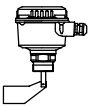
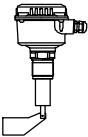
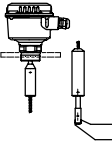
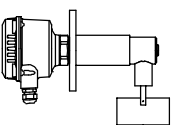
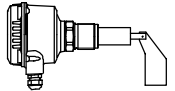
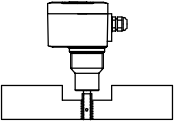


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Subject to technical change.

Valid from 01.04.2009 until 31.03.2010 unless otherwise agreed.

All dimensions in mm (inches).

By publishing this option list all other option 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
- Die-casted housing aluminium
- Very robust and reliable sensors
- Wide range of applications, no maintenance
- Full-, demand-, empty detector
- ATEX, FM, CSA GasEx and DustEx approvals

Series	RN 3000	RN 6000
	ATEX approval Small housing Sensitivity > 15 g/l (0.9lb/ft <sup>3</sup> )	ATEX / FM / CSA approval Spacious housing Sensitivity > 15 g/l (0.9lb/ft <sup>3</sup> )

Housing	Standard	Standard	d	de
				

<b>RN ..001</b> Short extension length	RN 3001 	RN 6001 
	<b>RN ..002</b> Pipe extension vertical	RN 3002 

## Overview

**RN ..002-rope**  
 Rope extension



**RN ..003**  
 Angled extension



**RN ..004**  
 Pipe extension  
 horizontal



**RN 3005**  
 Extra short version  
 for use in  
 loading bellow



## Specifications

Series		RN 3000	RN 6000
Approvals	<b>CE</b>	•	•
	<b>ATEX:</b>		
	Zone 20/21    Dust Ignition Proof	•	•
	Zone 1        Flameproof / Increased Safety		•
	<b>FM / CSA:</b>		
	General purp.		•
	Cl. II, III Div. 1    Dust Ignition Proof		•
	Cl. I Div. 1        Explosionproof		•
Zone 1        Flameproof / Increased Safety		•	
Electronics	<b>Power supply</b>		
	AC version    24V or 48V or 115V or 230V AC	•	•
	DC version    24V DC	•	•
	Multivoltage    24V DC / 115V AC / 230V AC	•	•
	<b>Output signal:</b>		
	Microswitch SPDT contact	•	•
Microswitch DPDT contact (option pos.25y)		•	
Technical data	Ambient temperature	-25 .. +60°C (-13 .. +140°F)	
	Process connection material	Aluminium or 1.4305 (SS 303) or 1.4404 (316L)	
	Material of measuring vane and shaft	1.4301 (SS 304) or 1.4305 (SS 303) or 1.4404 (316L)	

## Specifications

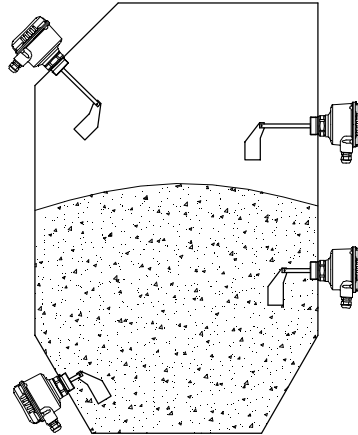
		RN 3000	RN 6000	
Extensions	RN ..001	Process temperature	-40/-25 .. +80 /150 /250 /350°C (-40/-13 .. +176 /302 /482 /662°F)	
		Process pressure	-0.5 .. +0.8bar; -0.8 .. +5 / 10bar ( -6.8 ..+11.6; -10.4 .. +72.5 / 145psi)	
		<b>Length of extension</b>		
		Full detector vertical from the top	70 .. 300mm (2.76 .. 11.8")	
		Full detector oblique from the top	70 .. 300mm (2.76 .. 11.8")	
		Full detector horizontal	70 .. 300mm (2.76 .. 11.8")	
		Demand or empty detector horizontal	70 .. 150mm (2.76 .. 5.9") *	
		Empty detector oblique from the bottom	70 .. 150mm (2.76 .. 5.9") *	
	RN ..002	Process temperature	-40/-25 ..+80 /150 /250 /350 /600°C (-40/-13 ..+176 /302 /482 /662 /1112°F)	
		Process pressure	-0.5 .. +0.8bar; -0.8 .. +5 / 10bar ( -6.8 ..+11.6; -10.4 .. +72.5 / 145psi)	
		<b>Length of extension</b>		
		Full detector vertical from the top	250 .. 3.000mm (9.84 .. 118") / 10.000mm (394") with support of the extension pipe	
	Full detector oblique from the top	250 .. 3.000mm (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 /1112°F)	
		Process pressure	-0.5 .. +0.8bar; -0.8 .. +5 / 10bar ( -6.8 ..+11.6; -10.4 .. +72.5 / 145psi)	
		<b>Length of extension</b>		
		Full detector vertical from the top	500 .. 10.000mm (19.7 .. 394") (observe max. traction)	
	RN ..003	Process temperature	-40/-25 .. +80 /150 /250°C (-40/-13 .. +176 /302 /482°F)	
		Process pressure	-0.5 .. +0.8bar; -0.8 .. +5 / 10bar ( -6.8 ..+11.6; -10.4 .. +72.5 / 145psi)	
		<b>Length of extension</b>		
Demand or empty detector horizontal		125 .. 300mm (4.92 .. 11.8")		
Empty detector oblique from the bottom		125 .. 300mm (4.92 .. 11.8")		
RN ..004	Process temperature	-40/-25 .. +80 /150 /250 /350°C (-40/-13 .. +176 /302 /482 /662°F)		
	Process pressure	-0.5 .. +0.8bar; -0.8 .. +5 / 10bar ( -6.8 ..+11.6; -10.4 .. +72.5 / 145psi)		
	<b>Length of extension</b>			
	Full detector vertical from the top	150 .. 300mm (5.90 .. 11.8")		
	Full detector oblique from the top	150 .. 300mm (5.90 .. 11.8")		
	Full detector horizontal	150 .. 300mm (5.,90 .. 11.8")		
	Demand or empty detector horizontal	150 .. 300mm (5.90 .. 11.8") *		
Empty detector oblique from the bottom	150 .. 300mm (5.90 .. 11.8") *			
RN 3005	Process temperature	-40/-25 .. +80°C (-40/-13 .. +176°F)		
	Process pressure	-0.8 .. +0.8bar (-10.4 .. +11.6psi)		
	<b>Length of extension</b>			
	Application "Loading bellow"	100mm (3.94")		

