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Subject to change.

All dimensions in mm (inches).

All prices in Euro (€) or USD (\$),
excluding VAT.

All EURO prices are EXW Betzigau,
all USD prices are EXW Memphis,
excluding packaging costs.

Valid: From 01.04.2018 until 31.03.2019, unless otherwise
agreed.

By publishing this selection list all other lists become invalid.

We assume no liability for typing errors.

Different variations to those specified are possible.
Please contact our technical consultants.

Overview

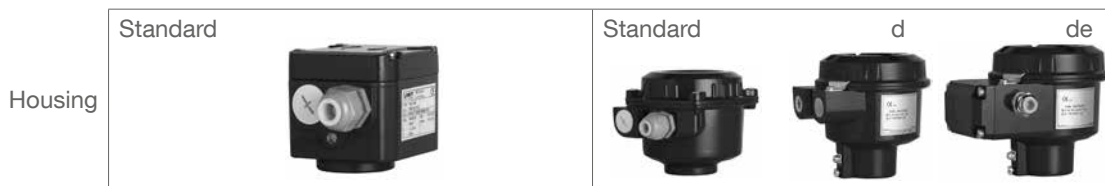
- Level limit detection in bulk goods/ solids
- Compact unit
- Very robust and reliable sensors
- Wide range of applications, no maintenance
- Full-, demand-, empty detector

- ATEX, IEC-Ex , FM, CSA, TR-CU, INMETRO
- SIL 2
- 1935/2004/EC
- 2011/65/EU








Gas Ex and Dust Ex approvals

Functional safety
 Food grade material
 RoHS Conform

| Series | RN 3000 | RN 6000 |
|--------|---|--|
| | ATEX/ IEC-Ex/ TR-CU/ INMETRO | ATEX/ IEC-Ex/ FM/ CSA/ TR-CU/ INMETRO/ SIL 2 |
| | Small housing Sensitivity >15 g/l (0.9 lb/ft³) | Spacious housing Sensitivity >15 g/l (0.9 lb/ft³) |



Overview

| | | |
|---|---|---|
| <p>RN ..002-rope Rope extension</p> | <p>RN 3002-rope</p>  | <p>RN 6002-rope</p>  |
| <p>RN ..003 Angled extension</p> | <p>RN 3003</p>  | <p>RN 6003</p>  |
| <p>RN ..004 Pipe extension horizontal</p> | <p>RN 3004</p>  | <p>RN 6004</p>  |
| <p>RN 3005 Extra short version for use in loading bellow</p> | <p>RN 3005</p>  | |

Specifications

| Series | | RN 3000 | RN 6000 | |
|--------------------------|-------------------------------|------------------------------|---------|---|
| Approvals | CE | • | • | |
| | ATEX/ IEC-Ex/ INMETRO: | | | |
| | Zone 20/21 | Dust Ignition Proof | • | • |
| | Zone 1 | Flameproof/ Increased Safety | | • |
| | FM/ CSA: | | | |
| | Ordinary Locations | | | • |
| | Cl. II, III Div. 1 | Dust Ignition Proof | | • |
| | Cl. I Div. 1 | Explosionproof | | • |
| | Zone 1 | Flameproof/ Increased Safety | | • |
| | TR-CU: | | | |
| | Ordinary Locations | | • | |
| | Zone 20/21 | Dust Ignition Proof | • | • |
| | Zone 1 | Flameproof/ Increased Safety | | • |
| Functional safety | | SIL 2 (IEC 61508) | | |

| Technical data | | | |
|--------------------------------------|--|--|---|
| Ambient temperature | | -20°C .. +70°C (-4°F .. +158°F) CE -20°C .. +60°C (-4°F .. +140°F) EX -40°C (-40°F) with heating | -20°C .. +50°C (-4°F .. +122°F) -40°C (-40°F) with heating |
| Type of protection | | IP66 and NEMA Type 4/4X (RN6000) | |
| Material housing | | Aluminium or plastics PA6 (RN3000, optional) | |
| Process connection material | | Aluminium or 1.4305 (303)/ 1.4541 (321) or 1.4404 (316L) | |
| Material of measuring vane and shaft | | 1.4301 (SS 304)/ 1.4305 (303) or 1.4404 (316L) | |

| Electronics | | RN 3000 | | | | | | |
|-------------------------|--------------------------------------|---------------------|---------------------|------------------|----------------------------|----------------------------|---------------------|--------------------|
| | | Output signal | | | | | | |
| Power supply | | SPDT ⁽¹⁾ | DPDT | PNP | FSH/ FSL ⁽²⁾ | Adjustable delay | Fail safe alarm | |
| AC version | 24 V or 48 V or 115 V or 230 V AC | • | - | - | - | - | - | |
| DC version | 24 V DC | • | - | - | - | - | - | |
| DC version | 24 V DC PNP | - | - | • | • | • | - | |
| Universal voltage | 24 V DC/ 22 .. 230 V AC | • | - | - | • | • | option | |
| | | RN 6000 | | | | | | |
| | | Output signal | | | | | | |
| Power supply | | SPST | SPDT ⁽¹⁾ | DPDT | PNP | FSH/ FSL ⁽²⁾ | Adjustable delay | Fail safe alarm |
| AC version | 24 V or 48 V or 115 V or 230 V AC | - | • | - | - | - | - | - |
| DC version | 24 V DC | - | • | - | - | - | - | - |
| Universal voltage | 24 V DC/ 22 .. 230 V AC | - | - | • ⁽³⁾ | - | • | • | option |
| Universal voltage SIL 2 | 24 V DC/ 22 .. 230 V AC | • | • ⁽⁴⁾ | - | - | • | • | - |

⁽¹⁾ Micro switch, with Universal voltage Relais

⁽²⁾ Switchable signal output (Fail safe high/ low)

⁽³⁾ For Ex approval "Increased safety" (pos.2 C,R,S) not in combination with option Fail safe alarm

⁽⁴⁾ Additional output, not SIL conform

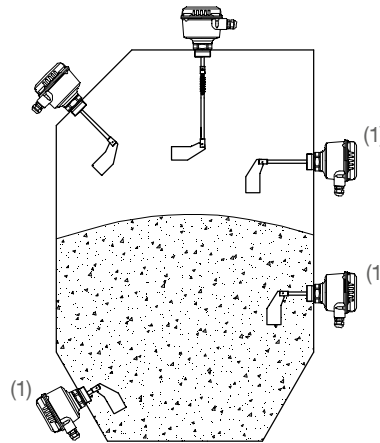
Specifications

| | | | |
|--|------------------------------------|---|---|
| Extensions | RN .001 | Process temperature | -40/ -25 .. +80/ 150/ 250/ 350/ 600/ 1,100°C (-40/ -13 .. +176/ 302/ 482/ 662/ 1,112/ 2,012°F) |
| | | Process pressure | -0.9 .. +0.8bar; -0.9 .. +5/ 10 bar (-13.1 .. +11.6; -13.1 .. +72.5/ 145 psi) |
| | | Length of extension | |
| | | Full detector vertical from the top | 70 .. 1,000 mm (2.76 .. 39.4") |
| | | Full detector with pendulum shaft, vertical from the top | 300 .. 1,000 mm (11.8 .. 39.4") |
| | | Full detector oblique from the top | 70 .. 300 mm (2.76 .. 11.8") |
| | | Full detector horizontal | 70 .. 300 mm (2.76 .. 11.8") |
| | | Demand or empty detector horizontal | 70 .. 150 mm (2.76 .. 5.9") * |
| | | Empty detector oblique from the bottom | 70 .. 150 mm (2.76 .. 5.9") * |
| | RN .002 | Process temperature | -40/ -25 .. +80/ 150/ 250/ 350/ 600/ 1,100°C (-40/ -13 .. +176/ 302/ 482/ 662/ 1,112/ 2,012°F) |
| | | Process pressure | -0.9 .. +0.8 bar; -0.9 .. +5/ 10 bar (-13.1 .. +11.6; -13.1 .. +72.5/ 145 psi) |
| | | Length of extension | |
| | | Full detector vertical from the top | 250 .. 3,000 mm (9.84 .. 118")/ 4,000 mm (158") with support of the extension pipe |
| | Full detector oblique from the top | 250 .. 3,000 mm (9.84 .. 118") with option "Bearing at tube end" | |
| | RN..002-rope | Process temperature | -40/ -25 .. +80/ 150/ 250/ 350/ 600°C (-40/ -13 .. +176/ 302/ 482/ 662/ 1,112°F) |
| | | Process pressure | -0.9 .. +0.8 bar; -0.9 .. +5/ 10 bar (-13.1 .. +11.6; -13.1 .. +72.5/ 145 psi) |
| | | Length of extension | |
| | | Full detector vertical from the top | 500 .. 10,000 mm (19.7 .. 394") (observe max. traction) |
| | RN .003 | Process temperature | -40/ -25 .. +80/ 150/ 250°C (-40/ -13 .. +176/ 302/ 482°F) |
| | | Process pressure | -0.9 .. +0.8 bar; -0.9 .. +5/ 10 bar (-13.1 .. +11.6; -13.1 .. +72.5/ 145 psi) |
| | | Length of extension | |
| | | Demand or empty detector horizontal | 125 .. 600 mm (4.92 .. 23.6") |
| | | Empty detector oblique from the bottom | 125 .. 600 mm (4.92 .. 23.6") |
| | RN .004 | Process temperature | -40/ -25 .. +80/ 150/ 250/ 350/ 600°C (-40/ -13 .. +176/ 302/ 482/ 662/ 1,112°F) |
| Process pressure | | -0.9 .. +0.8 bar; -0.9 .. +5/ 10 bar (-13.1 .. +11.6; -13.1 .. +72.5/ 145 psi) | |
| Length of extension | | | |
| Full detector vertical from the top | | 150 .. 600 mm (5.90 .. 23.6") | |
| Full detector oblique from the top | | 150 .. 300 mm (5.90 .. 11.8") | |
| Full detector horizontal | | 150 .. 300 mm (5.90 .. 11.8") | |
| Demand or empty detector horizontal | | 150 .. 300 mm (5.90 .. 11.8") * | |
| Empty detector oblique from the bottom | | 150 .. 300 mm (5.90 .. 11.8") * | |
| RN 3005 | Process temperature | -40/ -25 .. +80°C (-40/ -13 .. +176°F) | |
| | Process pressure | -0.9 .. +0.8 bar (-13.1 .. +11.6 psi) | |
| | Length of extension | | |
| | Application "Loading bellow" | 90 mm (3.5") | |

* A protective canopy is recommended for applications with high mechanical loads

Applications

RN ..001
 Short extension length

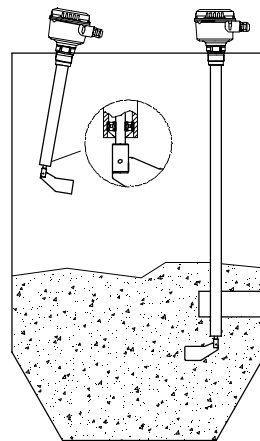


Extension for vertical installation with pendulum shaft

(1) Not for version 1,100°C

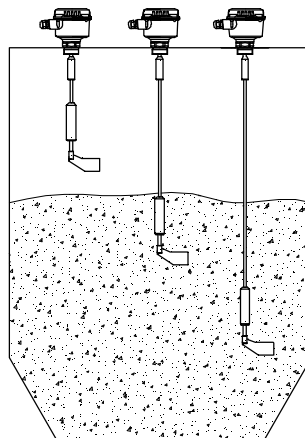
Horizontal mounting:
 Boot shaped vane recommended
 (min. mech. loading as the vane aligns itself to the material flow).

RN ..002
 Pipe extension vertical



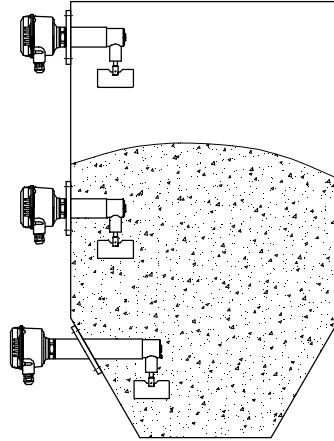
Deviation up to max. 10° from vertical installation only with option „bearing at tube end“ possible

RN ..002 - rope
 Rope extension

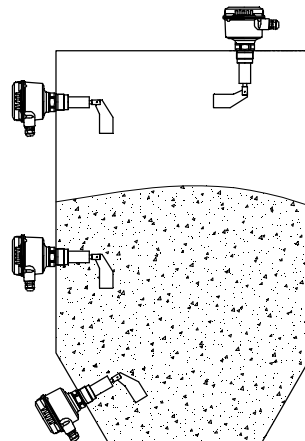


Applications

RN ..003
 Angled extension

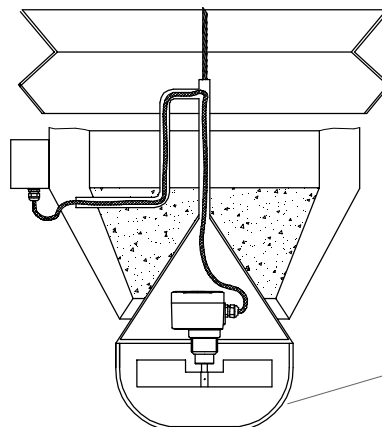


RN ..004
 Pipe extension horizontal



Horizontal mounting:
 Boot shaped vane
 recommended
 (min. mech. loading as
 the vane aligns itself to
 the material flow).

