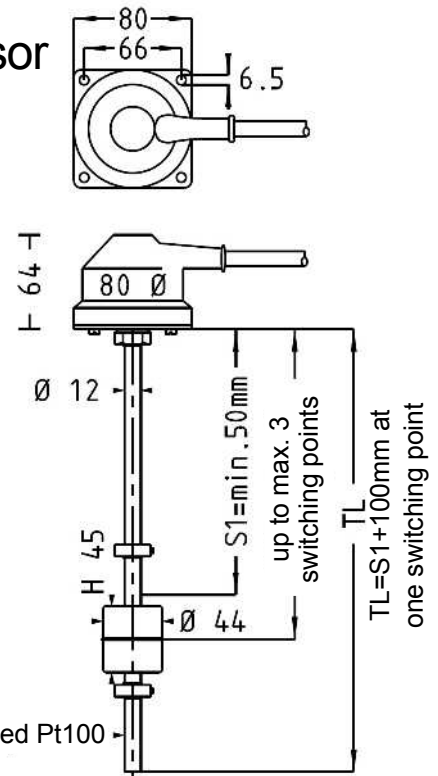
Standard version with integrated temperature sensor Pt100:

One switching point S1, dry run protection function, a reed switch as 1-pole contact opens at falling level and closes at ascending level, integrated temperature sensor Pt100, Three-wire circuit, MAWO- cover cap.

S1 = 50mm/100mm/150mm/200mm/250mm/300mm/400mm/500mm
or freely selectable
measured from the support surface
until the switching point

Material PPH up to 80°C bath temperature

Standard version PPH with Pt100 with MAWO- cover cap (1,6m cable)	
Level Switch with S1 = 200 mm	x
Level Switch with S1 = 300 mm	x
Level Switch with S1 = 500 mm	x
Level Switch with S1 user-defined	on request



Standard version:



with PPH- cap:



with Mini-PPH- cap:



Switching power:

Normally open/Normally closed: 230 V AC; 100 VA; 1 A AC
230 V DC; 50 W; 0,5 A DC

Change-over contact: 230 V AC; 40 VA; 1 A AC
230 V DC; 20 W; 0,5 A DC

on request:

- several switching points (2 to max. 3) possible (max. 4 switching points with Ø16 and float Ø 55 H 65)
- Switch contacts NC / NO / changeover switch selectable

Version with

- PPH- cap with PVDF- screw connection or
- Mini-PPH- cap with PVDF- screw connection possible

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included. General conditions for the supply of products and services of the electrical industry.



Level Switch with temperature sensor Pt100

Level Switch made of Stainless steel with Pt100 sensor

Applications: Level switches monitor the levels of liquids against dry run and / or overfilling. By means of a contact protection relay and if necessary a contactor immersion heaters, pumps or similar can be switched directly.

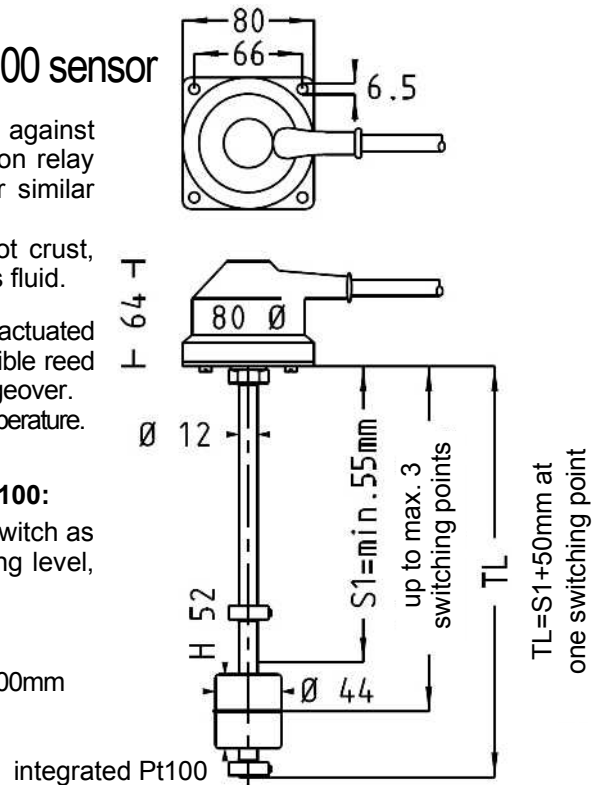
The float must always remain freely movable and must not crust, stick together or be affected by contamination of the process fluid.

Function: A permanent magnet is installed in the float. This actuated by its magnetic field the installed reed switch in the pipe. Possible reed switch functions are: normally open, normally closed or changeover. The Pt100 positioned at the bottom of the tube measures the bath temperature.

Standard version with integrated temperature sensor Pt100:

One switching point S1, dry run protection function, a reed switch as 1-pole contact opens at falling level and closes at ascending level, integrated temperature sensor Pt100, Three-wire circuit, MAWO- cover cap.

S1 = 50mm/100mm/150mm/200mm/250mm/300mm/400mm/500mm
or freely selectable
measured from the support surface
until the switching point



Material Stainless steel 1.4571 up to 140°C bath temperature

Standard version:



Standard version Stainless steel with Pt100 with MAWO- cover cap (1,6m cable)	
Level Switch with S1 = 200 mm	
Level Switch with S1 = 300 mm	
Level Switch with S1 = 500 mm	
Level Switch with S1 user-defined	on request

with PPH- cap:

with PVDF- cap:



with Mini-
PPH- cap:

with Mini-
PVDF- cap:



Switching power:

Normally open/Normally closed: 230 V AC; 100 VA; 1 A AC
230 V DC; 50 W; 0,5 A DC

Change-over contact: 230 V AC; 40 VA; 1 A AC
230 V DC; 20 W; 0,5 A DC

on request:

- several switching points (2 to max. 3) possible
- Switch contacts NC / NO / changeover switch selectable

Version with

- PPH- cap with PVDF- screw connection
- PVDF- cap with PVDF- screw connection
- Mini-PPH- cap with PVDF- screw connection
- Mini-PVDF- cap with PVDF- screw connection possible

The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.



Level Switch with temperature sensor Pt100

Level Switch made of PVDF with Pt100 sensor

Applications: Level switches monitor the levels of liquids against dry run and / or overfilling. By means of a contact protection relay and if necessary a contactor immersion heaters, pumps or similar can be switched directly.