\* A protective canopy is recommended when high mechanical loading



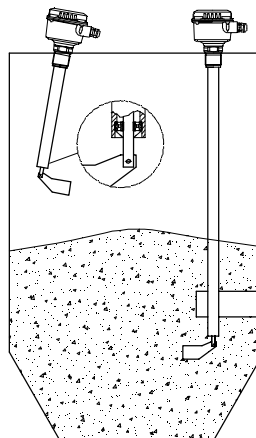
## Applications

### RN..001 Short extension length



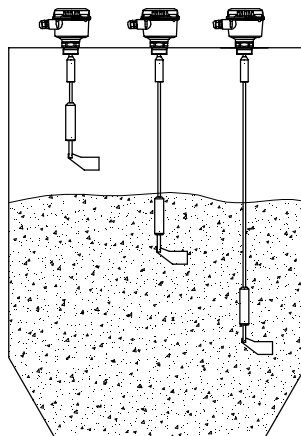
Horizontal mounting:  
Boot shaped vane  
recommended  
(min. mech. loading as  
the vane aligns itself to  
the material flow).

### RN..002 Pipe extension vertical



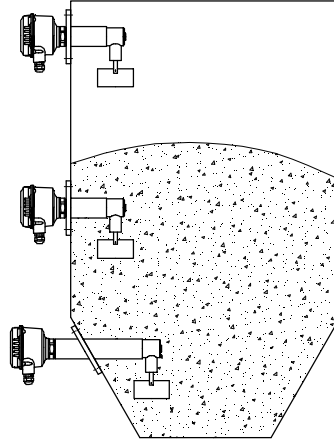
Deviation up to max.  
10° from vertical  
installation only with  
option „bearing at  
tube end“ possible

### RN..002 - rope Rope extension

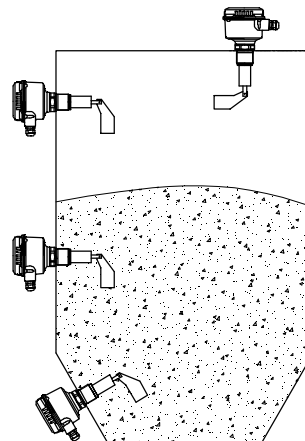


## Applications

### RN ..003 Angled extension

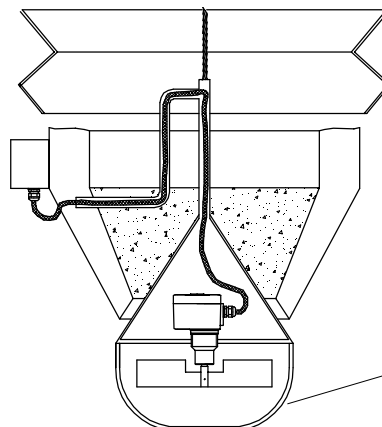


### RN ..004 Pipe extension horizontal



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)

Version for food applications with option pos.29y (page 20)

### Cable entries

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

Version:	Cable entries:
ATEX flameproof (pos.2 T)	M20x1.5 (1x conduit + 1x Ex-d blind plug)
FM and CSA (pos.2 M,N,S,U)	NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)
All other versions	M20x1.5 (1x screwed cable gland + 1x blind plug)

**Dimensions** see pages 22 – 26

### Basic type

**RN 3001** .....  
**RN 6001** .....

pos. 2 **Certificate** (detailed Ex-markings: see page 26)

Certi- ficate	Zone / Div		Protection method
	Dust	Gas	
0	CE	–	–
•	W	ATEX Zone 20/21	–
•	R	ATEX Zone 20/21	Zone 1
•	T	ATEX Zone 20/21	Zone 1
•	M	FM / CSA	–
•	N	FM / CSA	Cl. II, III, Div.1
•		CSA	A 20/21
•	S	FM / CSA	Cl. II, III, Div.1
•		CSA	A 20/21
•	U	FM / CSA	Cl. II, III, Div.1
		CSA	A 20/21
			Cl. I Div.1 / Zone 1