RN 3005
 Extra short version



Application
 „Loading bellow“

mechanical
 protection for
 sensor

RN ..001 Short extension length

RN 3001



RN 6001



Housings RN 6001



Standard



d (flameproof)



de (flameproof/
increased safety)

Cable entries (by default)

Depending on model selected, the following cable entries will be delivered (options see pos.28 on page 20):

| Version: | Cable entries: |
|---|--|
| ATEX/ IEC-Ex flameproof (pos.2 T) FM and CSA (pos.2 M,N,S,U) All other versions | M20 x 1.5 (1x open conduit + 1x Ex-d blind plug) NPT ½" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug) M20 x 1.5 (1x screwed cable gland + 1x blind plug) |

Dimensions see pages 24 - 28

Basic Type

- RN 3001
- RN 6001

pos.2 **Certificate** (detailed Ex-markings: see page 29)

| Certificate | Zone/ Div | | Protection method |
|-------------------|--------------------|---------------------|---|
| | Dust | Gas | |
| 0 CE/ TR-CU | - | - | |
| W ATEX | Zone 20/21 | - | Dust Ignition Proof |
| R ATEX | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| T ATEX | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |
| A IEC-Ex/ INMETRO | Zone 20/21 | - | Dust Ignition Proof |
| C IEC-Ex/ INMETRO | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| D IEC-Ex/ INMETRO | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |
| M FM/ CSA | - | - | General purpose |
| N FM/ CSA | Cl. II, III, Div.1 | - | Dust Ignition Proof |
| CSA | A 20/21 | | |
| S FM/ CSA | Cl. II, III, Div.1 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| CSA | A 20/21 | | |
| U FM/ CSA | Cl. II, III, Div.1 | Cl. I Div.1/ Zone 1 | Explosion Proof/ Dust Ignition Proof |
| CSA | A 20/21 | | |
| E TR-CU | Zone 20/21 | - | Dust Ignition Proof |
| K TR-CU | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| L TR-CU | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |

pos.3 **Process temperature**

- 1 max. +80°C (176°F)
- 2 max. +150°C (302°F)
- 3 max. +250°C (482°F)
- 4 max. +350°C (662°F) (not for pos.10 K,S in 1.4404; not for Ex, only with pos.4 1, L min=200 mm) .
- 5 max. +600°C (1,112°F) (not for pos.10 K,S in 1.4404; not for Ex, only with pos.4 1)
- 6 max. +1,100°C (2,012°F) Installation vertical/ obliquely downward on request

pos.4 **Process overpressure**

- 1 max. 0.8 bar (11.6 psi) (0.1 bar (1.45 psi) with Pos.3 5 and pos.3 6)
- 2 max. 5 bar (73 psi)
- 3 max. 10 bar (145 psi)

RN ..001 Short extension length

| | | | | |
|--------|--|---|-------|----------|
| pos.5 | Power supply | | | |
| • • | A / S 230 V AC 50 - 60 Hz | Motor Speed: A=1/min S=5/min | • / • | |
| • • | B / T 115 V AC 50 - 60 Hz | Motor Speed: B=1/min T=5/min | • / • | |
| • • | C / U 48 V AC 50 - 60 Hz | Motor Speed: C=1/min U=5/min | • / • | |
| • • | D / V 24 V AC 50 - 60 Hz | Motor Speed: D=1/min V=5/min | • / • | |
| • • | E / W 24 V DC | Motor Speed: E=1/min W=5/min | • / • | |
| • • | G / H 24 V DC PNP | Motor Speed: G=1/min H=5/min | • / • | |
| • • | F / X 24 V DC/ 22 .. 230 V AC universal voltage | Motor Speed: F=1/min X=5/min | • / • | |
| pos.6 | Process connection | | | |
| • • | A thread G 1½", DIN 228 | | • • • | |
| • • | B thread G 1¼", DIN 228 | (max. 250°C (482°F)) | • • • | |
| • • | C thread G 1", DIN 228 | (max. 250°C (482°F)) (not for pos.2 R,S,T,U) | • • • | |
| • • | D thread M32 x 1.5 | (max. 250°C (482°F)) (not for pos.2 R,S,T,U) ... | • • • | |
| • • | E thread M30 x 1.5 (max. 0.8 bar (11.6 psi)/ 80°C (176°F)) | (not for pos.2 R,S,T,U) | • • • | |
| • • | F thread NPT 1½", conical ANSI B1.20.1 | | • • • | |
| • • | Q thread NPT 1¼", conical ANSI B1.20.1 | (max. 250°C (482°F)) | • • • | |
| • • | G thread NPT 1", conical ANSI B1.20.1 | (max. 250°C; not for pos.2 R,S,T,U) | • • • | |
| • • | P Triclamp 2" (DN50) ISO 2852 | (max. 250°C (482°F)) | • • • | |
| • • | H flange 150x150, 4x ø18 LK-ø170 | (max. 0.8 bar (11.6psi)) | • • • | |
| • • | I flange 150x150, 4x ø14 LK-ø170 | (max. 0.8 bar (11.6psi)) | • • • | |
| • • | K flange DN32 PN6, EN 1092-1 | (max. 5 bar (73psi)/ 250°C (482°F)) | • • • | |
| • • | N flange DN50 PN16, EN 1092-1 | | • • • | |
| • • | L flange DN100 PN6, EN 1092-1 | (max. 5 bar (73 psi)) | • • • | |
| • • | M flange DN100 PN16, EN 1092-1 | | • • • | |
| • • | S flange 2" 150lbs ANSI B16.5 | | • • • | |
| • • | T flange 3" 150lbs ANSI B16.5 | | • • • | |
| • • | U flange 4" 150lbs ANSI B16.5 | | • • • | |
| pos.7 | Material Process connection | | | |
| • • | 1 aluminium | (max. 0.8 bar (11.6psi)/ 80°C (176°F)) | | |
| • • | 3 stainless steel 1.4305 (303) A-G/ 1.4301 (304) P-I/ 1.4541 (321) K-U | | | |
| • • | 7 stainless steel 1.4404 (316L) | (only with pos.9 7) | | |
| pos.8 | Length of extension "L" | | | |
| • • | K 70 mm (2.76") | (only with vane P)..... | • | |
| • • | A 100 mm (3.93") | (only with vane A,D,R,J,B,C,E) | • | |
| • • | B 150 mm (5.90") | | • | |
| • • | C 200 mm (7.87") | | • | |
| • • | D 250 mm (9.84") | | • | |
| • • | E 300 mm (11.8") | | • | |
| • • | Z other lengthes price per 50 mm (1.97") or part thereof (starting from 0 mm) | min. 350 mm (13.8"), max. 1,000 mm (39.4") | • | |
| pos.9 | Material of extension "L" | | | |
| • • | 3 stainless steel 1.4305 (303) | | | |
| • • | 7 stainless steel 1.4404 (316L) | (only with pos.7 7 and 10 A,D,R,F,K,S,P) | | |
| pos.10 | Measuring vane | | | |
| • • | A boot-shaped ⁽¹⁾ 40 x 98 mm (1.57 x 3.86") | for 1½" socket (with pos.9 7 L=10 mm longer) | • | |
| • • | D boot-shaped ⁽¹⁾ 35 x 106 mm (1.38 x 4.17") | for 1¼" socket (L=10 mm longer) | • | |
| • • | R boot-shaped ⁽¹⁾ 28 x 98 mm (1.10 x 3.86") | for 1" and M32 socket | • | |
| • • | J boot-shaped ⁽¹⁾ 26 x 77 mm (1.02 x 3.03") | for M30 socket | • | |
| • • | B rectangular 50 x 98 mm (1.97 x 3.86") | | • | |
| • • | C rectangular 50 x 150 mm (1.97 x 5.90") | | • | |
| • • | E rectangular 50 x 250 mm (1.97 x 9.84") | | • | |
| • • | F rectangular 98 x 98 mm (3.86 x 3.86") | | • | |
| • • | G rectangular 98 x 150 mm (3.86 x 5.90") | | • | |
| • • | I rectangular 98 x 250 mm (3.86 x 9.84") | | • | |
| • • | K hinged vane 98 x 200 mm (3.86 x 7.87") double sided (L=10mm longer) 1.4301/ 1.4404 | | • / • | (1.4404) |
| • • | S hinged vane 98 x 100 mm (3.86 x 3.93") single sided (L=10mm longer) 1.4301/ 1.4404 | | • / • | (1.4404) |
| • • | M rubber vane 98 x 250 mm (3.86 x 9.84") | (max. 80°C (176°F)) | • | |
| • • | P notched 40 x 80 mm (1.57 x 3.15") | (only with pos.8 K) 1.4301/ 1.4404 | • / • | (1.4404) |
| • • | Y without | including splint pin for fixation | • | |

Basic type **Further options and accessories:** see page 20

| | | | | | | | | | | |
|----------|----------|---|---|---|---|---|---|---|---|----|
| | A | | | | | | | | | |
| Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

← **Order code**

All positions are available in special design (use code "Z").

⁽¹⁾ maximum length of socket 40mm

RN ..002 Pipe extension vertical

RN 3002



RN 6002



Without sealing and bearing at tube end (see also option pos.32)

Housings RN 6002



Standard



d (flameproof)



de (flameproof/
increased safety)

Cable entries (by default)

Depending on model selected, the following cable entries will be delivered (options see pos.28 on page 20):

| Version: | Cable entries: |
|-----------------------------------|--|
| ATEX/ IEC-Ex flameproof (pos.2 T) | M20 x 1.5 (1x open conduit + 1x Ex-d blind plug) |
| FM and CSA (pos.2 M,N,S,U) | NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug) |
| All other versions | M20 x 1.5 (1x screwed cable gland + 1x blind plug) |

Dimensions

see pages 24 - 28

Basic Type

- RN 3002
- RN 6002

pos.2 **Certificate** (detailed Ex-markings: see page 29)

| Certificate | Zone/ Div | | Protection method |
|-------------------|--------------------|---------------------|---|
| | Dust | Gas | |
| 0 CE/ TR-CU | - | - | |
| W ATEX | Zone 20/21 | - | Dust Ignition Proof |
| R ATEX | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| T ATEX | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |
| A IEC-Ex/ INMETRO | Zone 20/21 | - | Dust Ignition Proof |
| C IEC-Ex/ INMETRO | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| D IEC-Ex/ INMETRO | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |
| M FM/ CSA | - | - | General purpose |
| N FM/ CSA | Cl. II, III, Div.1 | - | Dust Ignition Proof |
| CSA | A 20/21 | | |
| S FM/ CSA | Cl. II, III, Div.1 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| CSA | A 20/21 | | |
| U FM/ CSA | Cl. II, III, Div.1 | Cl. I Div.1/ Zone 1 | Explosion Proof/ Dust Ignition Proof |
| CSA | A 20/21 | | |
| E TR-CU | Zone 20/21 | - | Dust Ignition Proof |
| K TR-CU | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| L TR-CU | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |

RN ..002 Pipe extension vertical

| | | | | |
|--------|------------------------------------|--|---|----------------|
| pos.3 | Process temperature | | | |
| • • | 1 | max. +80°C (176°F) | ..... | • |
| • • | 2 | max. +150°C (302°F) | ..... | • |
| • • | 3 | max. +250°C (482°F) | ..... | • |
| • • | 5 | max. +600°C (1,112°F) | (not for pos.10 K,S in 1.4404; not for Ex, only with pos.4 1) | • |
| • • | 6 | max. +1,100°C (2,012°F) | Installation vertical/ obliquely downward on request | • |
| pos.4 | Process overpressure | | | |
| • • | 1 | max. 0.8 bar (11.6 psi) | (0.1 bar (1.45 psi) with pos.3 5, pos.3 6) | • |
| • • | 2 | max. 5 bar (73 psi) | ..... | • |
| • • | 3 | max. 10 bar (145 psi) | ..... | • |
| pos.5 | Power supply | | | |
| • • | A / S | 230 V AC 50 - 60 Hz | Motor Speed: A=1/min S=5/min | • / • |
| • • | B / T | 115 V AC 50 - 60 Hz | Motor Speed: B=1/min T=5/min | • / • |
| • • | C / U | 48 V AC 50 - 60 Hz | Motor Speed: C=1/min U=5/min | • / • |
| • • | D / V | 24 V AC 50 - 60 Hz | Motor Speed: D=1/min V=5/min | • / • |
| • • | E / W | 24 V DC | Motor Speed: E=1/min W=5/min | • / • |
| • • | G / H | 24 V DC PNP | Motor Speed: G=1/min H=5/min | • / • |
| • • | F / X | 24 V DC/ 22 .. 230 V AC universal voltage | Motor Speed: F=1/min X=5/min | • / • |
| pos.6 | Process connection | | | |
| • • | A | thread G 1½", DIN 228 | ..... | • • • |
| • • | B | thread G 1¼", DIN 228 | (max. 250°C (482°F)) | • • • |
| • • | F | thread NPT 1½", conical ANSI B1.20.1 | ..... | • • • |
| • • | Q | thread NPT 1¼", conical ANSI B1.20.1 | (max. 250°C (482°F)) | • • • |
| • • | P | Triclamp 2" (DN50) ISO 2852 | (max. 250°C (482°F)) | • • • |
| • • | H | flange 150x150, 4x ø18 LK-ø170 | (max. 0.8 bar (11.6 psi)) | • • • |
| • • | I | flange 150x150, 4x ø14 LK-ø170 | (max. 0.8 bar (11.6 psi)) | • • • |
| • • | K | flange DN32 PN6, EN 1092-1 | (max. 5 bar (73 psi)) | • • • |
| • • | N | flange DN50 PN16, EN 1092-1 | ..... | • • • |
| • • | L | flange DN100 PN6, EN 1092-1 | (max. 5 bar (73 psi)) | • • • |
| • • | M | flange DN100 PN16, EN 1092-1 | ..... | • • • |
| • • | S | flange 2" 150lbs ANSI B16.5 | ..... | • • • |
| • • | T | flange 3" 150lbs ANSI B16.5 | ..... | • • • |
| • • | U | flange 4" 150lbs ANSI B16.5 | ..... | • • • |
| pos.7 | Material Process connection | | | |
| • • | 1 | aluminium | (max. 0.8 bar (11.6 psi)/ 80°C (176°F)) | • • • |
| • • | 3 | stainless steel 1.4305 (303) A-Q/ 1.4301 (304) P-I/ 1.4541 (321) K-U | ..... | • • • |
| • • | 7 | stainless steel 1.4404 (316L) | (only with pos.9 7) | • • • |
| pos.8 | Length of extension "L" | | | |
| • • | Z | price per 100 mm (3.94") or part thereof (starting from 0 mm) | ..... | • • • |
| | | min. 250 mm (9.84"), max. 4,000 mm (158") | | |
| pos.9 | Material of extension "L" | | | |
| • • | 1 | aluminium | (max. 0.8 bar (11.6psi)/ 250°C (482°F)) | • • • |
| • • | 3 | stainless steel 1.4305 (303)/ 1.4301 (304) | ..... | • • • |
| • • | 7 | stainless steel 1.4404 (316L) | (only with pos.7 7 and 10 A,D,F,K,S,P and 32x) | • • • |
| pos.10 | Measuring vane | | | |
| • • | A | boot-shaped ⁽¹⁾ 40 x 98 mm (1.57 x 3.86") | for 1½" socket (with pos.9 7 L=10 mm) | • |
| • • | D | boot-shaped ⁽¹⁾ 35 x 106 mm (1.38 x 4.17") | for 1¼" socket (L=10 mm longer) | • |
| • • | B | rectangular 50 x 98 mm (1.97 x 3.86") | ..... | • |
| • • | C | rectangular 50 x 150 mm (1.97 x 5.90") | ..... | • |
| • • | E | rectangular 50 x 250 mm (1.97 x 9.84") | ..... | • |
| • • | F | rectangular 98 x 98 mm (3.86 x 3.86") | ..... | • |
| • • | G | rectangular 98 x 150 mm (3.86 x 5.90") | ..... | • |
| • • | I | rectangular 98 x 250 mm (3.86 x 9.84") | ..... | • |
| • • | K | hinged vane 98 x 200 mm (3.86 x 7.87") | double sided (L=10 mm longer) 1.4301/ 1.4404 ... | • / • (1.4404) |
| • • | S | hinged vane 98 x 100 mm (3.86 x 3.93") | single sided (L=10 mm longer) 1.4301/ 1.4404 ... | • / • (1.4404) |
| • • | M | rubber vane 98 x 250 mm (3.86 x 9.84") | (max.80°C (176°F)) | • |
| • • | Y | without | including splint pin for fixation | • |

Basic Type **Further options and accessories:** see page 20

B
Z
L = mm
← Order code

Position 1 2 3 4 5 6 7 8 9 10
 All positions are available in special design (use code "Z").