The float must always remain freely movable and must not crust, stick together or be affected by contamination of the process fluid.

Function: A permanent magnet is installed in the float. This actuated by its magnetic field the installed reed switch in the pipe. Possible reed switch functions are: normally open, normally closed or changeover. The Pt100 positioned at the bottom of the tube measures the bath temperature.

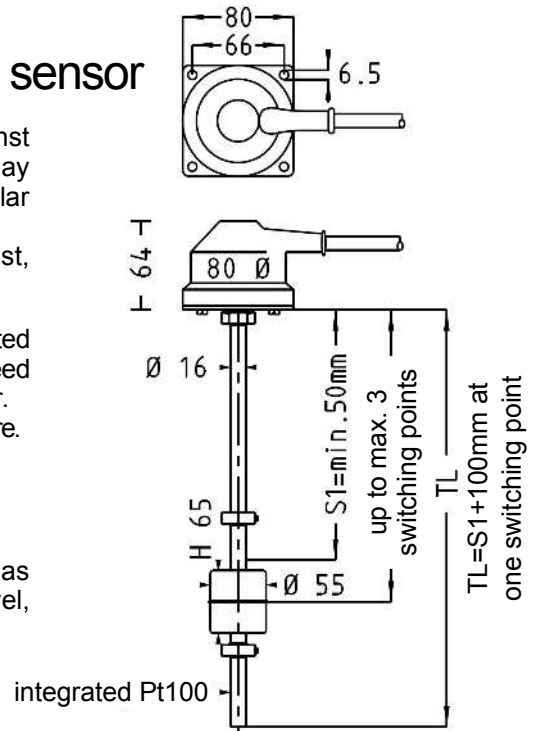
Standard version with integrated temperature sensor Pt100:

One switching point S1, dry run protection function, a reed switch as 1-pole contact opens at falling level and closes at ascending level, integrated temperature sensor Pt100, Three-wire circuit, MAWO- cover cap.

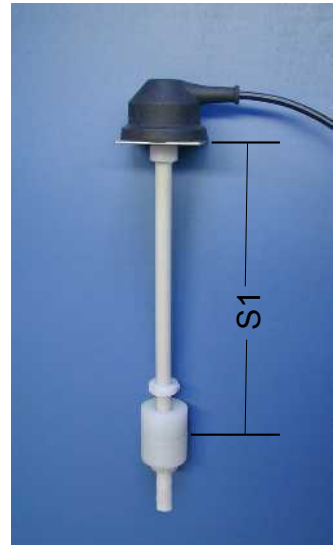
S1 = 50mm/100mm/150mm/200mm/250mm/300mm/400mm/500mm
or freely selectable
measured from the support surface
until the switching point

Material PVDF up to 130°C bath temperature

Standard version PVDF with Pt100 with MAWO- cover cap (1,6m cable)	
Level Switch with S1 = 200 mm	
Level Switch with S1 = 300 mm	
Level Switch with S1 = 500 mm	
Level Switch with S1 user-defined	on request



Standard version:



with PPH- cap: with PVDF- cap:



with Mini-PPH- cap:



with Mini-PVDF- cap:



Switching power:

Normally open/Normally closed: 230 V AC; 100 VA; 1 A AC
230 V DC; 50 W; 0,5 A DC
Change-over contact: 230 V AC; 40 VA; 1 A AC
230 V DC; 20 W; 0,5 A DC

on request:

- several switching points (2 to max. 3) possible
- Switch contacts NC / NO / changeover switch selectable

Version with

- PPH- cap with PVDF- screw connection
- PVDF- cap with PVDF- screw connection
- Mini-PPH- cap with PVDF- screw connection
- Mini-PVDF- cap with PVDF- screw connection possible

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General conditions for the supply of products and services of the electrical industry.



Conductive level probe

Conductive level probe

TYP MAWO NIV

- 1 to 8 pieces of electrodes, electrodes can be cut to desired length individually by the customer

Materials:

- Stainless steel 1.4571
- Titanium
- PVDF flange
80x80x10 mm
- Cable length according to customer requirements
- Suitable holder for attachment possible

Variant with PVDF- cover cap:



Variant with PVDF- cover cap:



Combination Conductive level probe/Pt100

Combination Conductive level probe/Pt100

TYP MAWO NIV/PT100KOMBI

- 1 to 5 pieces of electrodes, electrodes can be cut to desired length individually by the customer

Materials:

- Stainless steel 1.4571
- Titanium
- PVDF flange 80x80x10 mm
- Pt100 in three-wire or optionally four-wire
- Double Pt100 possible
- Cable length according to customer requirements
- Suitable holder for attachment possible



The prices are valid ex our works, packing, freight insurance, any taxes or custom duties not included.
General conditions for the supply of products and services of the electrical industry.

Level probes

Version 1 – Level Probe in plastic housing

Electric interface through terminal screws in the probe head. Cable feed out through a M16 gland, for protection class IP 65.

- Electrode length available 5 to 4000mm (please specify with your order)
- 1 - 7 electrodes
- For conductive filling level acquisition



Technical data

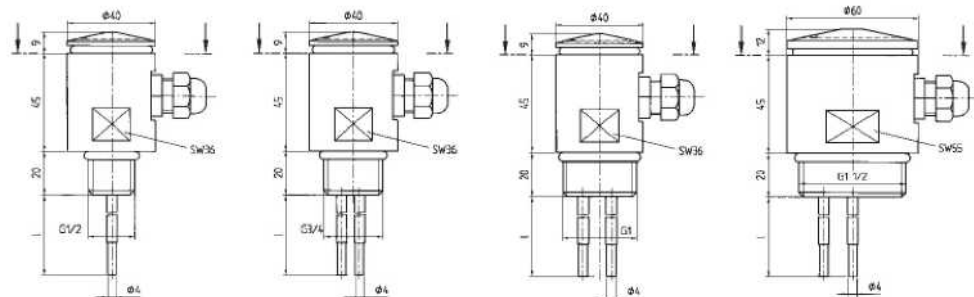
Mounting method: Thread
Mounting orientation: any
Media temperature: max. 90°C
Media pressure: max. 10 bar (at 60°C)