## RN ..001 Short extension length

• •	<b>pos. 3</b>	<b>Process temperature</b>	
• •		1	max. + 80°C (176°F) .....
• •		2	max. +150°C (302°F) .....
• •		3	max. +250°C (482°F) (220°C (428°F) for RN 3001 ATEX) .....
• •		4	max. +350°C (662°F) (not for Ex-approvals) (up to max. 0,8 bar (11,6psi)) .....
• •	<b>pos. 4</b>	<b>Process overpressure</b>	
• •		1	max. 0.8 bar (11.6psi) .....
• •		2	max. 5 bar (73psi) .....
• •		3	max. 10 bar (145psi) .....
• •	<b>pos. 5</b>	<b>Power supply</b>	
• •	A / S	230V AC 50–60 Hz .....	Motor Speed: A=1/min S= 5/min .....
• •	B / T	115V AC 50–60 Hz .....	Motor Speed: B=1/min T= 5/min .....
• •	C / U	48V AC 50–60 Hz .....	Motor Speed: C=1/min U= 5/min .....
• •	D / V	24V AC 50–60 Hz .....	Motor Speed: D=1/min V= 5/min .....
• •	E / W	24V DC .....	Motor Speed: E=1/min W= 5/min .....
• •	M / Y	230V AC/115V AC/24V DC multivoltage ...	Motor Speed: M=1/min Y= 5/min .....
• •	<b>pos. 6</b>	<b>Process connection</b>	
• •	A	thread G 1½ inch, .. DIN 228 .....	
• •	B	thread G 1¼ inch, .. DIN 228 .....	
• •	C	thread G 1 inch, .. DIN 228 .....	(not for pos 2. R,S,T,U) .....
• •	D	thread M32x1.5 .....	(up to max. 0.8 bar (11.6psi) (not for pos 2. R,S,T,U) .....
• •	E	thread M30x1.5 .....	(up to max.0.8 bar (11.6psi)/80°C (176°F)) (not for pos 2. R,S,T,U) .....
• •	F	thread NPT 1½ inch, conical ANSI B1.20.1 .....	
• •	G	thread NPT 1¼ inch, conical ANSI B1.20.1 .....	
• •	Q	thread NPT 1 inch, conical ANSI B1.20.1 .....	(not for pos 2. R,S,T,U) .....
• •	H	flange 150x150, 4x ø18 LK–ø170 .....	(up to max. 0.8 bar (11.6psi)) .....
• •	I	flange 150x150, 4x ø14 LK–ø170 .....	(up to max. 0.8 bar (11.6psi)) .....
• •	K	flange DN32 PN6, EN 1092–1 .....	(up to max. 5 bar (73psi)) .....
• •	L	flange DN100 PN6, EN 1092–1 .....	(up to max. 5 bar (73psi)) .....
• •	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 .....	
• •	<b>pos. 7</b>	<b>Material process connection</b>	
• •	1	aluminium .....	(up to max. 0.8 bar (11.6psi) / 80°C (176°F))
• •	3	stainless steel .....	(threads 1.4305 (303), flanges 1.4541 (321))
• •	4	stainless steel plate (1.4301 (304)) .....	(up to max.250°C (482°F))
• •	6	stainless steel with stainless steel ball bearings and PTFE (Teflon) radial rotary shaft sealing .....	(up to max.250°C (482°F))
• •	<b>pos. 8</b>	<b>Length of extension "L"</b>	
• •	K	70 mm (2.76") (only with vane P) .....	
• •	A	100 mm (3.93") (only with vane A, D, R, B, C, E) .....	
• •	B	150 mm (5.90") .....	
• •	C	200 mm (7.87") .....	
• •	D	250 mm (9.84") .....	
• •	E	300 mm (11.8") .....	
• •	<b>pos. 10</b>	<b>Measuring vane</b>	
• •	A	boot-shaped* 40 x 98mm (1.57 x 3.86") .....	for 1 1/2" socket .....
• •	D	boot-shaped* 35 x 106mm (1.38 x 4.17") .....	for 1 1/4" socket .....
• •			("L" at Pos.8 is 16mm longer)
• •	R	boot-shaped* 28 x 98mm (1.10 x 3.86") .....	for 1" and M32 socket .....
• •	B	rectangular 50 x 98mm ( 1.97 x 3.86") .....	
• •	C	rectangular 50 x 150mm (1.97 x 5.90") .....	
• •	E	rectangular 50 x 250mm (1.97 x 9.84") .....	
• •	F	rectangular 98 x 98mm (3.86 x 3.86") .....	
• •	G	rectangular 98 x 150mm (3.86 x 5.90") .....	
• •	I	rectangular 98 x 250mm (3.86 x 9.84") .....	
• •	K	hinged vane 98 x 200mm (3.86 x 7.87") double sided .....	
• •	S	hinged vane 98 x 100mm (3.86 x 3.93") single sided .....	
• •	M	rubber vane 98 x 250mm (3.86 x 9.84") .....	(up to max.80°C (176°F), not for Ex) .....
• •	P	notched 40 x 80mm (1.57 x 3.15") .....	

Further options and accessories: see page 20

Basic type

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").

\* maximum length of socket 40mm



## RN ..002 Pipe extension vertical

**RN 3002**



**RN 6002**



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

Version for food applications with option pos.29y (page 20)

Housings RN 6002



Standard



d (flameproof)



de (flameproof/ increased safety)

### Cable entries

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

Version:	Cable entries
ATEX flameproof (pos.2 T) FM and CSA (pos.2 M,N,S,U) All other versions	M20x1.5 (1x conduit + 1x Ex-d blind plug) NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug) M20x1.5 (1x screwed cable gland + 1x blind plug)

**Dimensions** see pages 22 – 26

### Basic type

RN 3002

RN 6002

### pos. 2 Certificate (detailed Ex-markings: see page 26)

Certificate	Zone / Div		Protection method
	Dust	Gas	
0 CE	–	–	
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
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		