⁽¹⁾ maximum length of socket 40 mm

RN ..002-rope Rope extension

RN 3002 - rope



RN 6002 - rope



Housings RN 6002-rope



Standard



d (flameproof)



de
(flameproof/
increased safety)

Cable entries (by default)

Depending on model selected, the following cable entries will be delivered (options see pos.28 on page 20):

| Version: | Cable entries: |
|---|--|
| ATEX/ IEC-Ex flameproof (pos.2 T) FM and CSA (pos.2 M,N,S,U) All other versions | M20 x 1.5 (1x open conduit + 1x Ex-d blind plug) NPT ½" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug) M20 x 1.5 (1x screwed cable gland + 1x blind plug) |

Dimensions

see pages 24 - 28

Basic Type

- RN 3002-Rope •
- RN 6002-Rope •

pos.1 **Types**

- C Standard (max. 4 kN load) •
- H Strengthened (max. 28 kN load) (max. 80°C (176°F), only with pos.7 3, with pos.2 R,S,T,U on request) •

pos.2 **Certificate** (detailed Ex-markings: see page 29)

| Certificate | Zone/ Div | | Protection method |
|-------------------|--------------------|---------------------|---|
| | Dust | Gas | |
| 0 CE/ TR-CU | - | - | |
| W ATEX | Zone 20/21 | - | Dust Ignition Proof |
| R ATEX | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| T ATEX | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |
| A IEC-Ex/ INMETRO | Zone 20/21 | - | Dust Ignition Proof |
| C IEC-Ex/ INMETRO | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| D IEC-Ex/ INMETRO | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |
| M FM/ CSA | - | - | General purpose |
| N FM/ CSA | Cl. II, III, Div.1 | - | Dust Ignition Proof |
| CSA | A 20/21 | | |
| S FM/ CSA | Cl. II, III, Div.1 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| CSA | A 20/21 | | |
| U FM/ CSA | Cl. II, III, Div.1 | Cl. I Div.1/ Zone 1 | Explosion Proof/ Dust Ignition Proof |
| CSA | A 20/21 | | |
| E TR-CU | Zone 20/21 | - | Dust Ignition Proof |
| K TR-CU | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| L TR-CU | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |

RN ..003 Angled extension

RN 3003



RN 6003



Housings RN 6003



Cable entries (by default)

Depending on model selected, the following cable entries will be delivered (options see pos.28 on page 20):

| Version: | Cable entries: |
|---|--|
| ATEX/ IEC-Ex flameproof (pos.2 T) FM and CSA (pos.2 M,N,S,U) All other versions | M20 x 1.5 (1x open conduit + 1x Ex-d blind plug) NPT ½" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug) M20 x 1.5 (1x screwed cable gland + 1x blind plug) |

Dimensions
see pages 24 - 28

Basic Type

- RN 3003
- RN 6003

pos.2 **Certificate** (detailed Ex-markings: see page 29)

| Certificate | Zone/ Div | | Protection method |
|-------------------|--------------------|---------------------|---|
| | Dust | Gas | |
| 0 CE/ TR-CU | - | - | |
| W ATEX | Zone 20/21 | - | Dust Ignition Proof |
| R ATEX | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| T ATEX | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |
| A IEC-Ex/ INMETRO | Zone 20/21 | - | Dust Ignition Proof |
| C IEC-Ex/ INMETRO | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| D IEC-Ex/ INMETRO | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |
| M FM/ CSA | - | - | General purpose |
| N FM/ CSA | Cl. II, III, Div.1 | - | Dust Ignition Proof |
| CSA | A 20/21 | | |
| S FM/ CSA | Cl. II, III, Div.1 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| CSA | A 20/21 | | |
| U FM/ CSA | Cl. II, III, Div.1 | Cl. I Div.1/ Zone 1 | Explosion Proof/ Dust Ignition Proof |
| CSA | A 20/21 | | |
| E TR-CU | Zone 20/21 | - | Dust Ignition Proof |
| K TR-CU | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| L TR-CU | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |

RN ..003 Angled extension

| | | | | | | |
|-----|--------------------------------|--|--|---|--------------------------------|---------------------------------|
| • • | pos.3 | Process temperature | | | | |
| | | 1 max. +80°C (176°F) | ..... | • |  |  |
| | | 2 max. +150°C (302°F) | ..... | • |  |  |
| • • | pos.4 | Process overpressure | | | | |
| | | | 1 max. 0.8 bar (11.6 psi) | ..... | • |  |
| | | | 2 max. 5 bar (73 psi) | ..... | • |  |
| • • | pos.5 | Power supply | | | | |
| | | A / S | 230 V AC 50 - 60 Hz | Motor Speed: A=1/min S=5/min | • / • | |
| | | B / T | 115 V AC 50 - 60 Hz | Motor Speed: B=1/min T=5/min | • / • | |
| | | C / U | 48 V AC 50 - 60 Hz | Motor Speed: C=1/min U=5/min | • / • | |
| | | D / V | 24 V AC 50 - 60 Hz | Motor Speed: D=1/min V=5/min | • / • | |
| | | E / W | 24 V DC | Motor Speed: E=1/min W=5/min | • / • | |
| | | G / H | 24 V DC PNP | Motor Speed: G=1/min H=5/min | • / • | |
| | | F / X | 24 V DC / 20 .. 230 AC universal voltage | Motor Speed: F=1/min X=5/min | • / • | |
| | | • • | pos.6 | Process connection | | |
| | | | | H | flange 150x150, 4x ø18 LK-ø170 | (max. 0.8 bar (11.6 psi)) |
| I | flange 150x150, 4x ø14 LK-ø170 | | | (max. 0.8 bar (11.6 psi)) | • | |
| L | flange DN100 PN6, EN 1092-1 | | | (max. 5 bar (73 psi)) | • | |
| U | flange 4" 150lbs ANSI B16.5 |  |  | ..... | • |  |
| • • | pos.7 | Material Process connection | | | | |
| | | 1 | aluminium | (max. 0.8 bar (11.6 psi)/ 80°C (176°F)) | • | |
| | 3 | stainless steel | 1.4301 (304)/ 1.4541 (321) | • | | |
| • • | pos.8 | Length of extension "L" | | | | |
| | | 1 | 125 mm (4.92") | ..... | • |  |
| | | 2 | 150 mm (5.90") | ..... | • |  |
| | | 3 | 200 mm (7.87") | ..... | • |  |
| | | 4 | 250 mm (9.84") | ..... | • |  |
| | | Z | other lengthes Price per 50 mm (1.97") or part thereof (starting from 0 mm) min. 350 mm (13.8"), max. 600 mm (23.6") | ..... | • |  |
| • • | pos.9 | Material of extension "L" | | | | |
| | | (must be the same material as pos.7) | | | | |
| | 1 | aluminium | ..... | • |  |  |
| | 3 | stainless steel | 1.4305 (303)/ 1.4301 (304) | • | | |
| • • | pos.10 | Measuring vane | | | | |
| | | A | boot-shaped ⁽¹⁾ 40 x 98 mm (1.57 x 3.86") | ..... | • |  |
| | | B | rectangular 50 x 98 mm (1.97 x 3.86") | ..... | • |  |
| | | C | rectangular 50 x 150 mm (1.97 x 5.90") | ..... | • |  |
| | | E | rectangular 50 x 250 mm (1.97 x 9.84") | ..... | • |  |
| | | F | rectangular 98 x 98 mm (3.86 x 3.86") | ..... | • |  |
| | | G | rectangular 98 x 150 mm (3.86 x 5.90") | ..... | • |  |
| | | I | rectangular 98 x 250 mm (3.86 x 9.84") | ..... | • |  |
| | | K | hinged vane 98 x 200 mm (3.86 x 7.87") double sided | ..... | • |  |
| | | S | hinged vane 98 x 100 mm (3.86 x 3.93") single sided | ..... | • |  |
| | M | rubber vane 98 x 250 mm (3.86 x 9.84") | (max. 80°C (176°F)) | • | | |
| | Y | without | including splint pin for fixation | • | | |

Further options and accessories: see page 20

Basic Type

| | | | | | | | | | | |
|----------|----------|---|---|---|---|---|---|---|---|----|
| | D | | | | | | | | | |
| Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

← **Order code**

All positions are available in special design (use code "Z").

⁽¹⁾ maximum length of socket 40 mm

RN ..004 Pipe extension horizontal

RN 3004



RN 6004



Housings RN 6004



Cable entries (by default)

Depending on model selected, the following cable entries will be delivered (options see pos.28 on page 20):

| Version: | Cable entries: |
|-----------------------------------|--|
| ATEX/ IEC-Ex flameproof (pos.2 T) | M20 x 1.5 (1x open conduit + 1x Ex-d blind plug) |
| FM and CSA (pos.2 M,N,S,U) | NPT 1/2" tapered ANSI B1.20.1 (1x open conduit + 1x Ex-d blind plug) |
| All other versions | M20 x 1.5 (1x screwed cable gland + 1x blind plug) |

Dimensions
 see pages 24 - 28

Basic Type

- RN 3004
- RN 6004

pos.2 **Certificate** (detailed Ex-markings: see page 29)

| Certificate | Zone/ Div | | Protection method |
|-------------------|--------------------|---------------------|---|
| | Dust | Gas | |
| 0 CE/ TR-CU | - | - | |
| W ATEX | Zone 20/21 | - | Dust Ignition Proof |
| R ATEX | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| T ATEX | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |
| A IEC-Ex/ INMETRO | Zone 20/21 | - | Dust Ignition Proof |
| C IEC-Ex/ INMETRO | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| D IEC-Ex/ INMETRO | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |
| M FM/ CSA | - | - | General purpose |
| N FM/ CSA | Cl. II, III, Div.1 | - | Dust Ignition Proof |
| CSA | A 20/21 | | |
| S FM/ CSA | Cl. II, III, Div.1 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| CSA | A 20/21 | | |
| U FM/ CSA | Cl. II, III, Div.1 | Cl. I Div.1/ Zone 1 | Explosion Proof/ Dust Ignition Proof |
| CSA | A 20/21 | | |
| E TR-CU | Zone 20/21 | - | Dust Ignition Proof |
| K TR-CU | Zone 20/21 | Zone 1 | Flameproof/ Increased Safety/ Dust Ignition Proof |
| L TR-CU | Zone 20/21 | Zone 1 | Flameproof/ Dust Ignition Proof |