Probe-head material: PPH
Electrode material: V4A / 1.4571 (optional HAC-C4; Titanium)
Coating: Polyolefin (alternatively PVDF)

Size	Electrodes	Standard-Model
1/2"	1	GPPE - 1VP1
1/2"	2	GPPE - 2VP1
1"	1	GPPG - 1VP1
1"	2	GPPG - 2VP1
1"	3	GPPG - 3VP1
1"	4	GPPG - 4VP1

Size	Electrodes	Standard-Model
1 1/2"	2	GPPI - 2VP1
1 1/2"	3	GPPI - 3VP1
1 1/2"	4	GPPI - 4VP1
1 1/2"	5	GPPI - 5VP1
1 1/2"	6	GPPI - 6VP1
1 1/2"	7	GPPI - 7VP1

Dimensions



Options

Distance fastener Material PPH

Accessories

Lock-nut Material PPH

Junction cable with numeric labeled wires



Level probes

Version 2 – Level Probe in plastic housing

Electric interface through a factory mounted cord with numbered wires. Case casted. Protection class IP 68.

- Connection cable with the length of 3m (or as required)
- Electrode length available 5 to 4000mm (please specify with your order)
- 1 - 7 electrodes
- For conductive filling level acquisition



Technical data

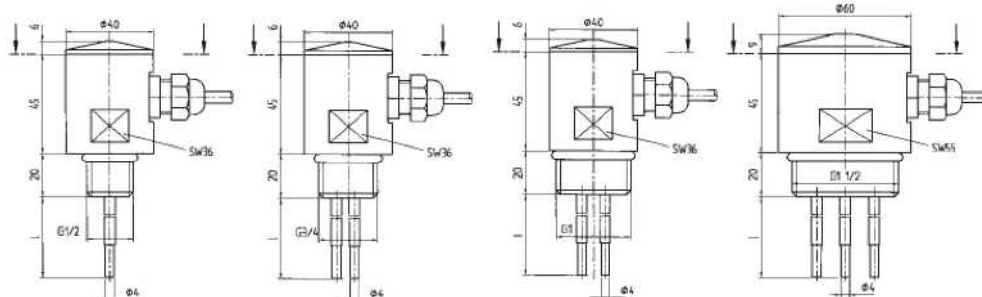
Mounting method: Thread
Mounting orientation: any
Media temperature: max. 90°C
Media pressure: max. 10 bar (at 60°C)

Probe-head material: PPH
Electrode material: V4A / 1.4571
 (optional HAC-C4; Titanium)
Coating: Polyolefin (alternatively PVDF)

Size	Electrodes	Standard-Model
1/2"	1	GPPE - 1VP2
1/2"	2	GPPE - 2VP2
1"	1	GPPG - 1VP2
1"	2	GPPG - 2VP2
1"	3	GPPG - 3VP2
1"	4	GPPG - 4VP2

Size	Electrodes	Standard-Model
1 1/2"	2	GPPI - 2VP2
1 1/2"	3	GPPI - 3VP2
1 1/2"	4	GPPI - 4VP2
1 1/2"	5	GPPI - 5VP2
1 1/2"	6	GPPI - 6VP2
1 1/2"	7	GPPI - 7VP2

Dimensions



Options

Distance fastener Material PPH

Accessories

Lock-nut Material PPH

Level probes

Version 1 – Level Probe with stainless steel housing

Electric interface through terminal screws in the probe head. Cable feed out through a M16 gland, for protection class IP 65.

- Electrode length available 5 to 4000mm (please specify with your order)
- 1 - 7 electrodes
- For heavy-duty
- For conductive filling level acquisition



Technical data

Mounting method:	Thread	Probe-head material:	V2A / 1.4305
Mounting orientation:	any		Cover and Cable gland brass, nickel-plated
Case temperature:	max. 110°C	Electrode material:	V4A / 1.4571 (HAC-C4; Titanium)
Media temperature:	max. 120°C (Polyolefin max. 100°C)	Coating:	PVDF "K" (alternatively Polyolefin "P")
Media pressure:	max. 10 bar		

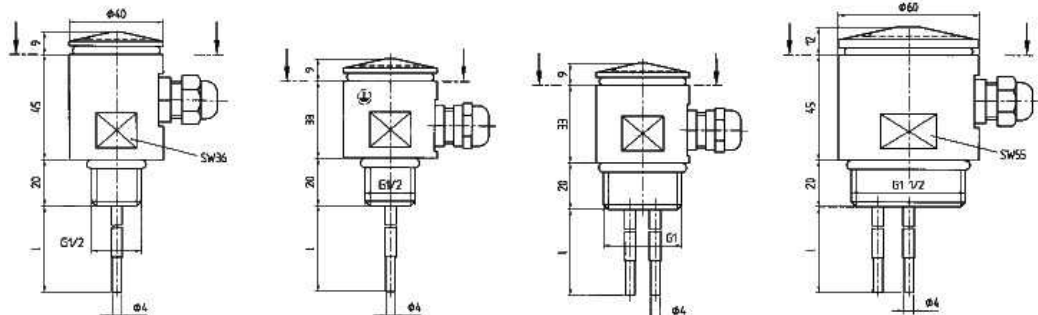
Size	Electrodes	Standard-Model
1/2"	1	GVAE - 1VK1
1/2"	1 (2)*	GVAE - 1VK1R
1/2"	2	GVAE - 2VK1
1"	2	GVAG - 2VK1
1"	3	GVAG - 3VK1
1"	4	GVAG - 4VK1

Size	Electrodes	Standard-Model
1 1/2"	2	GVAI - 2VK1
1 1/2"	3	GVAI - 3VK1
1 1/2"	4	GVAI - 4VK1
1 1/2"	5	GVAI - 5VK1
1 1/2"	6	GVAI - 6VK1
1 1/2"	7	GVAI - 7VK1

⚠ To order the Polyolefin-coated version insert "P" instead of "K" - e.g. "GVAE - 1VP1"

* Single pole probe with the reference connection tied to the mounting for use in electrical conductive vessels, functionality is the very same as for a bipolar probe.

Dimensions



Accessories

Junction cable

with numeric labeled wires

Level probes

Version 2 – Level Probe with stainless steel housing

Electric interface through a factory mounted cord with numbered wires. Case casted. Protection class IP 68.