## RN ..002 Pipe extension vertical

• •	<b>pos. 3</b>	<b>Process temperature</b>	
• •		1	max. + 80°C (176°F) .....
• •		2	max. +150°C (302°F) .....
• •		3	max. +250°C (482°F) (220°C (428°F) for RN 3002 ATEX) .....
• •		4	max. +350°C (662°F) (not for Ex-approvals) .....
• •		Z	max. +600°C (1112°F) .....
• •	<b>pos. 4</b>	<b>Process overpressure</b>	
• •		1	max. 0.8 bar (11,6psi) .....
• •		2	max. 5 bar (73psi) .....
• •		3	max. 10 bar (145psi) .....
• •	<b>pos. 5</b>	<b>Power supply</b>	
• •	A / S	230V AC 50–60 Hz	..... Motor Speed: A=1/min S= 5/min .....
• •	B / T	115V AC 50–60 Hz	..... Motor Speed: B=1/min T= 5/min .....
• •	C / U	48V AC 50–60 Hz	..... Motor Speed: C=1/min U= 5/min .....
• •	D / V	24V AC 50–60 Hz	..... Motor Speed: D=1/min V= 5/min .....
• •	E / W	24V DC	..... Motor Speed: E=1/min W= 5/min .....
• •	M / Y	230V AC/115V AC/24V DC multivoltage	... Motor Speed: M=1/min Y= 5/min .....
• •	<b>pos. 6</b>	<b>Process connection</b>	
• •	A	thread G 1½ inches, DIN 228	.....
• •	B	thread G 1¼ inches, DIN 228	.....
• •	F	thread NPT 1½ inches, conical ANSI B1.20.1	.....
• •	Q	thread NPT 1¼ inches, conical ANSI B1.20.1	.....
• •	H	flange 150x150, 4x ø18 LK-ø170	..... (up to max. 0.8 bar (11.6psi)) .....
• •	I	flange 150x150, 4x ø14 LK-ø170	..... (up to max. 0.8 bar (11.6psi)) .....
• •	K	flange DN32 PN6, EN 1092-1	..... (up to max. 5 bar (73psi)) .....
• •	L	flange DN100 PN6, EN 1092-1	..... (up to max. 5 bar (73psi)) .....
• •	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	.....
• •	<b>pos. 7</b>	<b>Material process connection</b>	
• •	1	aluminium	..... (up to max. 0.8 bar (11.6psi) / 80°C (176°F))
• •	3	stainless steel	..... (threads 1.4305 (303), flanges 1.4541 (321))
• •	4	stainless steel plate (1.4301 (304))	..... (up to max.250°C (482°F))
• •	6	stainless steel with stainless steel ball bearings and PTFE (Teflon) radial rotary shaft sealing	..... (up to max.250°C (482°F))
• •	<b>pos. 8</b>	<b>Length of extension "L"</b>	
• •	Z	each initial 100mm (3.93")	
• •		Lmin = 250mm (9.84"), Lmax = 10.000mm (394") (Ex 6.000mm (236"))	.....
• •	<b>pos. 9</b>	<b>Material of extension "L"</b>	
• •	1	aluminium	(up to max. 0.8 bar (11.6psi) / 250°C (482°F))
• •	3	stainless steel	(1.4305 (303))
• •	<b>pos. 10</b>	<b>Measuring vane</b>	
• •	A	boot-shaped* 40 x 98mm (1.57 x 3.86")	for 1 1/2" socket .....
• •	D	boot-shaped* 35 x 106mm (1.38 x 4.17")	for 1 1/4" socket .....
			("L" at Pos.8 is 16mm longer)
• •	B	rectangular 50 x 98mm (1,97 x 3,86")	.....
• •	C	rectangular 50 x 150mm (1.97 x 5.90")	.....
• •	E	rectangular 50 x 250mm (1.97 x 9.84")	.....
• •	F	rectangular 98 x 98mm (3.86 x 3.86")	.....
• •	G	rectangular 98 x 150mm (3.86 x 5.90")	.....
• •	I	rectangular 98 x 250mm (3.86 x 9.84")	.....
• •	K	hinged vane 98 x 200mm (3.86 x 7.87")	double sided .....
• •	S	hinged vane 98 x 100mm (3.86 x 3.93")	single sided .....
• •	M	rubber vane 98 x 250mm (3.86 x 9.84")	(up to max.80°C (176°F), not for Ex).....

Further options and accessories: see page 20

Basic type

	<b>B</b>						<b>Z</b>			
Position	1	2	3	4	5	6	7	8	9	10

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

\* maximum length of socket 40mm

— **L= mm** ← Order code



## RN ..002-rope Rope extension

**RN 3002 - rope**



**RN 6002 - rope**



**Housings RN 6002-rope**



Standard



d (flameproof)



de  
 (flameproof /  
 increased safety)

### Cable entries

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

Version:	Cable entries
ATEX flameproof (pos.2 T)	M20x1.5 (1x conduit + 1x Ex-d blind plug)
FM and CSA (pos.2 M,N,S,U)	NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)
All other versions	M20x1.5 (1x screwed cable gland + 1x blind plug)

### Dimensions

see pages 22 - 26

### Basic type

**RN 3002-Rope** .....

**RN 6002-Rope** .....

#### pos. 1 Types

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

#### pos. 2 Certificate (detailed Ex-markings: see page 26)

Certifi- cate	Zone / Div		Protection method
	Dust	Gas	
0 CE	–	–	
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
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		