RN ..004 Pipe extension horizontal

| | | | | | | | |
|-------|---|---|--|--|---|---|---|
| • • | pos.3 | Process temperature | | | | | |
| | | 1 | max. +80°C (176°F) | ..... | • |  |  |
| | | 2 | max. +150°C (302°F) | ..... | • |  |  |
| | | 3 | max. +250°C (482°F) | ..... | • |  |  |
| | | 4 | max. +350°C (662°F) | (not for pos.10 K,S in 1.4404; not for Ex, only with pos.4 1) (L min=200 mm) | • | | |
| 5 | max. +600°C (1,112°F) | (not for pos.10 K,S in 1.4404; not for Ex, only with pos.4 1) | • | | | | |
| • • | pos.4 | Process overpressure | | | | | |
| | | 1 | max. 0.8 bar (11.6 psi) | (0.1 bar (1.45 psi) with pos.3 5) | • | | |
| | | 2 | max. 5 bar (73 psi) | ..... | • |  |  |
| 3 | max. 10 bar (145 psi) | ..... | • |  |  |  |  |
| • • | pos.5 | Power supply | | | | | |
| | | A / S | 230 V AC 50 - 60 Hz | Motor Speed: A=1/min S=5/min | • | / | • |
| | | B / T | 115 V AC 50 - 60 Hz | Motor Speed: B=1/min T=5/min | • | / | • |
| | | C / U | 48 V AC 50 - 60 Hz | Motor Speed: C=1/min U=5/min | • | / | • |
| | | D / V | 24 V AC 50 - 60 Hz | Motor Speed: D=1/min V=5/min | • | / | • |
| | | E / W | 24 V DC | Motor Speed: E=1/min W=5/min | • | / | • |
| | | G / H | 24 V DC PNP | Motor Speed: G=1/min H=5/min | • | / | • |
| F / X | 24 V DC/ 22 .. 230 V AC universal voltage | Motor Speed: F=1/min X=5/min | • | / | • | | |
| • • | pos.6 | Process connection | | | | | |
| | | A | thread G 1½", DIN 228 | ..... | • | • | • |
| | | B | thread G 1¼", DIN 228 | (max. 250°C (482°F)) | • | • | • |
| | | F | thread NPT 1½", conical ANSI B1.20.1 | ..... | • | • | • |
| | | Q | thread NPT 1¼", conical ANSI B1.20.1 | (max. 250°C (482°F)) | • | • | • |
| | | P | Triclamp 2" (DN50) ISO 2852 | (max. 250°C (482°F)) | • | • | • |
| | | H | flange 150x150, 4x ø18 LK-ø170 | (max. 0.8 bar (11.6 psi)) | • | • | • |
| | | I | flange 150x150, 4x ø14 LK-ø170 | (max. 0.8 bar (11.6 psi)) | • | • | • |
| | | K | flange DN32 PN6, EN 1092-1 | (max. 5 bar/ 250°C) | • | • | • |
| | | N | flange DN50 PN16, EN 1092-1 | ..... | • | • | • |
| | | L | flange DN100 PN6, EN 1092-1 | (max. 5 bar (73 psi)) | • | • | • |
| | | M | flange DN100 PN16, EN 1092-1 | ..... | • | • | • |
| | | S | flange 2" 150lbs ANSI B16.5 | ..... | • | • | • |
| T | flange 3" 150lbs ANSI B16.5 | ..... | • | • | • |  |  |
| U | flange 4" 150lbs ANSI B16.5 | ..... | • | • | • |  |  |
| • • | pos.7 | Material Process connection | | | | | |
| | | 1 | aluminium | (max. 0.8 bar (11.6psi)/ 80°C (176°F)) | • | • | • |
| | | 3 | stainless steel 1.4305 (303) A-Q/ 1.4301 (304) P-I/ 1.4541 (321) K-U | ..... | • | • | • |
| 7 | stainless steel 1.4404 (316L) | (only with Pos.9 7) | • | • | • | | |
| • • | pos.8 | Length of extension "L" | | | | | |
| | | N | 150 mm (5.90") (only with vane A, D, B, C, E) | ..... | • | • | • |
| | | P | 200 mm (7.87") | ..... | • | • | • |
| | | Q | 250 mm (9.84") | ..... | • | • | • |
| | | R | 300 mm (11.8") | ..... | • | • | • |
| Z | other lengths | Price per 50 mm (1.97") or part thereof (starting from 0 mm) min. 350 mm (13.8"), max. 600 mm (23.6") | ..... | • | • | • |  |
| • • | pos.9 | Material of extension "L" | | | | | |
| | | 1 | aluminium | (max. 0.8 bar/ 80°C) | • | • | • |
| | | 3 | stainless steel 1.4305 (303)/1.4301 (304) | ..... | • | • | • |
| 7 | stainless steel 1.4404 (316L) | (only with pos.7 7 and pos.10 A,D,F,K,S,P) | • | • | • | | |
| • • | pos.10 | Measuring vane | | | | | |
| | | A | boot-shaped ⁽¹⁾ 40 x 98 mm (1.57 x 3.86") | for 1½" socket (with pos.9 7 L=10 mm) | • | | |
| | | D | boot-shaped ⁽¹⁾ 35 x 106 mm (1.38 x 4.17") | for 1¼" socket (L=10 mm longer) | • | | |
| | | B | rectangular 50 x 98 mm (1.97 x 3.86") | ..... | • |  |  |
| | | C | rectangular 50 x 150 mm (1.97 x 5.90") | ..... | • |  |  |
| | | E | rectangular 50 x 250 mm (1.97 x 9.84") | ..... | • |  |  |
| | | F | rectangular 98 x 98 mm (3.86 x 3.86") | ..... | • |  |  |
| | | G | rectangular 98 x 150 mm (3.86 x 5.90") | ..... | • |  |  |
| | | I | rectangular 98 x 250 mm (3.86 x 9.84") | ..... | • |  |  |
| | | K | hinged vane 98 x 200 mm (3.86 x 7.87") | double sided (L=10 mm longer) 1.4301/ 1.4404 | • | / | • |
| | | S | hinged vane 98 x 100 mm (3.86 x 3.93") | single sided (L=10 mm longer) 1.4301/ 1.4404 | • | / | • |
| M | rubber vane 98 x 250 mm (3.86 x 9.84") | (max. 80°C (176°F)) | • | | | | |
| Y | without | including splint pin for fixation | • | | | | |

Basic Type

Further options and accessories: see page 20

| | | | | | | | | | | |
|----------|----------|---|---|---|---|---|---|---|---|----|
| | E | | | | | | | | | |
| Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

← **Order code**

⁽¹⁾ maximum length of socket 40 mm

All positions are available in special design (use code "Z").

RN 3005 Extra short version

RN 3005



RN 6005
not available

Cable entries (by default)
M20 x 1.5 (1x screwed cable gland + 1x blind plug)
Options see pos.28 on page 20

Dimensions see pages 24 - 28

RN 3005 Extra short version

Basic Type

| | | | | |
|---|---------|---|------------------------------------|-------|
| | RN 3005 | ..... | • |  |
| • | pos.2 | Certificate | | |
| | | 0 CE ⁽¹⁾ | | • |
| | | W ATEX Zone 20/21 Dust Ignition Proof (ATEX II 1/2D) | ..... | • |
| | | A IEC-Ex ⁽²⁾ Zone 20/21 Dust Ignition Proof (ta/tb IIIC) | ..... | • |
| | | E TR-CU Zone 20/21 Dust Ignition Proof (DIP A20/ A21) | ..... | • |
| • | pos.5 | Power supply | | |
| | | A / S 230 V AC 50 - 60 Hz | Motor Speed: A=1/min S=5/min | • / • |
| | | B / T 115 V AC 50 - 60 Hz | Motor Speed: B=1/min T=5/min | • / • |
| | | C / U 48 V AC 50 - 60 Hz | Motor Speed: C=1/min U=5/min | • / • |
| | | D / V 24 V AC 50 - 60 Hz | Motor Speed: D=1/min V=5/min | • / • |
| | | E / W 24 V DC | Motor Speed: E=1/min W=5/min | • / • |
| | | G / H 24 V DC PNP | Motor Speed: G=1/min H=5/min | • / • |
| | | F / X 24 V DC/ 22 .. 230 V AC universal voltage | Motor Speed: F=1/min X=5/min | • / • |
| • | pos.6 | Process connection | | |
| | | A thread G 1½", DIN 228 | ..... | • |
| | | F thread NPT 1½", conical ANSI B1.20.1 | ..... | • |
| • | pos.7 | Material process connection | | |
| | | 1 aluminium | ..... | ↑ |
| | | 3 stainless steel (1.4305/ 303) | ..... | ↑ |
| • | pos.10 | Measuring vane | | |
| | | N VT-vane | ..... | • |
| | | others on request | | |

Further options and accessories: see page 20

Basic Type

| | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|----|
| RN 3005 | F | | 1 | 1 | | | | A | 3 | |
| Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

← **Order code**

All positions are available in special design (use code "Z").

⁽¹⁾ TR-CU (Ordinary Locations) included

⁽²⁾ INMETRO included

Options

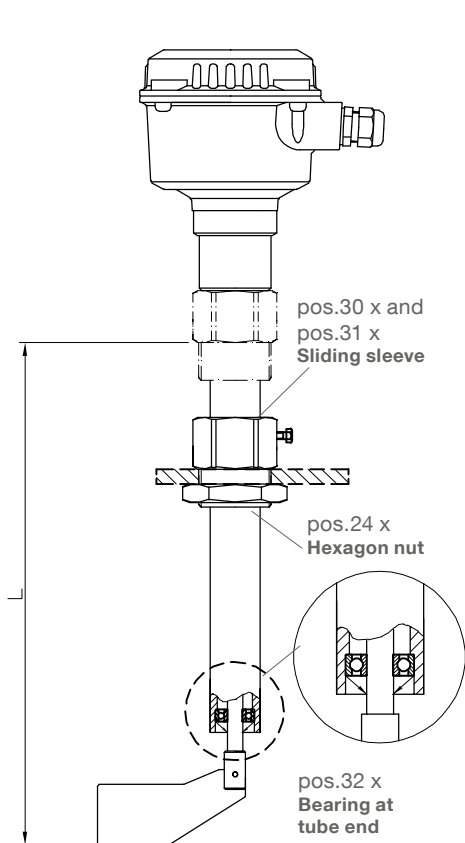
| RN 3001 | RN 6001 | RN 3002 | RN 6002 | RN 3002- rope | RN 6002- rope | RN 3003 | RN 6003 | RN 3004 | RN 6004 | RN 3005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|-------------------------|-------------|---------|------------------|------------------|---------|---------|---------|---------|---------|--|------------|-------------------------|-------------|--|--|--|---------|-------|----------|-----------|---|----------|-------------|--------|-------|---------|---|------------|-------------|--|-------|---------|---|----------|-------------|--------|-------|---------|---|------------|-------------|--|-------|---------|---|----------|-------------|--------|-------|---------|---|------------|-------------|--|-------|---------|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | pos.11 x Guarantee extension to 5 years | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • | • | • | • | • | • | | | • | • | | Flat gasket (max. 250°C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • | • | • | • | • | • | | | • | • | | pos.15 a for process connection thread 1½", incl. sealing face in aluminium | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • | • | • | • | • | • | | | • | • | | pos.15 b for process connection thread 1½", incl. sealing face in 1.4404 (316L) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | • | • | | pos.15 c for process connection thread 1¼"/ 1"/ M32 x 1.5/ M30 x 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | 2 | | 2 | | 2 | | 2 | | 2 | pos.16 a Material of housing plastics PA6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Radial shaft sealing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | pos.17 a FPM (Viton) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | pos.17 b PTFE (Teflon) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | pos.18 x Stainless steel ball bearing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | • | for RN ..001/ RN ..002/ RN ..004/ RN ..005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | • | • | | | | for RN ..003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | pos.21 x Weather protection cover (for Ex, only for Zone 2/22/Div. 2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Mounting set for flange mounting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | <table border="1"> <thead> <tr> <th rowspan="2">for flange</th> <th rowspan="2">for counter flange with</th> <th colspan="4">consists of</th> </tr> <tr> <th>screws*</th> <th>nuts*</th> <th>washers*</th> <th>sealing**</th> </tr> </thead> <tbody> <tr> <td>H</td> <td>hole ø18</td> <td>4x M16 x 50</td> <td>4x M16</td> <td>4 pcs</td> <td>1 piece</td> </tr> <tr> <td>H</td> <td>thread M16</td> <td>4x M16 x 30</td> <td></td> <td>4 pcs</td> <td>1 piece</td> </tr> <tr> <td>L</td> <td>hole ø18</td> <td>4x M16 x 60</td> <td>4x M16</td> <td>4 pcs</td> <td>1 piece</td> </tr> <tr> <td>L</td> <td>thread M16</td> <td>4x M16 x 40</td> <td></td> <td>4 pcs</td> <td>1 piece</td> </tr> <tr> <td>M</td> <td>hole ø18</td> <td>8x M16 x 60</td> <td>8x M16</td> <td>8 pcs</td> <td>1 piece</td> </tr> <tr> <td>M</td> <td>thread M16</td> <td>8x M16 x 40</td> <td></td> <td>8 pcs</td> <td>1 piece</td> </tr> </tbody> </table> | for flange | for counter flange with | consists of | | | | screws* | nuts* | washers* | sealing** | H | hole ø18 | 4x M16 x 50 | 4x M16 | 4 pcs | 1 piece | H | thread M16 | 4x M16 x 30 | | 4 pcs | 1 piece | L | hole ø18 | 4x M16 x 60 | 4x M16 | 4 pcs | 1 piece | L | thread M16 | 4x M16 x 40 | | 4 pcs | 1 piece | M | hole ø18 | 8x M16 x 60 | 8x M16 | 8 pcs | 1 piece | M | thread M16 | 8x M16 x 40 | | 8 pcs | 1 piece |
| for flange | for counter flange with | consists of | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | screws* | nuts* | washers* | sealing** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | hole ø18 | 4x M16 x 50 | 4x M16 | 4 pcs | 1 piece | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | thread M16 | 4x M16 x 30 | | 4 pcs | 1 piece | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L | hole ø18 | 4x M16 x 60 | 4x M16 | 4 pcs | 1 piece | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L | thread M16 | 4x M16 x 40 | | 4 pcs | 1 piece | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M | hole ø18 | 8x M16 x 60 | 8x M16 | 8 pcs | 1 piece | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M | thread M16 | 8x M16 x 40 | | 8 pcs | 1 piece | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | * material stainless A2 **max. 350°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Hexagon nut | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | pos.24 a aluminium 1 pc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | pos.24 b aluminium 2 pcs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | pos.24 e stainless steel 1.4305 (303) 1 pc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | pos.24 f stainless steel 1.4305 (303) 2 pcs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 8 | 8 | | 8 | | 8 | | 8 | | 8 | pos.25 b Functional safety SIL 2 (IEC 61508) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • | 9 | • | 9 | • | 9 | • | 9 | • | 9 | • | pos.25 x Fail safe alarm (for 24 V DC/ 22 .. 230 V AC universal voltage) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | pos.26 x Heating of housing 2.5 watts for ambient/ process temp. to -40°C (-40°F) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Signal lamp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | pos.27 a Bulb, mounted in cable entry M20 x 1.5, 2 W green | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | Pos.27 c Bulb, mounted in cable entry M20 x 1.5, 2 W red | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 12 | | 12 | | 12 | | 12 | | 12 | | pos.27 b LED (glass window in lid) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | 13 | | 13 | | 13 | | 13 | | 13 | pos.27 d LED (transparent lid section) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Cable entry optionally available: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Selection of the following options only necessary, if a deviation from the default cable gland/ conduit is required: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • | 14 | • | 14 | • | 14 | • | 14 | • | 14 | • | pos.28 x M20 x 1.5 2x screwed cable gland | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 15 | | 15 | | 15 | | 15 | | 15 | | pos.28 d M20 x 1.5 1x screwed cable gland +1x blind plug | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • | 16 | • | 16 | • | 16 | • | 16 | • | 16 | • | pos.28 a NPT ½" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | pos.28 c NPT ¾" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | pos.29 y Food grade materials (in contact with process) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | (according to 1935/2004/EC, with FDA conform sealing) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | EHEDG approval | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 18 | 18 | 18 | | | | | 18 | 18 | | pos.29 a Process connection G 1½" (without flush welding socket) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 18 | 18 | 18 | | | | | 18 | 18 | | pos.29 b Process connection flush welding socket ø69/ G 1½" made of Aluminium | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 18 | 18 | 18 | | | | | 18 | 18 | | pos.29 c Process connection flush welding socket ø69/ G 1½" made of 1.4301 (304) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 18 | 18 | 18 | | | | | 18 | 18 | | pos.29 d Process connection flush welding socket ø69/ G 1½" made of 1.4404 (316L) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Options