- Connection cable with the length of 3m (or as required)
- Electrode length available 5 to 4000mm (please specify with your order)
- 1 - 7 electrodes
- For heavy-duty
- For conductive filling level acquisition



Technical data

Mounting method: Thread

Mounting orientation: any

Case temperature: max. 110°C

Media temperature: max. 120°C
(Polyolefin max. 100°C)

Media pressure: max. 10 bar

Probe-head material: V2A / 1.4301 , 1.4305
Cover and Cable gland brass, nickel-plated

Electrode material: V4A / 1.4571 (HAC-C4; Titanium)

Coating: PVDF "K" (alternatively Polyolefin "P")

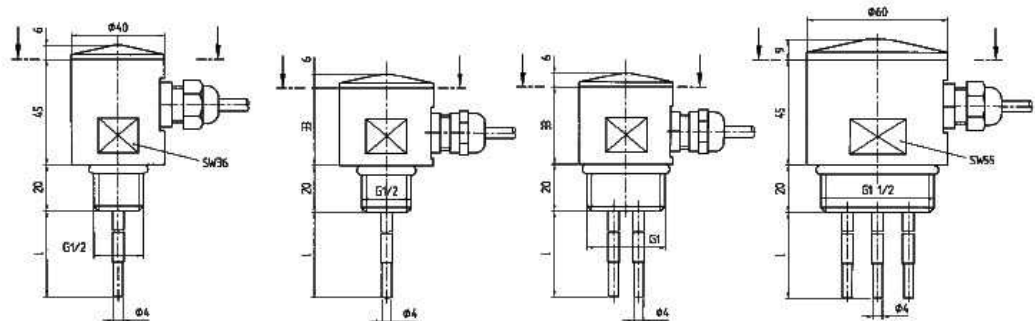
Size	Electrodes	Standard-Model
1/2"	1	GVAE - 1VK2
1/2"	1 (2)*	GVAE - 1VK2R
1/2"	2	GVAE - 2VK2
1"	2	GVAG - 2VK2
1"	3	GVAG - 3VK2
1"	4	GVAG - 4VK2

Size	Electrodes	Standard-Model
1 1/2"	2	GVAI - 2VK2
1 1/2"	3	GVAI - 3VK2
1 1/2"	4	GVAI - 4VK2
1 1/2"	5	GVAI - 5VK2
1 1/2"	6	GVAI - 6VK2
1 1/2"	7	GVAI - 7VK2

⚠ To order the Polyolefin-coated version insert "P" instead of "K" - e.g. "GVAE - 1VP2"

* Single pole probe with the reference connection tied to the mounting for use in electrical conductive vessels, functionality is the very same as for a bipolar probe.

Dimensions



Accessories

Junction cable

with numeric labeled wires

Level controller NR/RN 01

Level Controller NR/RN 01

Sensing for 1 or 2 levels.

Basic functions	
Min-Max - 2 switch points NR-Pump Up RN-Pump Down	Max - 1 switching point NR-Overflow protection RN-Run Dry protection
The NR / RN mode can be selected by jumpers	

- Conductive measurement principle (for conductive media)
- Sensitivity is adjustable
- LED indicators for relay state and operation
- Probes are operated with alternate current signal
- Supply and measurement signal are isolated from each other
- Safety measure against supply or transformer malfunction, then the filling and / or draining process will be stopped



Technical data

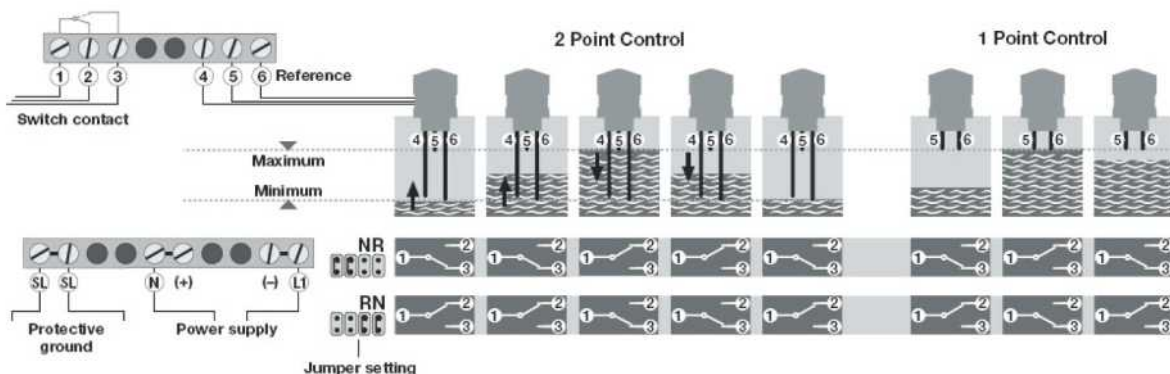
Dimensions:	L 120 x W 80 x H 55mm	Protection class:	Housing IP65
Housing:	ABS for Wall mounting, with quick-release cover		touch-proof terminals, captive, self-lifting terminal screws
Output:	1 changeover contact (SPDT), working current principle	Supply voltage:	230V AC
Switching voltage:	max. 250V AC	on request:	24V AC, 42V AC, 115V AC
Switching current:	6A	Supply frequency:	50-60 Hz
Power On time:	100 %	Tolerance:	-15% to +10%
Probe voltage:	Centre position 12V AC max. 25V AC	Power consumption:	max. 2,7 VA
		Ambient temperature:	-20°C up to +60°C

Type	Resistivity Range KΩ (centre position)	Conductance μS max.	Probe Current ≈ μA	Cable Capacity nF (centre position)	Cable Length m (centre position)
Setting 1	-70 (20)	14	< 800	60	500
Setting 2	-800 (330)	1,25	< 80	4	30
Setting 3	-680 (400)	0,85	< 50	1	8

Jumper

Setting 1 Setting 2 Setting 3

Functional and wiring diagram



Options

Variant -3	High sensible, for media with less conductivity, e.g. full demineralized water, condense
Variant -VZ	Switching delay, e.g. useful for moving filling media, undulation
Variant -3VZ	High sensible and switching delay together
all Variants	any combination available



Level controller S-NR 01 / S-RN 01

Level Controller S-NR 01, S-RN 01

Sensing for 1 or 2 levels. With test-button.