## RN ..002-rope Rope extension

• •	<b>pos. 3</b>	<b>Process temperature</b>	
• •	1	max. + 80°C (176°F)	.....
• •	2	max. +150°C (302°F)	.....
• •	3	max. +250°C (482°F) (220°C (428°F) for RN 3002-rope ATEX)	.....
• •	4	max. +350°C (662°F) (not for Ex-approvals) (up to max. 0.8 bar (11.6psi))	.....
• •	Z	max. +600°C (1112°F)	.....
• •	<b>pos. 4</b>	<b>Process overpressure</b>	
• •	1	max. 0.8 bar (11.6psi)	.....
• •	2	max. 5 bar (73psi)	.....
• •	3	max. 10 bar (145psi)	.....
• •	<b>pos. 5</b>	<b>Power supply</b>	
• •	A / S	230V AC 50-60 Hz	..... Motor Speed: A=1/min S= 5/min
• •	B / T	115V AC 50-60 Hz	..... Motor Speed: B=1/min T= 5/min
• •	C / U	48V AC 50-60 Hz	..... Motor Speed: C=1/min U= 5/min
• •	D / V	24V AC 50-60 Hz	..... Motor Speed: D=1/min V= 5/min
• •	E / W	24V DC	..... Motor Speed: E=1/min W= 5/min
• •	M / Y	230V AC/115V AC/24V DC multivoltage	..... Motor Speed: M=1/min Y= 5/min
• •	<b>pos. 6</b>	<b>Process connection</b>	
• •	A	thread G 1½ inch, DIN 228	.....
• •	B	thread G 1¼ inch, DIN 228	.....
• •	F	thread NPT 1½ inch, conical ANSI B1.20.1	.....
• •	Q	thread NPT 1¼ inch, conical ANSI B1.20.1	.....
• •	H	flange 150x150, 4x ø18 LK-ø170	..... (up to max. 0.8 bar (11.6psi))
• •	I	flange 150x150, 4x ø14 LK-ø170	..... (up to max. 0.8 bar (11.6psi))
• •	K	flange DN32 PN6, EN 1092-1	..... (up to max. 5 bar (73psi))
• •	L	flange DN100 PN6, EN 1092-1	..... (up to max. 5 bar (73psi))
• •	M	flange DN100 PN16, EN 1092-1	.....
• •	S	flange 2" 150lbs ANSI B16.5	.....
• •	T	1.5	.....
• •	U	flange 4" 150lbs ANSI B16.5	.....
• •	<b>pos. 7</b>	<b>Material process connection</b>	
• •	1	aluminium	..... (up to max. 0.8 bar (11.6psi) / 80°C (176°F))
• •	3	stainless steel	..... (threads 1.4305 (303), flanges 1.4541 (321))
• •	4	stainless steel plate (1.4301 (304))	..... (up to max.250°C (482°F))
• •	6	stainless steel with stainless steel ball bearings and PTFE (Teflon) radial rotary shaft sealing	..... (up to max.250°C (482°F))
• •	<b>pos. 8</b>	<b>Length of extension "L"</b>	
• •	Z	each initial 100mm (3.93")	.....
• •		Lmin = 500mm (19,69") Pos 1C; Lmin=1000mm (39,4") Pos 1H;	.....
• •		Lmax = 10.000mm (394")	.....
• •	<b>pos. 10</b>	<b>Measuring vane</b>	
• •	A	boot-shaped* 40 x 98mm (1.57 x 3.86")	..... for 1 1/2" socket
• •	D	boot-shaped* 35 x 106mm (1.38 x 4.17")	..... for 1 1/4" socket
• •			..... ("L" at Pos.8 is 16mm longer)
• •	B	rectangular 50 x 98mm (1.97 x 3.86")	.....
• •	C	rectangular 50 x 150mm (1.97 x 5.90")	.....
• •	E	rectangular 50 x 250mm (1.97 x 9.84")	.....
• •	F	rectangular 98 x 98mm (3.86 x 3.86")	.....
• •	G	rectangular 98 x 150mm (3.86 x 5.90")	.....
• •	I	rectangular 98 x 250mm (3.86 x 9.84")	.....
• •	K	hinged vane 98 x 200mm (3.86 x 7.87")	..... double sided
• •	S	hinged vane 98 x 100mm (3.86 x 3.93")	..... single sided
• •	M	rubber vane 98 x 250mm (3.86 x 9.84")	..... (upto max.80°C (176°F), not for Ex)

Further options and accessories: see page 20

Basic type

							Z	3
Position 1	2	3	4	5	6	7	8	9 10

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

\* maximum length of socket 40mm

L= mm

←

Order code

## RN ..003 Angled extension

**RN 3003**



**RN 6003**



Housings RN 6003



### Cable entries

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

Version:	Cable entries:
ATEX flameproof (pos.2 T) FM and CSA (pos.2 M,N,S,U) All other versions	M20x1.5 (1x conduit + 1x Ex-d blind plug) NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug) M20x1.5 (1x screwed cable gland + 1x blind plug)

**Dimensions** see pages 22 - 26

### Basic type

- RN 3003** .....
- RN 6003** .....

**pos. 2 Certificate** (detailed Ex-markings: see page 26)

Certi- ficate	Zone / Div		Protection method		
	Dust	Gas			
0	CE	-	-		
•	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
•	M	FM / CSA	-	-	General purpose
•	N	FM / CSA	Cl. II, III, Div.1	-	Dust Ignition Proof
•	S	FM / CSA	Cl. II, III, Div.1	Zone 1	Flameproof / Increased Safety / Dust Ignition Proof
•	U	FM / CSA	Cl. II, III, Div.1	Cl. I Div.1 / Zone 1	Explosion Proof / Dust Ignition Proof
		CSA	A 20/21		
		CSA	A 20/21		

## RN ..003 Angled extension

••	<b>pos. 3</b>	<b>Process temperature</b>	
••	1	max. + 80°C (176°F)	.....
••	2	max. +150°C (302°F)	.. (only in combination with pos.33) .....
••	3	max. +250°C (482°F) (220°C (428°F) for RN 3003 ATEX)	(only in combination with pos.33) .....
••	<b>pos. 4</b>	<b>Process overpressure</b>	
••	1	max. 0.8 bar (11.6psi)	.....
••	2	max. 5 bar (73psi)	(only in combination with pos.33) .....
••	3	max. 10 bar (145psi)	(only in combination with pos.33) .....
••	<b>pos. 5</b>	<b>Power supply</b>	
••	A / S	230V AC 50–60 Hz	..... Motor Speed: A=1/min S= 5/min .....
••	B / T	115V AC 50–60 Hz	..... Motor Speed: B=1/min T= 5/min .....
••	C / U	48V AC 50–60 Hz	..... Motor Speed: C=1/min U= 5/min .....
••	D / V	24V AC 50–60 Hz	..... Motor Speed: D=1/min V= 5/min .....
••	E / W	24V DC	..... Motor Speed: E=1/min W= 5/min .....
••	M / Y	230V AC/115V AC/24V DC multivoltage	... Motor Speed: M=1/min Y= 5/min .....
••	<b>pos. 6</b>	<b>Process connection</b>	
••	H	flange 150x150, 4x ø18 LK–ø170	..... (up to max. 0.8 bar (11.6psi)) .....
••	I	flange 150x150, 4x ø14 LK–ø170	..... (up to max. 0.8 bar (11.6psi)) .....
••	L	flange DN100 PN6, EN 1092–1	..... (up to max. 5 bar (73psi)) .....
••	M	flange DN100 PN16, EN 1092–1	.....
••	U	flange 4" 150lbs ANSI B16.5	.....
••	<b>pos. 7</b>	<b>Material process connection</b>	
••	1	aluminium	..... (up to max. 0.8 bar (11.6psi) / 80°C (176°F))
••	3	stainless steel	..... (1.4305 (303))
••	4	stainless steel plate (1.4301 (304))	..... (up to max.250°C (482°F))
••	<b>pos. 8</b>	<b>Length of extension "L"</b>	
••	1	125 mm (4.92")	.....
••	2	150 mm (5.90")	.....
••	3	200 mm (7.87")	.....
••	4	250 mm (9.84")	.....
••	5	300 mm (11.8")	.....
••	<b>pos. 9</b>	<b>Material of extension "L"</b>	
••		(must be the same material as pos.7)	
••	1	aluminium	.....
••	3	stainless steel (1.4305 (303))	.....
••	<b>pos. 10</b>	<b>Measuring vane</b>	
••	A	boot-shaped* 40 x 98mm (1.57 x 3.86")	.....
••	B	rectangular 50 x 98mm ( 1.97 x 3.86")	.....
••	C	rectangular 50 x 150mm (1.97 x 5.90")	.....
••	E	rectangular 50 x 250mm (1.97 x 9.84")	.....
••	F	rectangular 98 x 98mm (3.86 x 3.86")	.....
••	G	rectangular 98 x 150mm (3.86 x 5.90")	.....
••	I	rectangular 98 x 250mm (3.86 x 9.84")	.....
••	K	hinged vane 98 x 200mm (3.86 x 7.87")	double sided .....
••	S	hinged vane 98 x 100mm (3.86 x 3.93")	single sided .....
••	M	rubber vane 98 x 250mm (3.86 x 9.84")	(upto max.80°C (176°F), not for Ex) .....