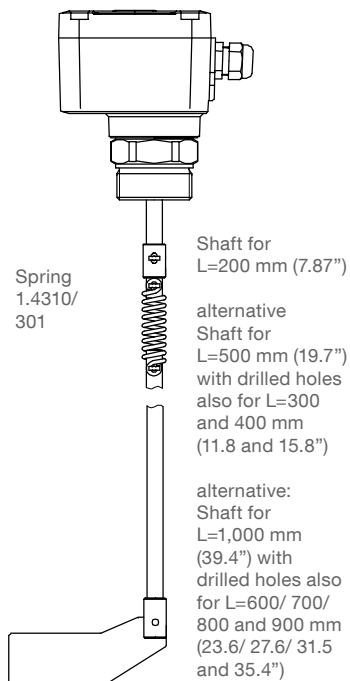
| | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----------|---|------------------------------|---|
| | 19 | 19 | | | | | | | | pos.30 x | Sliding sleeve for applications without process overpressure | • | |
| | 20 | 20 | | | | | | | | pos.31 x | Sliding sleeve for applications with process overpressure | • | |
| | 21 | 21 | | | | | | | | pos.32 x | Bearing at tube end | • | |
| | • | • | | | | | | | | | max. +80°C (176°F) | • | |
| | | | | | | | | | | | max. +150°C (302°F) | • | |
| | | | | | | | | | | | max. +250°C (482°F) | • | |
| | | | | | | | | | | | max. +600°C (1,112°F) | • | |
| | | | | | | | | | | | max. +1,100°C (2,012°F) | • | |
| | | | | | | | | | | | on request | | |
| | | | | | | | | | | pos.33 x | Extension and flange welded $\alpha = \square^\circ$ min. 0° max. 45° | • | |
| | | | | | | | | | | | for aluminium (see pos.7/ 9) | • | |
| | | | | | | | | | | | for stainless steel (1.4305 (303)) (see pos.7/ 9) | • | |
| | | | | | | | | | | pos.34 x | Reinforced rib (only with pos.33, max. $\alpha = 30^\circ$) | • | |
| | | | | | | | | | | | Plug | | |
| 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | pos.35 x | Valve connector (incl. mating plug) | 4-pole (incl. PE) max. 230 V | • |
| 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | pos.35 a | M12 (without mating plug) | 4-pole max. 25 V | • |
| 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | pos.35 b | M12 (without mating plug) | 5-pole (incl. PE) max. 60 V | • |
| 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | pos.35 c | Harting Han 4A (incl. mating plug) | 5-pole (incl. PE) max. 230 V | • |
| | | | | | | | | | | | Kit pendulum shaft | | |
| | | | | | | | | | | | Max. pulling force 400 N, only with pos.8 A | | |
| | | | | | | | | | | | For vertical and horizontal installation: | | |
| | | | | | | | | | | pos.36 w | L=200 mm (7.87") | • | |
| | | | | | | | | | | | For vertical installation: | | |
| | | | | | | | | | | pos.36 x | L=500 mm (19.7") (drilled holes also for 300 and 400 mm (11.8 and 15.8")) | • | |
| | | | | | | | | | | pos.36 y | L=1,000 mm (39.4") (drilled holes also for 600/ 700/ 800 and 900 mm (23.6/ 27.6/ 31.5 and 35.4")) | • | |
| 23 | 23 | | | | | | | | | pos.39 x | Kit rope extension | | |
| | | | | | | | | | | | L=2 m, only available as full detector | • | |

- Available for temperatures up to 250°C (pos.3 1,2,3).
- Available for certificat CE, ATEX, IEC-Ex and TR-CU dust explosionproof (pos.2 0,W,A,E). Not with cable entry NPT (pos.28 a,c) and control lamp LED (pos.27 b). For ATEX, IEC-Ex and TR-CU the min. ambient temperature is -20°C (-4°F).
- Available for temp. up to 80°C and for pressure up to 0.8 bar, except M30 x 1.5 (pos.6 E). Note: 150°C version including FPM as standard.
- Available for temp. up to 150°C and for pressure up to 0.8 bar, except M30 x 1.5 (pos.6 E). Note: 250°C and 5 bar/ 10 bar PTFE included as standard.
- Available for temperature up to 250°C except M30 x 1.5 (pos.6 E), not for RN3002-rope strengthened (pos.1 H).
All bearings mounted in the extension are made of stainless steel.
- Available for all versions except explosionproof/ flameproof version (pos.2 R,T,C,D,S,U,K,L). Not with plug Harting Han 4A (pos.35 c).
- Available with universal voltage (pos.5 F,X). Not for CSA. Not in combination with fail safe alarm pos.25 x.
- Not with Ex-certification "increased safety" (pos.2 R,C,S,K).
- Available with universal voltage (pos.5 F,X) and PNP (pos.5 G,H). Consider reduced switching sensitivity (see technical data).
Note: For temperatures down to -20°C (-4°F) the electronic "universal voltage" and "PNP" have "heating of housing" implemented by default (in this case option pos.26 x is not required).
- Available for CE (pos.2 0), not in combination with weather protection cover (pos.21 x) and cable entries pos.28 x,a,c.
In combination with universal voltage (pos.5 F, X) three bulbs (24 V, 115 V and 230 V) will be delivered.
Connection of bulb signal lamp wires with internal terminals: without (standard) or according to customer specification.
- Available for all versions except explosionproof/ flameproof version (pos.2 R,T,C,D,S,U,K,L), not in combination with power supply AC (pos.5 A,B,C,D,S,T,U,V), not in combination with weather protection cover (pos.21 x).
- Available for certificate CE (pos. 2,0), not in combination with power supply AC (pos.5 A,B,C,D,S,T,U,V).
- Available for all versions except flameproof version (pos.2 T,D,U,L) not in combination with power supply AC (pos.5 A,B,C,D,S,T,U,V).
- Available for FM/ CSA versions (pos.2 M,N,S) except flameproof version (pos.2 T,D,U,L).
- Available for CE, ATEX, IEC-Ex, TR-CU (pos.2 0,W,R,T,A,C,D,E,K,L)
- Available up to max. 250°C. Not for M30 x 1.5 (pos.6 E), vane (pos.10 M), flange sealings (pos.22). RN 3002/ RN 6002 only with option bearing with tube end (pos.32 x). The option does not automatically implement a food conform design (food conform gaps and radiuses).
- Certificate only valid with the use of the "flush welding socket". With pos.29 a this socket must be manufactured on site.
Available up to max. 250°C. Only for G 1½" (pos.6 A). Not with vane pos.10 K,P,S,M,Y. Only vane D,R,J can be inserted through the flush welding socket. RN 3002/ RN 6002 only with bearing at tube end (pos.32 x). Not in combination with options pos.15, 22, 24, 29y, 30, 31, 36, 39.
- Available for CE (pos.2 0). Process connection and material as choosen in pos.6 and 7.
- Available for temperatures up to 250°C. Process connection as choosen in pos.6. Not with material process connection alu (pos.7 1).
- Available for length L>300 mm (pos.8 Z).
- Available for CE (pos.2 0). Without connection of stranded wires for installation and internal terminals (standard) or according to customer specification.
- Available for extension 100 mm (pos.8 A) and 1.4305 (pos.9 3).

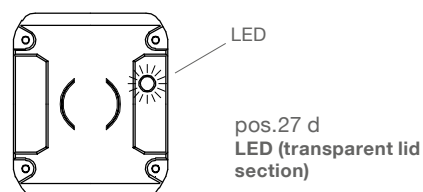
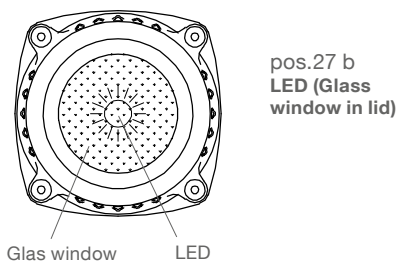
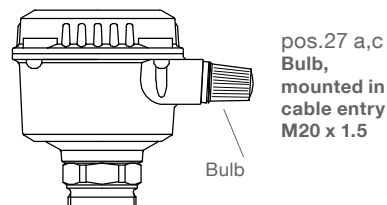
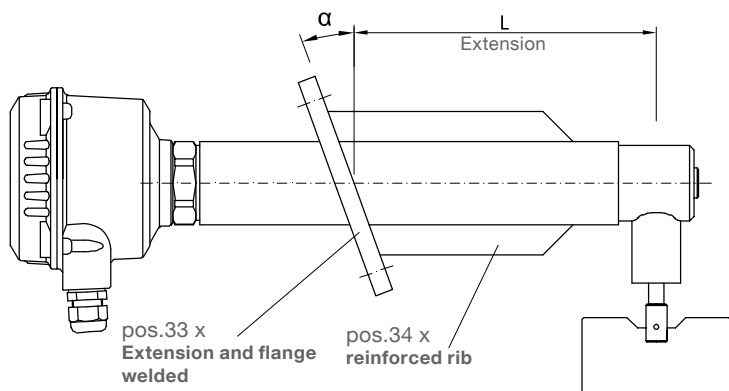
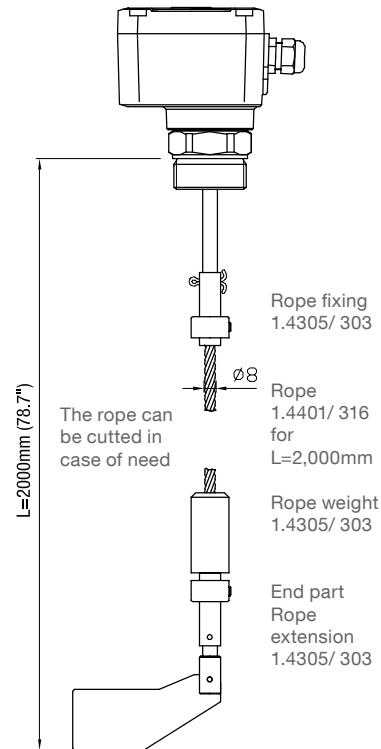
Options



pos.36
 Kit "pendulum shaft"

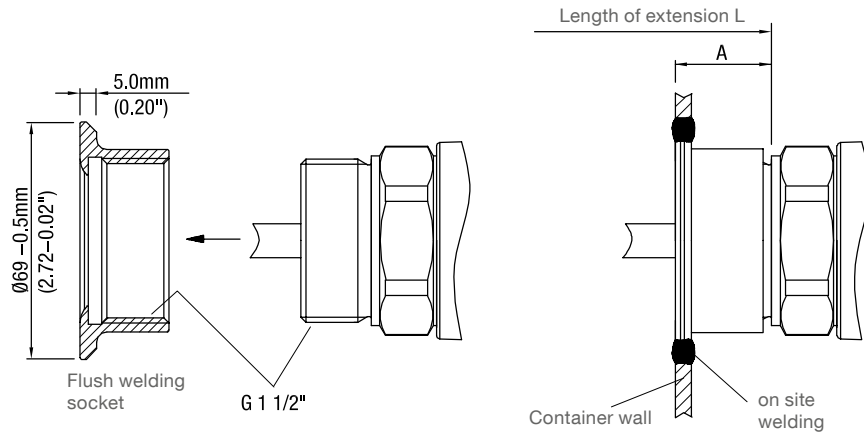


pos.39
 Kit „rope extension“

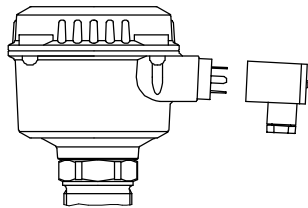


Options

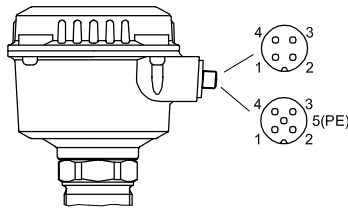
pos.29
 EHEDG approval



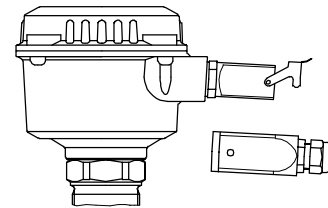
| | A |
|-----------------------|--------------|
| RN ..001 | 28 mm (1.1") |
| RN ..002/ RN ..004 | 38 mm (1.5") |



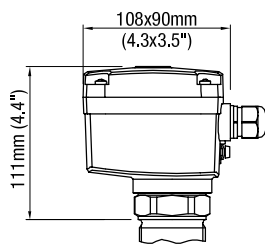
pos.35 x
Valve connector
 Enclosure plastic
 Protection IP65



pos.35 a,b
Plug M12
 Enclosure brass
 Protection IP67

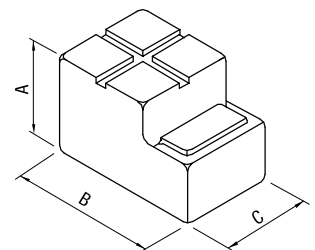


pos.35 c
Plug Han 4A
 Enclosure zinc
 Protection IP65



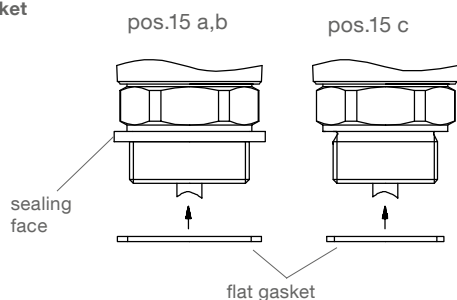
pos.16 a
 Material of housing
 Plastics PA6

pos.21 x
Weather protection cover



| | RN 3000 | RN 6000 |
|---|---------------|---------------|
| A | 100 mm (3.9") | 130 mm (5.1") |
| B | 165 mm (6.5") | 200 mm (7.9") |
| C | 95 mm (3.7") | 125 mm (4.9") |