Basic functions	
Min-Max - 2 switch points NR-Pump Up RN-Pump Down	Max -1 switching point NR-Overflow protection RN-Run Dry protection

- Conductive measurement principle (for conductive media)
- Sensitivity is adjustable
- LED indicators for relay state and operation
- Probes are operated with alternate current signal
- Supply and measurement signal are isolated from each other
- Safety measure against supply or transformer malfunction, then the filling and / or draining process will be stopped



Technical data

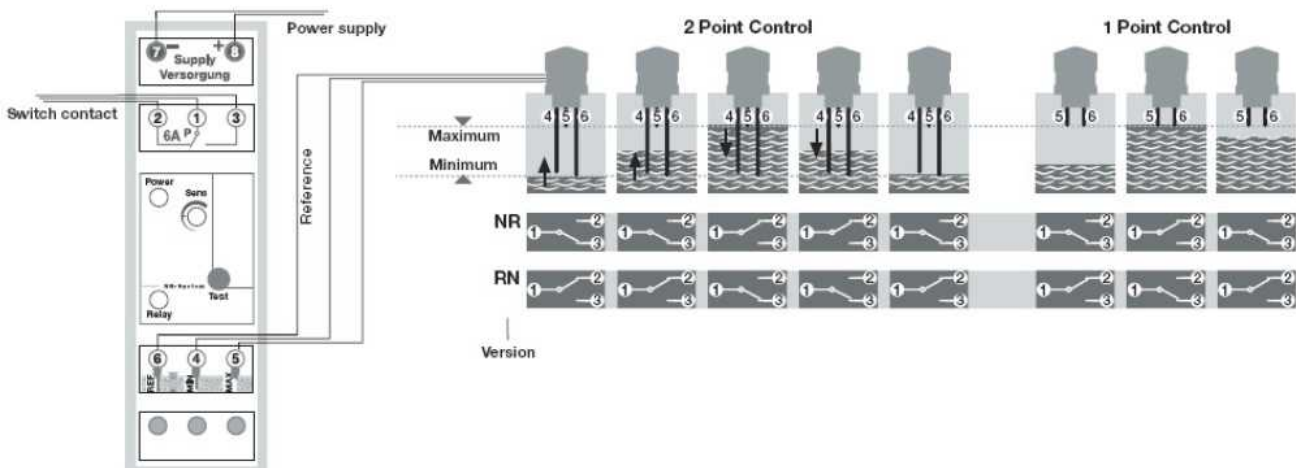
Dimensions:	L 75 x W 22,5 x H 110mm	Protection class:	Housing IP40 / Terminal IP20
Housing:	DIN standard housing quick mounting for standard rail DIN EN 50022		touch-proof terminals, captive, self-lifting terminal screws
Output:	1 changeover contact (SPDT), working current principle	Supply voltage:	230V AC
Switching voltage:	max. 250V AC	on request:	24V DC, 24V AC, 115V AC
Switching current:	6A	Supply frequency:	50-60 Hz
Power On time:	100 %	Tolerance:	-15% to +10%
Probe voltage:	AC 12V ss ca. 50Hz	Power consumption:	max. 3,3 VA
			Version 24V DC: 0,6VA
		Ambient temperature:	-20°C up to +60°C

Type	Resistivity Range KΩ (centre position)	Conductance μS max.	Probe Current ≈ μA	Cable Capacity nF (centre position)	Cable Length m (centre position)
Standard	-110 (50)	10	< 200	9-120 (60)	25-300 (150)

Article number	Supply Voltage
SNR01 23056	230V / 50-60Hz
SNR01 11556	115V / 50-60Hz
SNR01 2456	24V / 50-60Hz
SNR01 G2400	24V DC

Article number	Supply Voltage
SRN01 23056	230V / 50-60Hz
SRN01 11556	115V / 50-60Hz
SRN01 2456	24V / 50-60Hz
SRN01 G2400	24V DC

Functional and wiring diagram



Level controller NR 98 / RN 98

Level Controller NR 98, RN 98

Sensing for 1 or 2 levels.

Basic functions

Min-Max - 2 switch points	Max -1 switching point
NR-Pump Up	NR-Overflow protection
RN-Pump Down	RN-Run Dry protection

- Conductive measurement principle (for conductive media)
- Sensitivity is adjustable
- LED indicators for relay state and operation
- Probes are operated with alternate current signal
- Supply and measurement signal are isolated from each other
- Safety measure against supply or transformer malfunction, then the filling and / or draining process will be stopped

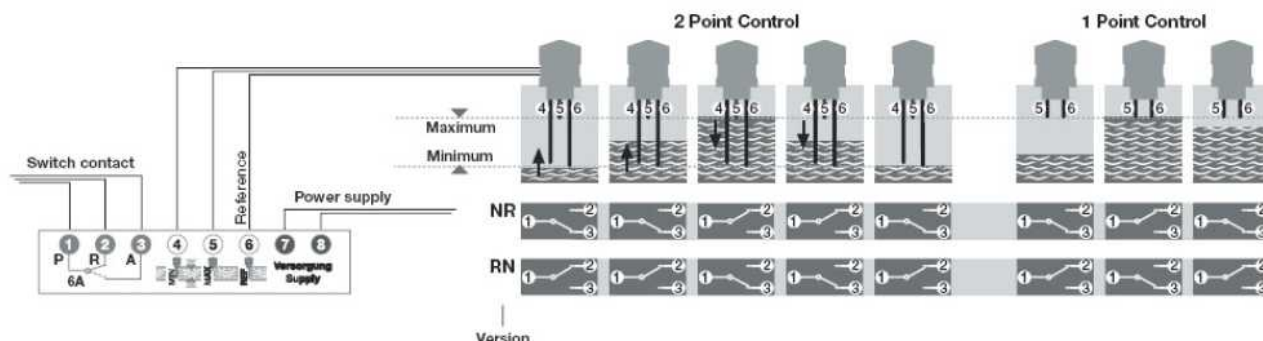


Technical data

Dimensions:	L 75 x W 55 x H 110mm	Protection class:	Housing IP40 / Terminal IP20
Housing:	DIN standard housing quick mounting for standard rail DIN EN 50022		touch-proof terminals, captive, self-lifting terminal screws
Output:	1 changeover contact (SPDT), working current principle	Supply voltage:	230V AC
Switching voltage:	max. 250V AC	on request:	24V DC, 42V AC, 115V AC
Switching current:	6A	Supply frequency:	50-60 Hz
Power On time:	100 %	Tolerance:	-15% to +10%
Probe voltage:	Centre position 12V AC max. 25V AC	Power consumption:	max. 2,7VA Version 24V DC: 0,6VA
		Ambient temperature:	-20°C up to +60°C