Further options and accessories: see page 20

Basic type

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

← Order code

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

\* maximum length of socket 40mm



## RN ..004 Pipe extension horizontal

**RN 3004**



**RN 6004**



Housings RN 6004



Version for food applications with option pos.29y (page 20)

### Cable entries

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

Version:	Cable entries:
ATEX flameproof (pos.2 T)	M20x1.5 (1x conduit + 1x Ex-d blind plug)
FM and CSA (pos.2 M,N,S,U)	NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)
All other versions	M20x1.5 (1x screwed cable gland + 1x blind plug)

### Dimensions

see pages 22 - 26

### Basic type

- RN 3004** .....
- RN 6004** .....

### pos. 2 Certificate (detailed Ex-markings: see page 26)

Certificate	Zone / Div		Protection method
	Dust	Gas	
0 CE	–	–	
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
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		



## RN ..004 Pipe extension horizontal

• •	<b>pos. 3</b>	<b>Process temperature</b>	
• •		1	max. + 80°C (176°F) .....
• •		2	max. +150°C (302°F) .....
• •		3	max. +250°C (482°F) (220°C (428°F) for RN 3004 ATEX) .....
• •		4	max. +350°C (662°F) (not for Ex-approvals) (upto max. 0.8 bar (11.6psi)) .....
• •	<b>pos. 4</b>	<b>Process overpressure</b>	
• •		1	max. 0.8 bar (11.6psi) .....
• •		2	max. 5 bar (73psi) .....
• •		3	max. 10 bar (145psi) .....
• •	<b>pos. 5</b>	<b>Power supply</b>	
• •	A / S	230V AC 50–60 Hz .....	Motor Speed: A=1/min S= 5/min .....
• •	B / T	115V AC 50–60 Hz .....	Motor Speed: B=1/min T= 5/min .....
• •	C / U	48V AC 50–60 Hz .....	Motor Speed: C=1/min U= 5/min .....
• •	D / V	24V AC 50–60 Hz .....	Motor Speed: D=1/min V= 5/min .....
• •	E / W	24V DC .....	Motor Speed: E=1/min W= 5/min .....
• •	M / Y	230V AC/115V AC/24V DC multivoltage ...	Motor Speed: M=1/min Y= 5/min .....
• •	<b>pos. 6</b>	<b>Process connection</b>	
• •	A	thread G 1½ inch, DIN 228 .....	
• •	B	thread G 1¼ inch, DIN 228 .....	
• •	F	thread NPT 1½ inch, conical ANSI B1.20.1 .....	
• •	Q	thread NPT 1¼ inch, conical ANSI B1.20.1 .....	
• •	P	Triclamp 2" (DN 50) ISO 2852 .....	
• •	H	flange 150x150, 4x ø18 LK-ø170 .....	(up to max. 0.8 bar (11.6psi)) .....
• •	I	flange 150x150, 4x ø14 LK-ø170 .....	(up to max. 0.8 bar (11.6psi)) .....
• •	K	flange DN32 PN6, EN 1092-1 .....	(up to max. 5 bar (73psi)) .....
• •	L	flange DN100 PN6, EN 1092-1 .....	(up to max. 5 bar (73psi)) .....
• •	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 .....	
• •	<b>pos. 7</b>	<b>Material process connection</b>	
• •	1	aluminium .....	(up to max. 0.8 bar (11.6psi) / 80°C (176°F))
• •	3	stainless steel .....	(threads 1.4305 (303), flanges 1.4541 (321))
• •	4	stainless steel plate (1.4301 (304)) .....	(up to max.250°C (482°F))
• •	5	stainless steel for pharmacy / food applications (1.4404 (316L)) incl. FDA sealing	(max. 80°C (176°F) / max. 5bar (73psi) / Vane A (in 1.4404 (316L)) / "L" at pos.8 is 16mm longer)
• •	6	stainless steel with stainless steel ball bearings and PTFE (Teflon) radial rotary shaft sealing	(up to max.250°C (482°F))
• •	<b>pos. 8</b>	<b>Length of extension "L"</b>	
• •	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") .....	
• •	<b>pos. 9</b>	<b>Material of extension "L"</b>	
• •	1	aluminium (upto max. 0.8 bar (11.6psi) / 80°C (176°F))	
• •	3	stainless steel (1.4305 (303))	
• •	5	stainless steel for pharmacy / food applications (1.4404 (316L)) (only with pos.7 5)	
• •	<b>pos. 10</b>	<b>Measuring vane</b>	
• •	A	boot-shaped* 40 x 98mm (1.57 x 3.86")	for 1 1/2" socket .....
• •	D	boot-shaped* 35 x 106mm (1.38 x 4.17")	for 1 1/4" socket .....
			("L" at Pos.8 is 16mm longer)
• •	B	rectangular 50 x 98mm ( 1.97 x 3.86") .....	
• •	C	rectangular 50 x 150mm (1.97 x 5.90") .....	
• •	E	rectangular 50 x 250mm (1.97 x 9.84") .....	
• •	F	rectangular 98 x 98mm (3.86 x 3.86") .....	
• •	G	rectangular 98 x 150mm (3.86 x 5.90") .....	
• •	I	rectangular 98 x 250mm (3.86 x 9.84") .....	
• •	K	hinged vane 98 x 200mm (3.86 x 7.87") double sided .....	
• •	S	hinged vane 98 x 100mm (3.86 x 3.93") single sided .....	
• •	M	rubber vane 98 x 250mm (3.86 x 9.84") (upto max.80°C (176°F), not for Ex) .....	