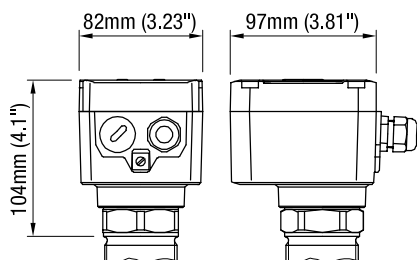
pos.15
Flat gasket



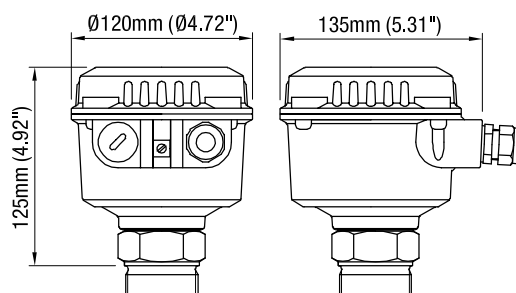
Dimensions

Housing versions

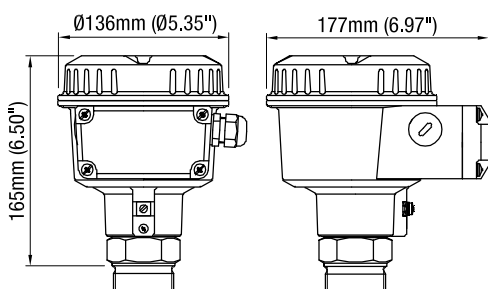
Series RN 3000
Standard



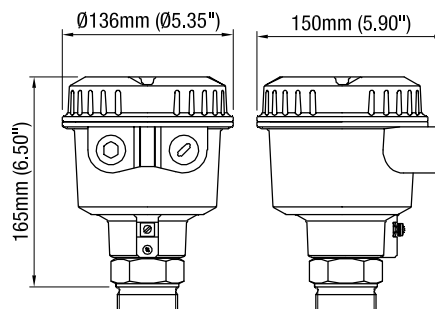
Series RN 6000
Standard



Series RN 6000
de explosionproof with increased
safety terminal box

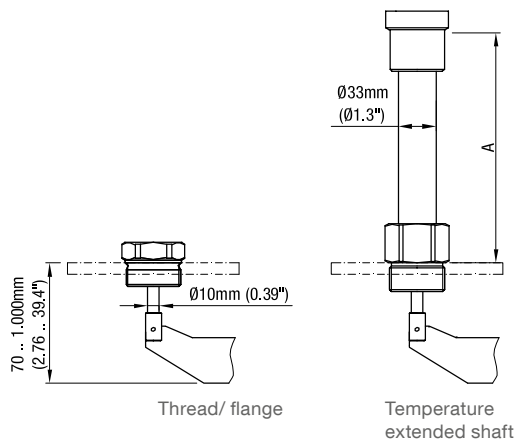


Series RN 6000
d flameproof/ explosionproof

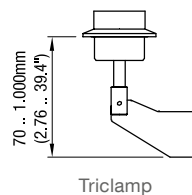


Extensions

RN ..001

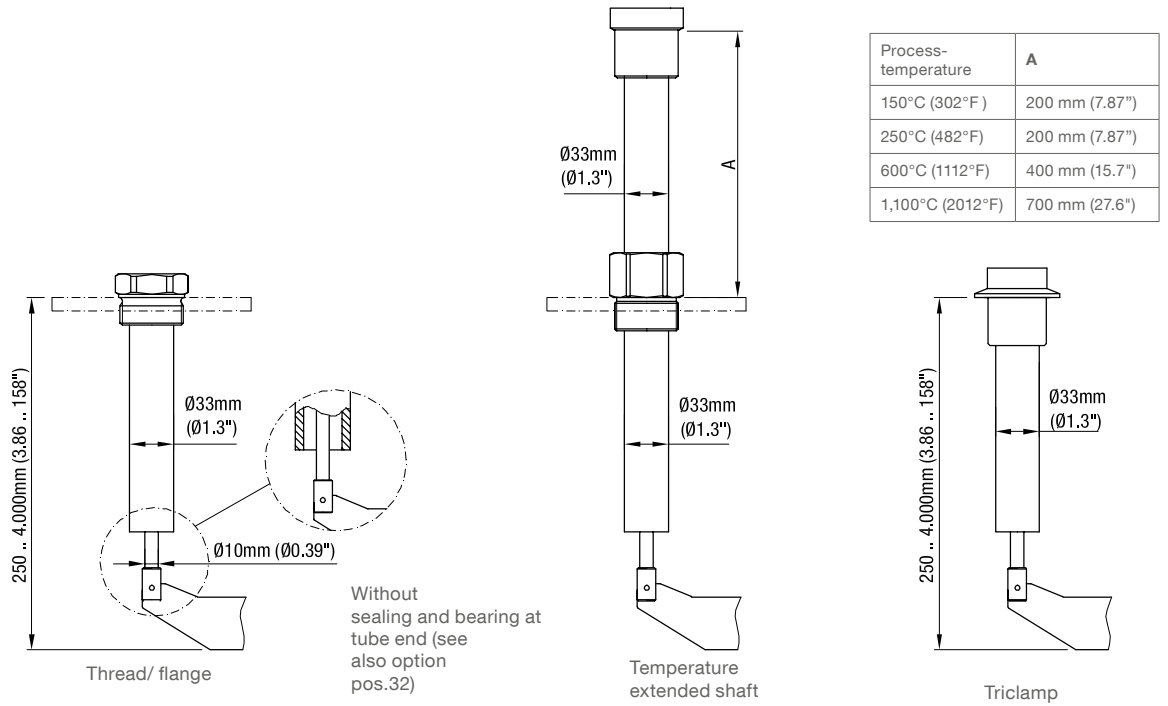


| Process-temperature | A |
|---------------------|----------------|
| 150°C (302°F) | 200 mm (7.87") |
| 250°C (482°F) | 200 mm (7.87") |
| 350°C (662°F) | 300 mm (11.8") |
| 600°C (1,112°F) | 400 mm (15.7") |
| 1,100°C (2,012°F) | 700 mm (27.6") |

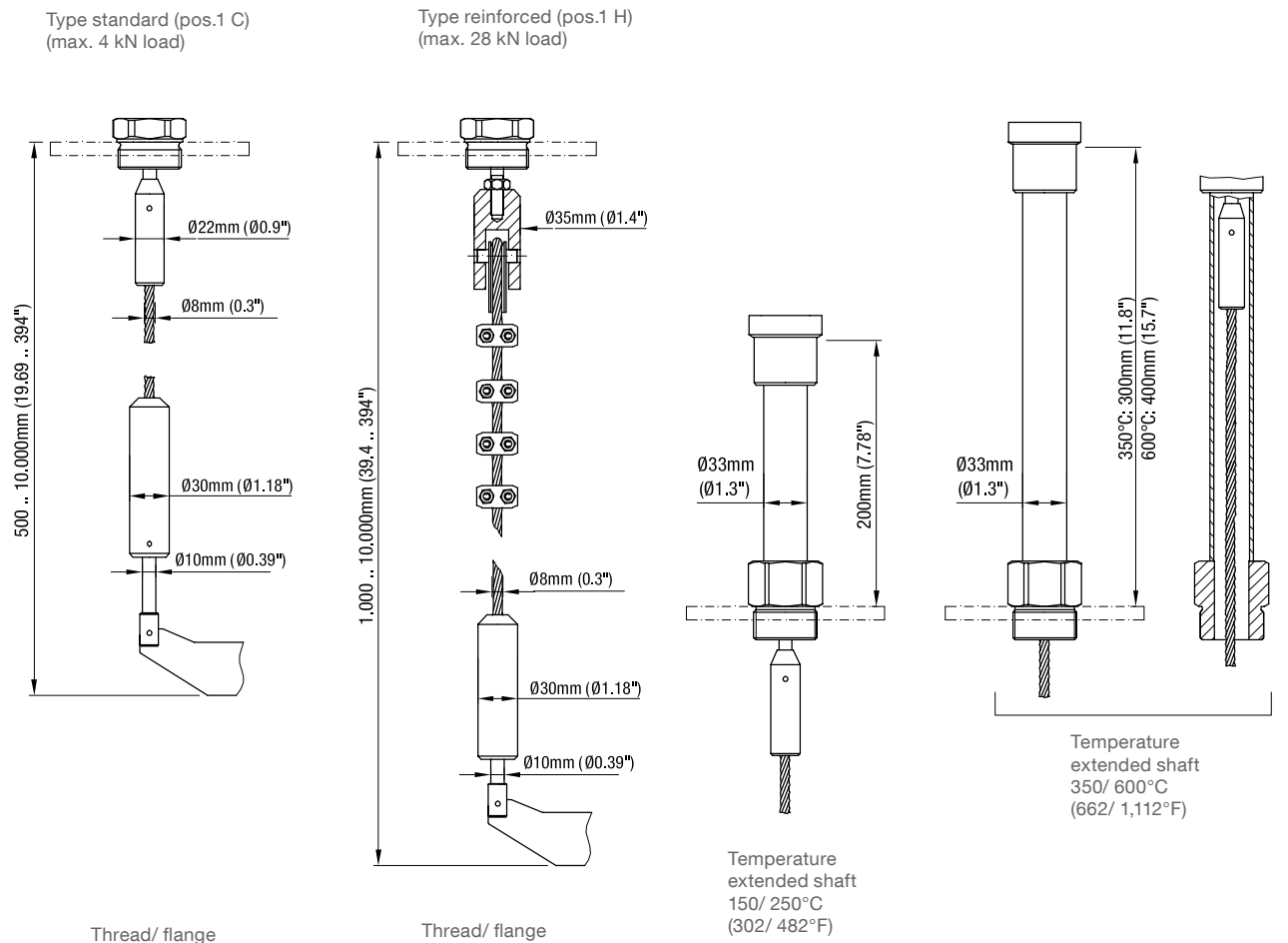


Dimensions

RN ..002

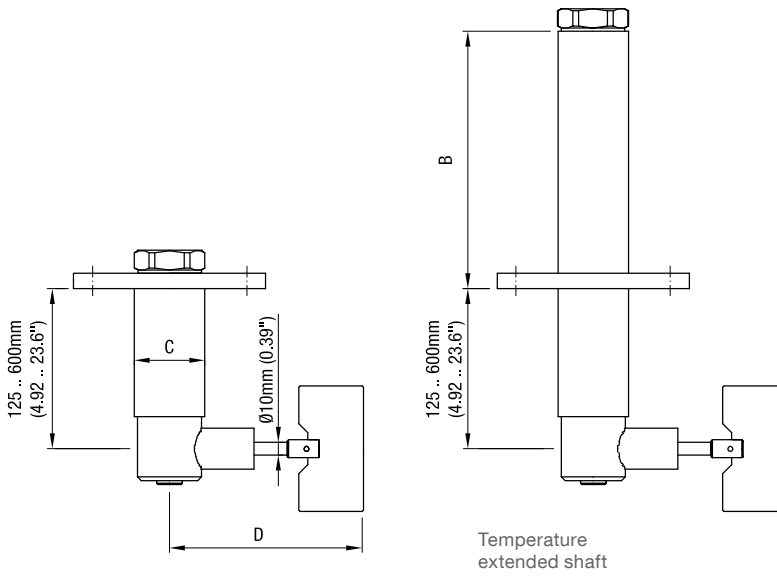


RN ..002 rope



Dimensions

RN ..003

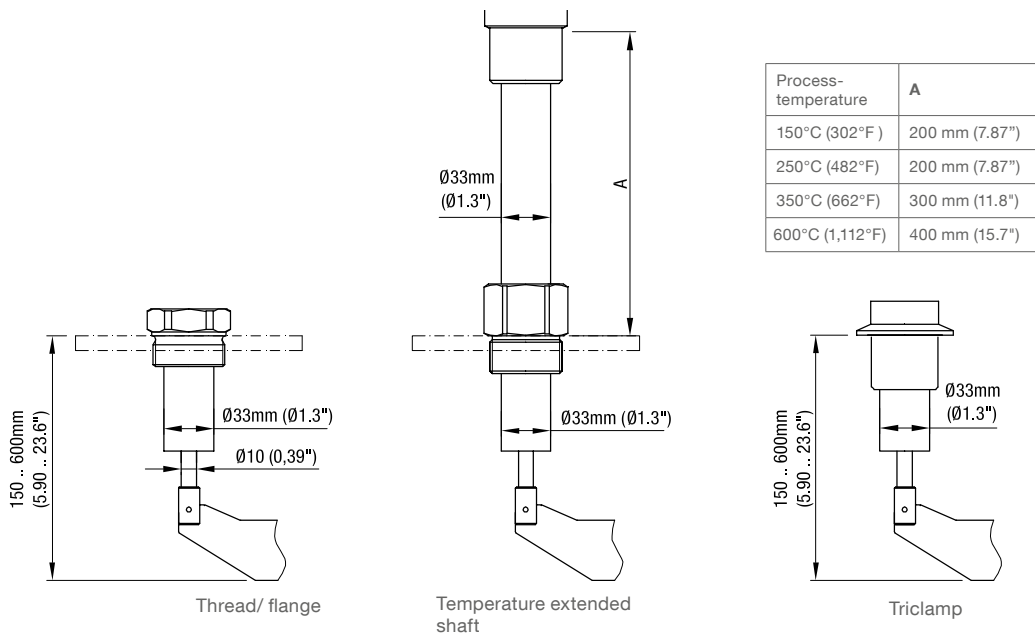


| Process temperature | B |
|---|-------------------|
| 80°C (176°F) 0.8 bar (11.6 psi) | 10 mm (0.39") |
| 80°C (176°F) 5/ 10bar (73/ 145 psi) | 75 mm (2.95") |
| 150/ 250°C (302/ 482°F) 0.8/ 5/ 10 bar (11.6/ 73/ 145 psi) | 210 mm (8.27") |

| Material | C |
|-----------|----------------|
| steel | ø55 mm (2.17") |
| aluminium | ø60 mm (2.36") |

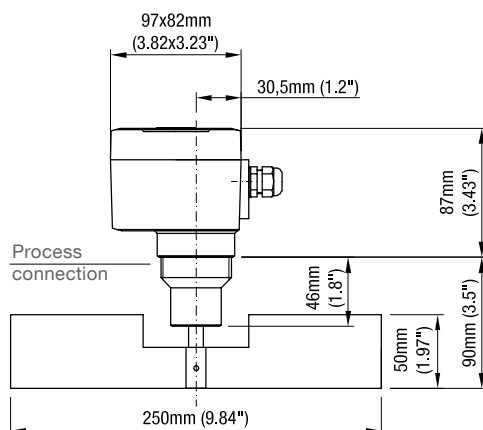
| Vane | D |
|--------------------------------|-------------------|
| 50 mm x .. mm (1.97" x ..") | 139 mm (5.47") |
| 98 mm x .. mm (3.86" x ..") | 187 mm (7.36") |