Type	Resistivity Range KΩ (centre position)	Conductance μS max.	Probe Current ≈ μA	Cable Capacity nF (centre position)	Cable Length m (centre position)
Standard	-70 (20)	14	< 340	60	500
-3	-800 (330)	1,25	< 30	4	30
-3/12	-1200 (700)	0,85	< 20	1	8

Functional and wiring diagram



Options

Variant -3	High sensible, for media with less conductivity, e.g. full demineralized water, condense
Variant -VZ	Switching delay, e.g. useful for moving filling media, undulation
Variant -3VZ	High sensible and switching delay together
all Variants	any combination available



Level Controller LC-01

Sensing for 1 or 2 Levels.

Basic functions

Min-Max - 2 switch points

UP (NR)-Pump Up
DOWN (RN)-Pump Down

Max - 1 switch point

UP (NR)-Overflow protect
DOWN (RN)-Run dry protect

- Function switch UP (NR) / DOWN (RN)
- Conductive measurement principle (for conductive media)
- Sensitivity adjustable
- LED indicators: power - relay state - cable break
- Probes are operated with alternate current signal
- Supply and measurement signal are isolated from each other
- Safety circuit against supply or transformer malfunction; filling and / or draining process will be stopped
- Line break monitoring, useable with 1 switch point in connection with level probe type - W
- Adjustable On and Off switch delay
max. 20 sec. (middle position 10 sec.)



Technical data

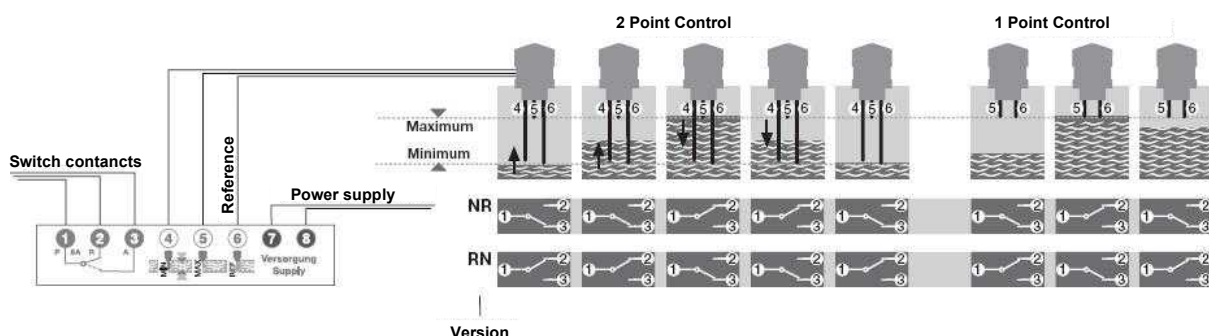
Dimensions:	L 75 x W 55 x H 110mm
Housing:	DIN standard housing quick mounting for standard rail DIN EN 50022
Output:	1 changeover contact (SPDT), closed circuit current principle
Switching voltage:	max. 250V AC
Switching current:	6A
Power On time:	100 %
Probe voltage:	12V AC

Protection class:	Housing IP40 / Terminal IP20 touch-proof terminals, captive, self-lifting terminal screws
Supply voltage:	230V AC, 24V DC
on request:	24V AC
Supply frequency:	50-60 Hz
Tolerance:	-15% to +10%
Power consumption:	max. 3,1 VA Version 24V DC: 0,7 VA
Ambient temperature:	-20°C up to +60°C

Measuring Range

Position DIP-Switch 2	Resistivity Range (Ω)	Conductance (μS) max.	Probe Current (μA)	Cable Length (m) max.
Up (10k)	-330 k	3	<36	100
Up (10k)	-150 k	7	<80	200
Up (10k)	-70 k	14	<170	500
Down (100k)	-1,8 M	0,55	<7	100