Further options and accessories: see page 20

Basic type

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

← Order code

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

\* maximum length of socket 40mm



**RN 3005**



**RN 6005**  
not available

### Cable entries

M20x1.5 (1x screwed cable gland + 1x blind plug)  
Options see pos.28 on page 20

**Dimensions**      see pages 22 - 26

## RN 3005 Extra short version

### Basic type

**RN 3005** .....

**pos. 2 Certificate**  
 O CE .....  
 W ATEX Zone 20/21 Dust Ignition Proof (ATEX II 1/2D) .....

**pos. 5 Power supply**  
 A / S 230V AC 50–60 Hz ..... Motor Speed: A=1/min S= 5/min .....  
 B / T 115V AC 50–60 Hz ..... Motor Speed: B=1/min T= 5/min .....  
 C / U 48V AC 50–60 Hz ..... Motor Speed: C=1/min U= 5/min .....  
 D / V 24V AC 50–60 Hz ..... Motor Speed: D=1/min V= 5/min .....  
 E / W 24V DC ..... Motor Speed: E=1/min W= 5/min .....  
 M / Y 230V AC/115V AC/24V DC multivoltage ... Motor Speed: M=1/min Y= 5/min .....

**pos. 6 Process connection**  
 A thread G 1½ inches, DIN 228 .....  
 F thread NPT 1½ inches, conical ANSI B1.20.1 .....

**pos. 7 Material process connection**  
 1 aluminium .....  
 3 stainless steel (1.4305 / 303) .....  
 6 stainless steel with stainless steel ball bearings and PTFE (Teflon) radial rotary shaft sealing

**pos. 10 Measuring vane**  
 N VT-vane .....  
 others on request

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

### Basic type

<b>RN 3005</b>	<b>F</b>	<b>1</b>	<b>1</b>				<b>A</b>	<b>3</b>	
Position 1	2	3	4	5	6	7	8	9	10