RN ..004



| Process-temperature | A |
|---------------------|----------------|
| 150°C (302°F) | 200 mm (7.87") |
| 250°C (482°F) | 200 mm (7.87") |
| 350°C (662°F) | 300 mm (11.8") |
| 600°C (1,112°F) | 400 mm (15.7") |

RN 3005

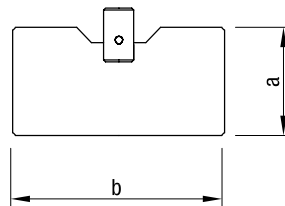


Dimensions

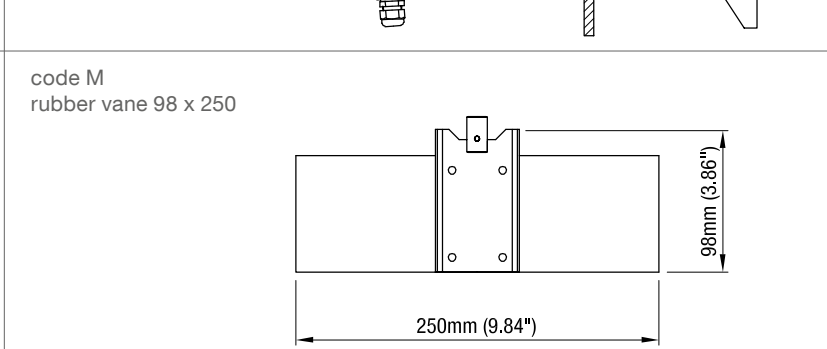
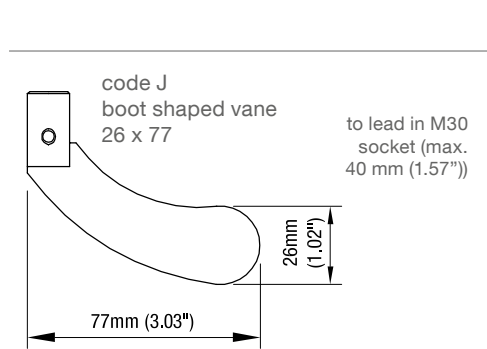
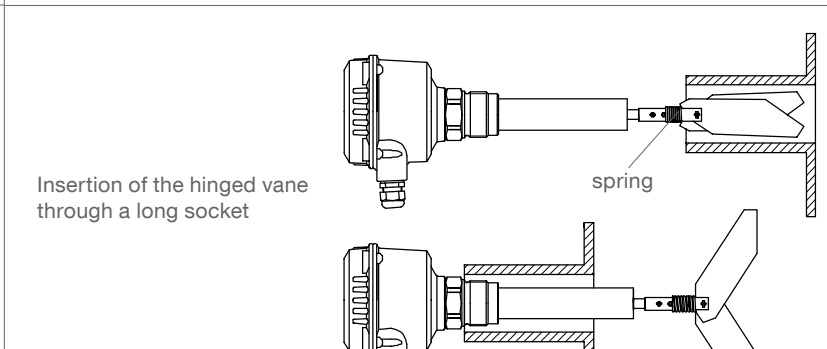
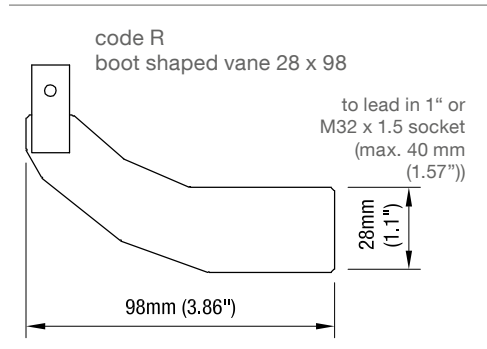
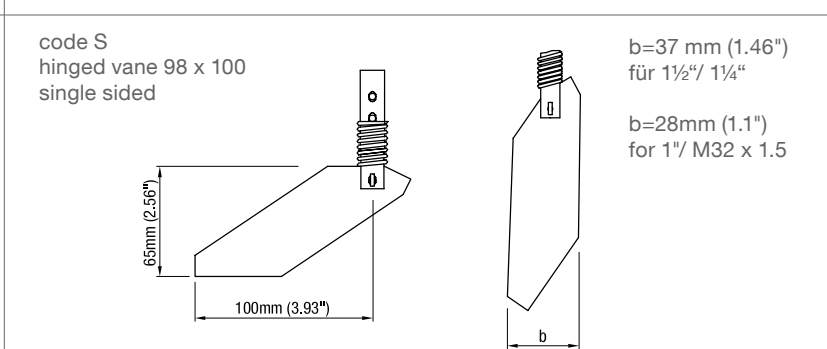
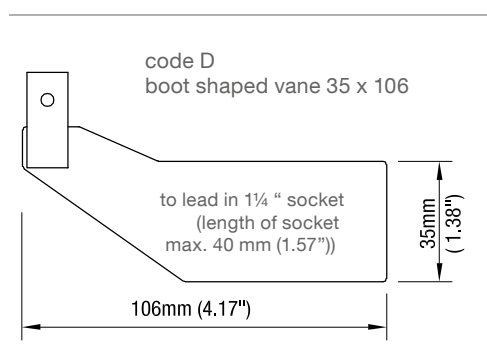
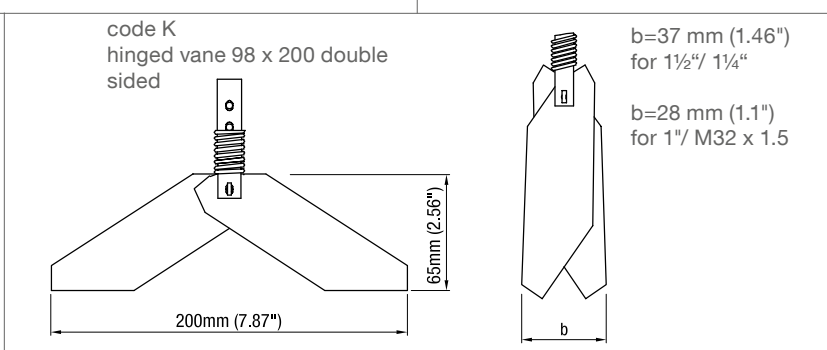
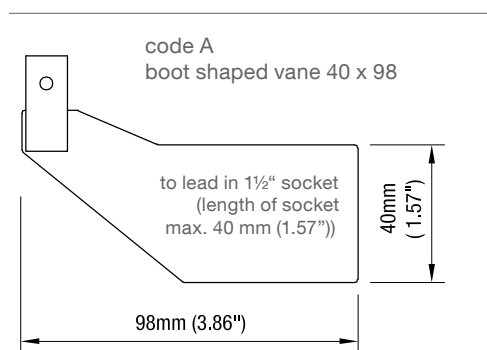
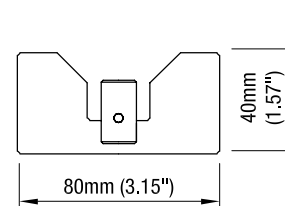
Measuring vanes

| code | type | a | b |
|------|-------------|---------------|----------------|
| B | rectangular | 50 mm (1.97") | 98 mm (3.86") |
| C | rectangular | 50 mm (1.97") | 150 mm (5.90") |
| E | rectangular | 50 mm (1.97") | 250 mm (9.84") |
| F | rectangular | 98 mm (3.86") | 98 mm (3.86") |
| G | rectangular | 98 mm (3.86") | 150 mm (5.90") |
| I | rectangular | 98 mm (3.86") | 250 mm (9.84") |

code B,C,E,F,G,I
 rectangular vane



code P
 notched 40 x 80



Dimensions

Sensitivity The table shows approximate values for the minimum densities, at which a normal function should be possible.

| Vane | *Minimum density in g/l = kg/m ³ (lb/ft ³) (without guarantee) | | | |
|--|---|-----------------------------|---|-----------------------------|
| | Vane completely covered with bulk material | | Bulk material covers vane up to 100 mm (3.9“) | |
| | Spring adjustment | | Spring adjustment | |
| | fine | medium (factory setting) | fine | medium (factory setting) |
| Boot shaped vane 40 x 98 | 200 (12) | 300 (18) | 100 (60) | 150 (9) |
| Boot shaped vane 35 x 106 | 200 (12) | 300 (18) | 100 (60) | 150 (9) |
| Boot shaped vane 28 x 98 | 300 (18) | 500 (30) | 150 (9) | 200 (12) |
| Boot shaped 26 x 77 | 350 (21) | 560 (33) | 200 (12) | 250 (15) |
| Vane 50 x 98 | 300 (18) | 500 (30) | 150 (9) | 250 (15) |
| Vane 50 x 150 | 80 (4.8) | 120 (7.2) | 40 (2.4) | 60 (3.6) |
| Vane 50 x 250 | 30 (1.8) | 50 (3) | 15 (0.9) | 25 (1.5) |
| Vane 98 x 98 | 100 (60) | 150 (9) | 50 (3) | 75 (4.5) |
| Vane 98 x 150 | 30 (1.8) | 50 (3) | 15 (0.9) | 25 (15) |
| Vane 98 x 250 | 20 (1.2) | 30 (1.8) | 15 (0.9) | 15 (0.9) |
| Hinged vane 98 x 200 b=37 double sided | 70 (4.2) | 100 (60) | 35 (2.16) | 50 (3) |
| Hinged vane 98 x 200 b=28 double sided | 100 (60) | 150 (9) | 50 (3) | 75 (4.5) |
| Hinged vane 98 x 100 b=37 single sided | 200 (12) | 300 (18) | 100 (60) | 150 (9) |
| Hinged vane 98 x 100 b=28 single sided | 300 (18) | 500 (30) | 150 (9) | 250 (15) |

The above mentioned data is a guideline and is for loose, non compacted material.

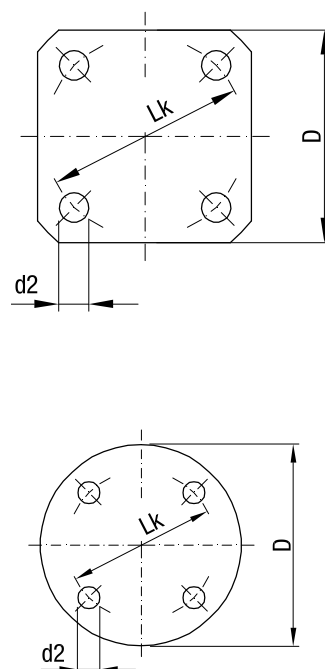
During the filling the bulk density can change (e. g. for fluidised material).

*For versions with option 26 (heating of housing) the above mentioned data must be multiplied by 1.5.

Dimensions / Detailed Ex-markings

Flanges

| Code | Type | Number of holes | d2 | Lk | D | T (thickness) |
|------|-------------------|-----------------|-----------------|------------------|------------------|-----------------|
| H | flange 150x150 | 4 | 18 mm (0.71") | 170 mm (6.69") | 150 mm (5.90") | 10 mm (0.39") |
| I | flange 150x150 | 4 | 14 mm (0.55") | 170 mm (6.69") | 150 mm (5.90") | 10 mm (0.39") |
| K | flange DN32 PN6 | 4 | 14 mm (0.55") | 90 mm (3.54") | 120 mm (4.72") | 14 mm (0.55") |
| N | flange DN50 PN16 | 4 | 18 mm (0.71") | 125 mm (4.92") | 165 mm (6.50") | 18 mm (0.71") |
| L | flange DN100 PN6 | 4 | 18 mm (0.71") | 170 mm (6.69") | 210 mm (8.27") | 16 mm (0.63") |
| M | flange DN100 PN16 | 8 | 18 mm (0.71") | 180 mm (7.09") | 220 mm (8.66") | 20 mm (0.79") |
| S | flange 2" 150lbs | 4 | 19.1 mm (0.75") | 120.7 mm (4.75") | 152.4 mm (6.01") | 19.1 mm (0.75") |
| T | flange 3" 150lbs | 4 | 19.1 mm (0.75") | 152.4 mm (6.01") | 190.5 mm (7.5") | 23.9 mm (0.94") |
| U | flange 4" 150lbs | 8 | 19.1 mm (0.75") | 190.5 mm (7.5") | 228.6 mm (9.0") | 23.9 mm (0.94") |



Detailed Ex-markings

pos.2

| | Certificate | Housing |
|---|--|----------|
| 0 | CE | Standard |
| W | ATEX II 1/2D Ex t IIIC T! Da/Db IP6X | Standard |
| R | ATEX II 2G Ex de IIC T! Gb and ATEX II 1/2D Ex t IIIC T! Da/Db IP6X | de |
| T | ATEX II 2G Ex d IIC T! Gb and ATEX II 1/2D Ex t IIIC T! Da/Db IP6X | d |
| A | IEC-Ex t IIIC T! Da/Db IP6X | Standard |
| C | IEC-Ex de IIC T! Gb and t IIIC T! Da/Db IP6X | de |
| D | IEC-Ex d IIC T! Gb and t IIIC T! Da/Db IP6X | d |
| M | FM/ CSA general purpose | Standard |
| N | FM/ CSA DIP Cl. II, III Div. 1 Gr. E,F,G CSA Ex DIP A20/21 | Standard |
| S | FM Cl. I Zone 1 AEx de IIC and FM/ CSA DIP Cl. II,III Div. 1 Gr. E,F,G CSA Cl. I Zone 1 Ex de IIC and CSA Ex DIP A20/21 | de |
| U | FM XP Cl. I,II,III Div. 1 Gr. B-G and FM Cl. I Zone 1 AEx d IIC CSA XP Cl. I,II,III Div. 1 Gr. B-G CSA Cl. I Zone 1 Ex d IIC and CSA Ex DIP A20/21 | d |
| E | TR-CU Ex ta/tb IIIC T! Da/Db X | Standard |
| K | TR-CU Ex de IIC T! Gb X Ex ta/tb IIIC T! Da/Db X | de |
| L | TR-CU Ex d IIC T! Gb X Ex ta/tb IIIC T! Da/Db X | d |