Functional and wiring diagram



Resistance list

Beständigkeitsliste	Resistance list	Stahl Steel	Glas/ Quarz Glass/ Quartz	Porzellan Porcelain	Edelstahl Stainless Steel	Titan Titanium	PTFE	Incoloy
Abkochentfettung (P3)	Hot degreasing (P3)	+	+	+	+	+	(+)	+
Ameisensäure	Formic acid	-	+	+	-	-	+	+
Ätznatron siehe Entfettungsbad	Caustic soda see degreasing bath							
Ätzbad (Leiterplatten)	Etching bath (printed circuit boards)							
a) Eisen-III-Chlorid-Basis	a) iron-III-chloride base	-	+	+	-	+	+	-
b) Ammoniumchlorid-Basis	b) ammonium chloride base	-	+	+	-	-	+	-
Beizbad	Pickling bath							
a) sauer	a) sour	-	+	+	-	-	+	-
b) fluorhaltig	b) containing fluorine	-	-	-	-	-	+	-
Beizentfetter, Schwefelsäure-Basis	Pickling-degreaser, sulfuric acid base	-	+	+	-	-	+	-
Benzoessäurebad	Benzoic acid bath	-	+	+	+	+	+	+
Bleichlösung, sauer, natriumchloridhaltig	Bleach solution, acidic, containing sodium chloride	-	+	+	-	+	+	-
Bonderbad, Phosphorsäure + Chromsäure	Bonderbath (Bonderizing), phosphoric acid + chromic acid	+	+	+	(+)	+	-	+
Eisen-Zinkphosphat (ohne Flußsäure)	Iron-zinc phosphate (without hydrofluoric acid)	3 mm						
Boraxbad	Boraxbath	-	(+)	(+)	+	-	+	+
Bronzebad, stromlos, sauer	Bronze bath, electroless, acidic	-	-	+	(+)	-	+	-
Brünierbad	Burnishing bath	+	-	-	+	-	(+)	+
natronlaugehaltig	containing sodium hydroxide solution	3 mm						
Cadmiumbad	Cadmium bath							
siehe Kadmiumbad	see „Kadmiumbad“							
Chrombad, elektrolytisch	Chrome bath, electrolytic							
a) sauer	a) sour	-	(+)	+	-	+	+	-
b) fluorhaltig	b) containing fluorine	-	-	-	-	-	+	-
Chromatierbad (chemische Oxidation von Aluminium)	Chromatizing bath (chemical oxidation of aluminum)							
a) sauer	a) sour	-	+	+	-	-	+	-
b) fluorhaltig	b) containing fluorine	-	-	-	-	-	+	-
c) basisch	c) basic	-	-	-	+	-	+	+
Dekapierbad, Schwefelsäure und Salzsäure im Gemisch	Pickling bath, sulfuric acid and hydrochloric acid in a mixture							
a) ohne Flußsäure	a) without hydrofluoric acid	-	+	+	-	-	+	-
b) mit Flußsäure	b) with hydrofluoric acid	-	-	-	-	-	+	-
jedoch ohne Beizentfetter	but without pickling-degreaser	-	-	-	-	-	+	-
Eisenbad, elektrolytisch	Iron bath, electrolytic							
a) sauer	a) sour	-	+	+	-	+	+	-
b) fluorhaltig	b) containing fluorine	-	(+)	(+)	-	-	+	-
Eisen-III-Chloridbäder	Iron-III-chloride bath (Ferric chloride baths)	-	+	+	-	+	+	-
Eisen-II-Chloridbäder	Iron-II-chloride bath (Ferric chloride baths)	-	+	+	-	+	+	-
Eloxalbad	Anodising bath							
a) Schwefelsäure, Oxalsäure und Chromsäure im Gemisch	a) sulfuric acid, oxalic acid and chromic acid in a mixture	-	+	+	-	-	+	-
b) phosphorsäurehaltig	b) containing phosphoric acid	-	(+)	(+)	-	-	+	-
c) salpetersäurehaltig	c) containing nitric acid	-	(+)	(+)	-	-	+	-
Entfettungsbad, elektrolytisch, auf Ätznatron- und Sodabasis	Degreasing bath, electrolytic, based on caustic soda and soda							
a) kathodisch	a) cathodic	+	(+)	(+)	+	+	+	+
b) anodisch	b) anodic	+	(+)	(+)	-	-	+	+
Entwickler, photographische Entwicklung	Developer, photographic development	-	+	+	(+)	(+)	+	+
Essigsäurebad	Acetic acid bath	-	+	+	+	+	+	+
Fettbad	Fat bath	+	-	-	+	-	-	+
Flußsäure	Hydrofluoric acid	3 mm	-	-	-	-	+	-
Fluxbad, ohne Fluor (Ammoniumchlorid mit Zinklauge)	Flux bath, without fluorine (ammonium chloride with zinc leach)	-	+	+	-	(+)	+	-
mit Fluor	with fluorine	-	-	-	-	-	+	-
Gelbchromatieren ohne Fluor (Aluminium)	Yellow chromating without fluorine (aluminum)	-	+	+	+	-	+	+
mit Fluor	with fluorine	-	-	-	-	-	+	-
Gelb- und Glanzbrennen	Yellow and shiny burn							
Gemisch von Schwefelsäure, Salzsäure und Salpetersäure	Mixture of sulfuric acid, hydrochloric acid and nitric acid	-	+	+	-	-	+	-

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Gelbsäurebad	Yellow acid bath	-	-	-	+	+	-	+
Glänzbath, chemisches	Brightening bath, chemical							
a) Phosphorsäure und Salpetersäure im Gemisch	a) phosphoric acid and nitric acid in a mixture	-	(+)	+	(+)	-	+	+
b) wie oben + Schwefelsäure	b) as above + sulfuric acid	-	(+)	+	(+)	-	+	(+)
Goldbad, elektrolytisch	Gold bath, electrolytic							
a) sauer	a) sour	-	+	+	-	(+)	+	-
b) cyanidisch	b) cyanidic	-	(+)	(+)	+		+	+
Heißspülbecken	Hot rinsing bath	-	+	+	+	+	-	+
Härteöl ~ siehe Fettbad	Hardening oil ~ see fat bath							
Indiumbad, elektrolytisch	Indium bath, electrolytic							
a) sauer	a) sour	-	+	+	-	-	+	-
b) cyanidisch	b) cyanidic	-	(+)	(+)	+	+	+	+
c) fluorhaltig	c) containing fluorine	-	-	-	-	-	+	-
Kadmiumbad, elektrolytisch	Cadmium bath, electrolytic							
a) sauer	a) sour	-	+	+	-	-	+	+
b) cyanidisch	b) cyanidic	-	(+)	(+)	+		+	
c) fluorhaltig	c) containing fluorine	-	-	-	-	-	+	-
Kalilaugenbad	Potassium hydroxide bath	(+)	-	-	(+)	+	-	(+)
Kaliumpermanganat	Potassium permanganate	-	+	+	+	+	+	+
Kalkmilch (Kaliumhydroxid mit Wasser)	Lime milk (Potassium hydroxide with water)	+	-	-	-	+	+	-
Kochsalzlösung, natriumchloridhaltig	Saline, containing sodium chloride	-	+	+	-	+	+	(+)
Königswasser, Gemisch von Salzsäure und Salpetersäure	Aqua regia, mixture of hydrochloric acid and nitric acid	-	+	+	-	-	+	-
Kupferbad, elektrolytisch	Copper bath, electrolytic							
a) sauer	a) sour	-	+	+	-	+		+
b) cyanidisch	b) cyanidic	+		-	+		+	
		3 mm						
c) fluorhaltig	c) containing fluorine	-	-	-	-	-	+	-
Kupferbad, stromlos sauer	Copper bath, electroless sour	-	+	+	-	+	+	-
Kupfersulfat	Copper sulphate	-	+	+	-	+	+	+
Laugen	Alkalis							
a) pH-Wert < 11	a) pH < 11	+	-	-	+	+	-	+
b) pH-Wert > 11	b) pH > 11	(+)	-	-	+	+	-	+
Lötwasserbad, salzsäurehaltig	Soldering water bath, containing hydrochloric acid	-	+	+	-	-	+	-
Messingbad, stromlos chemisch	Brass bath, electroless chemical							
a) sauer	a) sour	-	+	+	-	(+)	+	-
b) cyanidisch	b) cyanidic	-	(+)	(+)	+		+	
Methansulfonsäure	Methanesulfonic acid	-	+	+	+	+	+	+
Milchsäure	Lactic acid	-	+	+	+	+	+	+
Natriumsulfat	Sodium sulphate	-	(+)	(+)	+	-	+	+
Natronlauge	Caustic soda	+	-	-	+	+	+	+
Nickel-Depassivierungsbad	Nickel depassivation bath	-	+	+	-	-	+	-
Gemisch von Natriumhydrogensulfat, Natriumchlorid und Eisensulfat	Mixture of sodium hydrogen sulfate, sodium chloride and iron sulfate							
Nickelbad, elektrolytisch	Nickel bath, electrolytic					 oder anodisch or anodic		
a) chlorid- und sulfathaltig	a) containing chloride and sulphate	-	+	+	-	+	+	-
b) fluorhaltig	b) containing fluorine	-	-	-	-	-	+	-
Nickelbad, stromlos chemisch	Nickel bath, electroless chemical							
a) sauer	a) sour	-	(+)	+	-	+		+
b) alkalisch	b) alkaline	-	-	-	-	(+)	+	-
Ölbath: siehe Fettbad	Oil bath: see fat bath							
Oxalsäure	Oxalic acid	-	+	+	-	-	+	-
Paraffinbad	Paraffin bath	+	-	-	+	-	-	+
P3-Laugenbad	P3-alkaline bath	(+) Rost rust	-	-	(+)	-	-	+
Perchloräthylenbad	Perchloroethylene bath							
Leistung kleiner als 1,5 W/cm² meist indirekt über Heizpatrone	Power less than 1,5 W/cm² mostly indirectly via heating cartridge	-	-	-	(+)	-	-	+

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Phenolsulfonsäurebad	Phenolsulfonic acid bath	-	+	+	+	(+)	+	+
Phosphatierbad, Eisen- und Zinkphosphat siehe Bonderbad	Phosphating bath, iron and zinc phosphate see Bonderbath (Bonderizing)							
Phosphorsäurebad a) Konzentration < 60%	Phosphoric acid bath a) concentration < 60%	-	-	+	+	(+)	+	+ bis / up to 85°C
b) Konzentration > 60%	b) concentration > 60%	-	-	+	-	-	+	+ bis / up to 85°C
Photobäder siehe Entwickler, photographisch	Photo baths see developer, photographic							
Platinbad, elektrolytisch sauer	Platinum bath, electrolytic acid	-	+	+	-	-	+	+
Rhodiumbad, elektrolytisch a) Schwefelsäure-Basis	Rhodium bath, electrolytic a) Sulfuric acid base	-	+	+	-	+	+	+
Salpetersäure a) Konzentration < 50%	Nitric acid a) concentration < 50%	-	+	+	+	+	+	+
b) Konzentration > 50%	b) concentration > 50%	-	+	+	-	-	+	+
Schwefelsäure a) Konzentration < 3%	Sulfuric acid a) concentration < 3%	-	+	+	-	-	+	-
b) rauchend (Oleum)	b) fuming (oleum)	-	+	+	-	-	+	-
Salzsäure	Hydrochloric acid	-	+	+	-	-	+	-
Schwarzfärbegrad, Salpetersäure mit Eisenchlorid	Black dye bath, nitric acid with ferric chloride	-	+	+	-	-	+	-
Sealingbad = entsalztes Wasser	Sealing bath = desalinated water	-	+	+	(+) Fremdrost extraneous rust	-	+	+
Seewasser	Seawater	-	+	+	-	+	+	(+)
Silberbad, elektrolytisch cyanidisch	Silver bath, electrolytic cyanide	-	(+)	(+)	+	+	+	+
Spülwasser a) alkalisch	Dishwater a) alkaline	(+)	(+)	(+)	+	+	+	+
b) sauer	b) sour	-	+	+	-	-	+	-
c) flußsäurehaltig	c) containing hydrofluoric acid	-	(+)	(+)	-	-	+	-
Trichloräthylenbad Leistung < 1,5 W/m² meist indirekt beheizt	Trichlorethylene bath Power < 1,5 W/m² usually heated indirectly	+	-	-	(+)	+	-	+
Wasserbad	Water bath	Rost/rust						
a) Leitungswasser	a) tap water	(+)	+	+	+	+	-	+
b) Seewasser	b) seawater	-	+	+	-	+	+	-
c) destilliert	c) distilled	-	+	+	(+)	+	+	+
d) entionisiert	d) deionized	-	+	+	(+)	+	+	+
e) entsalzt	e) desalinated	-	+	+	(+)	(+)	+	+
Wasserstoffperoxid	Hydrogen peroxide	-	+	+	+	+	+	+
Weinsteinsäurebad = Weinsäure	Tartaric acid bath = tartaric acid	-	+	+	+	+	+	+
Zinkbad, elektrolytisch a) sauer	Zinc bath, electrolytic a) sour	-	+	+	-	+	+	-
b) cyanidisch	b) cyanidic	-	(+)	(+)	+	+	+	+
c) fluorhaltig	c) containing fluorine	-	-	-	-	-	+	-
d) basisch	d) basic	+	(+)	(+)	+	+	+	+
Zinnbad, elektrolytisch a) Schwefelsäure-Basis	Tin bath, electrolytic a) Sulfuric acid base	-	+	+	-	+	+	-
b) cyanidisch	b) cyanidic	+	(+)	(+)	+	+	+	+
c) flußsäurehaltig	c) containing hydrofluoric acid	-	-	-	-	-	+	-
Zinnbad, stromlos, sauer	Tin bath, electroless, acidic	-	+	+	-	-	+	-
Zitronensäurebad	Citric acid bath	-	+	+	+	(+)	+	+



ELVARME

VORES PRODUKTSORTIMENT INKLUDERER:



GALVATHERM



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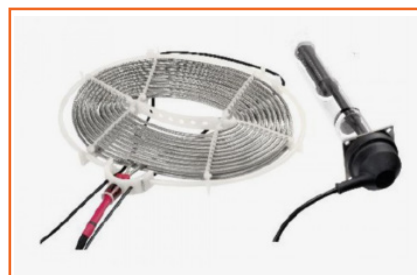
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WIRE WOUND HEATERS



FLANGEVARMELEGEME STANDARD



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