Electrical installation Series RN 3000

Version:

- AC
- DC
- **Universal voltage**

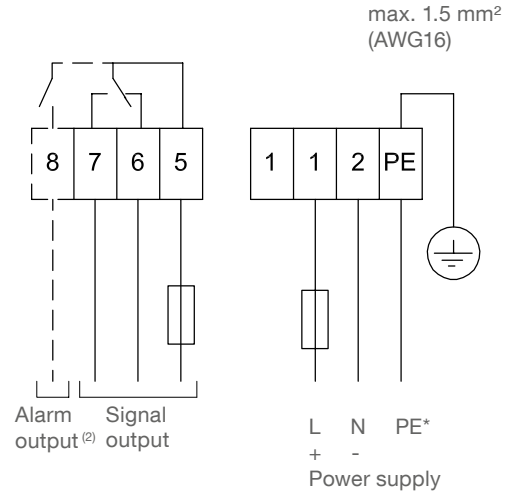
Power supply:

- **AC version:**
 24 V or 48 V or 115 V or 230 V 50/ 60 Hz max. 4 VA
 All voltages $\pm 10\%$ ⁽¹⁾
 Supply voltage as selected.
 External fuse: max. 10 A, fast or slow, HBC, 250 V
- **DC version:**
 24 V DC $\pm 15\%$ ⁽¹⁾ max. 2.5 W
 External fuse: not required
- **Universal voltage:**
 24 V DC $\pm 15\%$ ⁽¹⁾ max. 4 W
 22 .. 230 V 50/ 60 Hz $\pm 10\%$ ⁽¹⁾ max. 10 VA
 External fuse: not required

⁽¹⁾ including $\pm 10\%$ of EN 61010

Signal and alarm output:

Micro switch or relay, SPDT contact
 max. 250 V AC, 2 A, 500 VA ($\cos\phi = 1$)
 max. 300 V DC, 2 A, 60 W
 External fuse: max. 10 A, fast or slow, HBC, 250 V



⁽²⁾ With option Fail safe alarm (rotation control)
 Contact open when de-energised

Version:

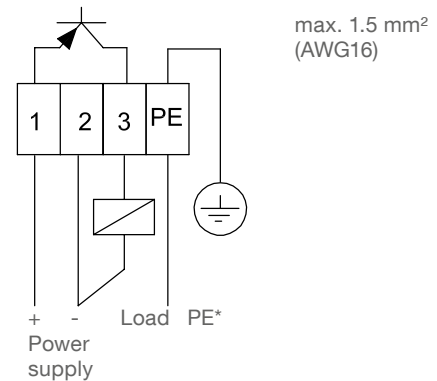
- PNP

Power supply:

24 V DC $\pm 15\%$ ⁽¹⁾
⁽¹⁾ including $\pm 10\%$ of EN 61010
 Input current: max. 0.6 A

Signal output:

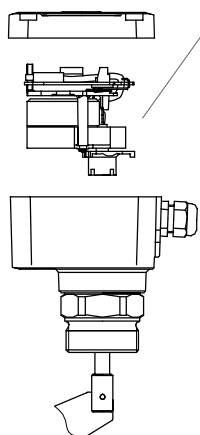
Load max. 0.4 A
 Output voltage equal to input voltage, drop <2.5 V
 Open collector
 Protected against short circuit and overload



*** Protection against static charge:**

The PE terminal of the unit must be grounded to avoid static charging of the unit.
 This is particularly important for applications with pneumatic conveying.

Spare parts



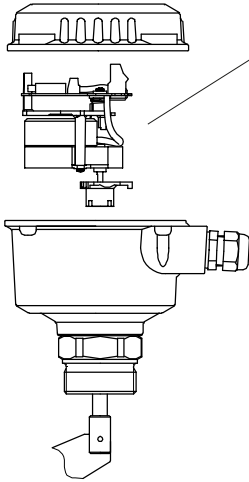
Series RN 3000 Motor/ PCB

| Order code | | | Voltage | Motor Speed | Spare part Articiel number | |
|-----------------------|-----------------------------|--------------------------------|---|-------------|----------------------------|---|
| Pos.5 Power supply | Pos.25 x Fail safe alarm | Pos.26 x Heating of housing | | | | |
| A | - | - | 230 V AC | 1/min | gm402000 | • |
| S | - | - | | 5/min | gm403000 | • |
| B | - | - | 115 V AC | 1/min | gm402005 | • |
| T | - | - | | 5/min | gm403005 | • |
| C | - | - | 48 V AC | 1/min | gm402015 | • |
| U | - | - | | 5/min | gm403015 | • |
| D | - | - | 24 V AC | 1/min | gm402010 | • |
| V | - | - | | 5/min | gm403010 | • |
| E | - | - | 24 V DC | 1/min | gm402020 | • |
| W | - | - | | 5/min | gm403020 | • |
| G | - | - | 24 V DC PNP | 1/min | gm402026* | • |
| H | - | - | | 5/min | gm403026* | • |
| F | - | - | 24 V DC/ 22 .. 230 V AC Universal voltage | 1/min | gm402038* | • |
| F | x | - | | 1/min | gm404038* ** | • |
| F | - | x | | 1/min | gm402039* | • |
| F | x | x | | 1/min | gm404039* ** | • |
| X | - | - | | 5/min | gm403038* | • |
| X | x | - | | 5/min | gm405038* ** | • |
| X | - | x | | 5/min | gm403039* | • |
| X | x | x | | 5/min | gm405039* ** | • |
| M | - | - | 230 V AC/ 115 V AC/ 24 V DC Mutivoltage | 1/min | gm402025 | • |
| Y | - | - | | 5/min | gm403025 | • |

* This module requires a higher housing lid than the other modules. Therefore it can not be mounted into a housing, where a different module was present before.

** This module requires a sensor to detect the motor rotation, which is mounted inside the housing. Therefore it can not be mounted into a housing where a different module was present before.

Spare parts



Series RN 6000 Motor/ PCB

| Equipment code | | | | Voltage | Motor Speed | Spare part Article number | |
|--------------------|------------------|--------------------------|-----------------------------|--|-------------|---------------------------|---|
| Pos.5 Power supply | Pos.25 b SIL 2** | Pos.25 x Fail safe alarm | Pos.26 x Heating of housing | | | | |
| A | - | - | - | 230V AC | 1/min | gm412000 | • |
| S | - | - | - | | 5/min | gm413000 | • |
| B | - | - | - | 115V AC | 1/min | gm412005 | • |
| T | - | - | - | | 5/min | gm413005 | • |
| C | - | - | - | 48V AC | 1/min | gm412015 | • |
| U | - | - | - | | 5/min | gm413015 | • |
| D | - | - | - | 24V AC | 1/min | gm412010 | • |
| V | - | - | - | | 5/min | gm413010 | • |
| E | - | - | - | 24V DC | 1/min | gm412020 | • |
| W | - | - | - | | 5/min | gm413020 | • |
| F | - | - | - | 24V DC/ 22 ... 230V AC Universal voltage | 1/min | gm412038 | • |
| F | - | x | - | | 1/min | gm414038* | • |
| F | - | - | x | | 1/min | gm412039 | • |
| F | - | x | x | | 1/min | gm414039* | • |
| X | - | - | - | | 5/min | gm413038 | • |
| X | - | x | - | | 5/min | gm415038* | • |
| X | - | - | x | | 5/min | gm413039 | • |
| X | - | x | x | | 5/min | gm415039* | • |
| M | - | - | - | 230V AC/115V AC/ 24V DC Mutivoltage | 1/min | gm410000 | • |
| Y | - | - | - | | 5/min | gm420000 | • |

* This module requires a sensor to detect the motor rotation, which is mounted inside the housing. Therefore it can not be mounted into a housing where a different module was present before.

** Moduls for units with SIL certificate must be replaced by the manufacturer.

Spare parts

| | Fitting to unit/ model code | Description see page | Spare part Article number | |
|--|-----------------------------|----------------------|---------------------------|---|
| Measuring vane (delivery incl. cotter pin) | | | | |
| Boot shaped 40 x 98 mm (1.4305) | Pos.10 A with pos.9 3 | P27 | fg400605 | • |
| Boot shaped 40 x 98 mm (1.4404) | Pos.10 A with pos.9 7 | P27 | fg400502 | • |
| Boot shaped 35 x 106 mm (1.4305) | Pos.10 D with pos.9 3 | P27 | fg400508 | • |
| Boot shaped 35 x 106 mm (1.4404) | Pos.10 D with pos.9 7 | P27 | fg400509 | • |
| Boot shaped 28 x 98 mm (1.4305) | Pos.10 R with pos.9 3 | P27 | fg400603 | • |
| Boot shaped 28 x 98 mm (1.4404) | Pos.10 R with pos.9 7 | P27 | fg400604 | • |
| Boot shaped 26 x 77 mm | Pos.10 J | P27 | fg400607 | • |
| Rectangular 50 x 98 mm | Pos.10 B | P27 | fg400610 | • |
| Rectangular 50 x 150 mm | Pos.10 C | P27 | fg400620 | • |
| Rectangular 50 x 250 mm | Pos.10 E | P27 | fg400630 | • |
| Rectangular 98 x 98 mm (1.4305) | Pos.10 F with pos.9 3 | P27 | fg400635 | • |
| Rectangular 98 x 98 mm (1.4404) | Pos.10 F with pos.9 7 | P27 | fg400032 | • |
| Rectangular 98 x 150 mm | Pos.10 G | P27 | fg400637 | • |
| Rectangular 98 x 250 mm | Pos.10 I | P27 | fg400650 | • |
| Hinged vane 98 x 200 mm double sided (37 mm for G 1½" and G 1¼") (1.4305, max. 250°C) | Pos.10 K with pos.9 3 | P27 | fg400081 | • |
| Hinged vane 98 x 200 mm double sided (37 mm for G 1½" and G 1¼") (1.4404, max. 250°C) | Pos.10 K with pos.9 7 | P27 | fg400087 | • |
| Hinged vane 98 x 200 mm double sided (28 mm for G 1" and M32) (1.4305, max. 250°C) | Pos.10 K with pos.9 3 | P27 | fg400085 | • |
| Hinged vane 98 x 100 mm single sided (37 mm for G 1½" and G 1¼") (1.4305, max. 250°C) | Pos.10 S with pos.9 3 | P27 | fg400084 | • |
| Hinged vane 98 x 100 mm single sided (37 mm for G 1½" and G 1¼") (1.4404, max. 250°C) | Pos.10 S with pos.9 7 | P27 | fg400088 | • |
| Hinged vane 98 x 100 mm single sided (28 mm for G 1" and M32) (1.4305, max. 250°C) | Pos.10 S with pos.9 3 | P27 | fg400086 | • |
| Rubber vane 98 x 250 mm | Pos.10 M | P27 | fg400565 | • |
| Notched 40 x 80 mm | Pos.10 P | P27 | fg400614 | • |
| VT-vane | Pos.10 N | P18 | fg400026 | • |

Extension parts

| | | | | | |
|--|-----------|--|------------|----------|---|
| Extension shaft ø10 mm: (delivery incl. fixing parts) | by 50 mm | RN 3001/ 6001 | - | we400005 | • |
| | by 100 mm | RN 3001/ 6001 | - | we401023 | • |
| | by 150 mm | RN 3001/ 6001 | - | we401025 | • |
| | by 200 mm | RN 3001/ 6001 | - | we401026 | • |
| Pendular shaft L=500 mm (delivery incl. fixing parts) | | RN 3001/6001/pos.36 | P22 | zu400131 | • |
| Pendular shaft L=1,000 mm (delivery incl. fixing parts) | | RN 3001/6001/pos.36 | P22 | zu400132 | • |
| Kit rope extension L=2,000 mm (implements 2 m single rope (zu400729) and rope fixing parts (zu400110)) | | RN 3001/6001/pos.39 | P22 | zu400100 | • |
| Single rope ø8 mm, tail welded, price per meter | | RN 3002/ 6002-rope RN3001/ RN6001/ pos.39 | P25 P22 | zu400729 | • |
| Rope fixing parts, usable for kit rope extension | | RN3001/ RN6001/ pos.39 | P22 | zu400110 | • |
| Rope weight ø30 mm (delivery incl. fixing parts) | | RN 3002/ 6002-rope | P25 below | we400720 | • |
| Rope holder ø22 mm (for version Pos.1 C) (delivery incl. fixing parts) | | RN 3002/ 6002-rope | P25 below | we400700 | • |

Spare parts

| | Fitting to unit/ model code | Description see page | Spare part Article number | |
|----------------------------|-----------------------------|----------------------|---------------------------|---|
| Hexagon nut | | | | |
| 1½" aluminium | Pos.6 A | P22 | zu300170 | • |
| 1½" stainless steel 1.4305 | Pos.6 A | P22 | zu300180 | • |
| 1¼" aluminium | Pos.6 B | P22 | zu300171 | • |
| 1¼" stainless steel 1.4305 | Pos.6 B | P22 | zu300181 | • |
| 1" aluminium | Pos.6 C | P22 | zu200150 | • |
| 1" stainless steel 1.4305 | Pos.6 C | P22 | zu200160 | • |
| M32 aluminium | Pos.6 D | P22 | zu200120 | • |
| M32 stainless steel 1.4305 | Pos.6 D | P22 | zu200130 | • |
| M30 aluminium | Pos.6 E | P22 | zu200170 | • |
| M30 stainless steel 1.4305 | Pos.6 E | P22 | zu200180 | • |

Flush welding socket

| | | | | |
|---|----------|-----|----------|---|
| Flush welding socket ø69/ G 1½" made of Aluminium | Pos.29 b | P23 | bu400500 | • |
| Flush welding socket ø69/ G 1½" made of 1.4301 (304) | Pos.29 c | P23 | bu400501 | • |
| Flush welding socket ø69/ G 1½" made of 1.4404 (316L) | Pos.29 d | P23 | bu400502 | • |

Weather protection cover

| | | | | |
|---|----------|-----|----------|---|
| RN 3000 (for lower housing, dimension H=66 mm) | Pos.21 x | P23 | zu300230 | • |
| RN 3000 (for higher housing, dimension H=70 mm) | Pos.21 x | P23 | zu300232 | • |
| RN 6000 standard housing | Pos.21 x | P23 | zu300240 | • |