← **Order code**

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

## Options

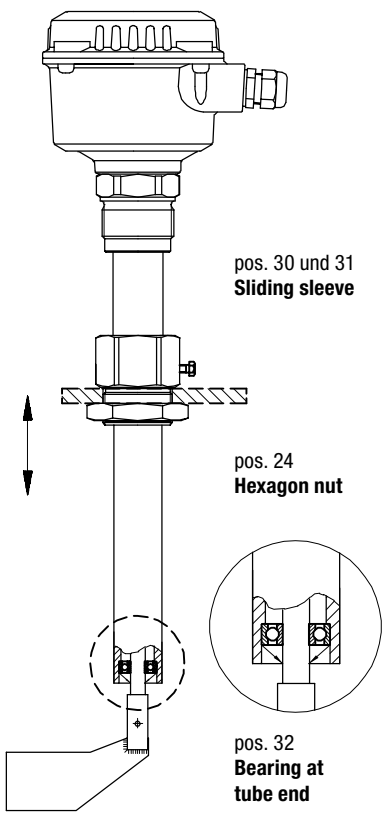
RN 3001	RN 6001	RN 3002	RN 6002	RN 3002- rope	RN 6002- rope	RN 3003	RN 6003	RN 3004	RN 6004	RN 3005																																															
1	1	1	1	1	1	1	1	1	1	1	pos. 21 <b>Weather protection cover</b> ..... (for Ex, only approved for Zone 2 or 22 or Div. 2) <b>Mounting set for flange mounting</b>																																														
											<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>4 pcs M16x50</td> <td>4 pcs M16</td> <td>4 pcs</td> <td>1 piece</td> </tr> <tr> <td>H</td> <td>thread M16</td> <td>4 pcs M16x30</td> <td></td> <td>4 pcs</td> <td>1 piece</td> </tr> <tr> <td>L</td> <td>hole ø18</td> <td>4 pcs M16x60</td> <td>4 pcs M16</td> <td>4 pcs</td> <td>1 piece</td> </tr> <tr> <td>L</td> <td>thread M16</td> <td>4 pcs M16x40</td> <td></td> <td>4 pcs</td> <td>1 piece</td> </tr> <tr> <td>M</td> <td>hole ø18</td> <td>8 pcs M16x60</td> <td>8 pcs M16</td> <td>8 pcs</td> <td>1 piece</td> </tr> <tr> <td>M</td> <td>thread M16</td> <td>8 pcs M16x40</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	4 pcs M16x50	4 pcs M16	4 pcs	1 piece	H	thread M16	4 pcs M16x30		4 pcs	1 piece	L	hole ø18	4 pcs M16x60	4 pcs M16	4 pcs	1 piece	L	thread M16	4 pcs M16x40		4 pcs	1 piece	M	hole ø18	8 pcs M16x60	8 pcs M16	8 pcs	1 piece	M	thread M16	8 pcs M16x40		8 pcs	1 piece
for flange	for counter flange with	consists of																																																							
		screws*	nuts*	washers*	sealing**																																																				
H	hole ø18	4 pcs M16x50	4 pcs M16	4 pcs	1 piece																																																				
H	thread M16	4 pcs M16x30		4 pcs	1 piece																																																				
L	hole ø18	4 pcs M16x60	4 pcs M16	4 pcs	1 piece																																																				
L	thread M16	4 pcs M16x40		4 pcs	1 piece																																																				
M	hole ø18	8 pcs M16x60	8 pcs M16	8 pcs	1 piece																																																				
M	thread M16	8 pcs M16x40		8 pcs	1 piece																																																				
											* material stainless steel **max. 125°C																																														
											pos. 22a H hole ø18 4 pcs M16x50 4 pcs M16 4 pcs 1 piece																																														
											pos. 22b H thread M16 4 pcs M16x30 4 pcs 1 piece																																														
											pos. 22c L hole ø18 4 pcs M16x60 4 pcs M16 4 pcs 1 piece																																														
											pos. 22d L thread M16 4 pcs M16x40 4 pcs 1 piece																																														
											pos. 22e M hole ø18 8 pcs M16x60 8 pcs M16 8 pcs 1 piece																																														
											pos. 22f M thread M16 8 pcs M16x40 8 pcs 1 piece																																														
											pos. 24 <b>Hexagon nut</b> aluminium ..... stainless steel (1.4305/303) .....																																														
											pos. 25x <b>Fail safe alarm:</b> for power supply 230V AC ..... 115V AC /48V AC /24V AC ..... 24V DC .....																																														
											pos. 25y <b>Output signal DPDT</b> .....																																														
											pos. 26 <b>Heating of housing</b> 2,5 watts for process temp. to -40°C (-40°F) ..... <b>Signal lamp</b> pos. 27a Bulb in cable gland, 2W green ..... pos. 27b LED (glass window in lid) .....																																														
											pos. 28x <b>Cable entry</b> Optional available: M20x1,5 2x screwed cable gland ..... pos. 28d M20x1,5 1x screwed cable gland +1x blind plug ..... pos. 28a NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug) ..... pos. 28c NPT 3/4" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug) .....																																														
											pos. 29y <b>Version for food applications</b> (with FDA sealing) .....																																														
											pos. 30 <b>Sliding sleeve</b> ..... for applications without process overpressure (process connection and material as choosen in pos.6 and 7)																																														
											pos. 31 <b>Sliding sleeve</b> (1.4305 (303)) ..... for applications with process overpressure (process connection as choosen in pos.6)																																														
											pos. 32 <b>Bearing at tube end</b> max. +80°C (176°F) ..... max. +150°C (302°F) ..... max. +250°C (482°F) ..... max. +350°C (662°F) .....																																														
											pos. 33 <b>Extension and flange welded</b> $\alpha = \text{°}$ min. 0° max. 45° for aluminium (see pos. 7/9) ..... for stainless steel (1.4305 (303)) (see pos. 7/9) .....																																														
											pos. 34 <b>Reinforced rib</b> ..... only in combination with pos. 33, max. $\alpha = 30^\circ$																																														
											pos. 35 <b>Plug 4-pole (incl. PE)</b> ..... other plugs on request																																														
											pos. 36x <b>Kit "pendulum shaft"</b> L=500 mm (19,7") (drilled holes also for 300 and 400mm (11,8 and 15,8")) ..... pos. 36y L=1.000 mm (39,4") (drilled holes also for 600/ 700/ 800 and 900mm (23,6/ 27,6/ 31,5 and 35,4")) .....																																														

1-13: see next page



## Options

- 1 available for all versions except explosionproof / flameproof version (pos.2 R,T,S,U)
- 2 available for all versions except Multivoltage (pos.5 M,Y)
- 3 available for all versions except Multivoltage (pos.5M) and rotation control (pos.25x)
- 4 available for CE (pos.2 0), not in combination with Multivoltage (pos.5 M) or rotation control (pos. 25x), consider reduced switching sensitivity (see technical data)
- 5 available for CE and FM/CSA general purpose (pos.2 0,M), not in combination with weather protection cover (pos 21)
- 6 available for all versions except explosionproof / flameproof version (pos.2 R,T,S,U), not in combination with weather protection cover (pos 21)
- 7 available for all versions except flameproof version (pos.2 T,U)
- 8 available for FM/CSA versions (pos.2 M,N,S) except flameproof version (pos.2 T,U)
- 9 available up to max. 80°C, max. 5 bar, with thread G 1 1/2" / G 1 1/4" / NPT 1 1/2" / NPT 1 1/4", material stainless steel (pos.7 3 and 9.3); not for vane pos.10 K, S, M; RN 3002: only with pos 32
- 10 available for CE (pos.2 0)
- 11 available for temperature upto 250°C (482°F)
- 12 available for pressure upto 0.8 bar (116psi)
- 13 available for CE (pos.2 0), in combination with rotation control (pos.25x) and output signal DPDT (pos. 25y) on request

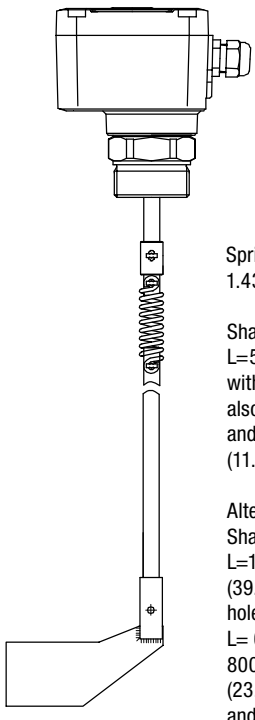


pos. 30 und 31  
**Sliding sleeve**

pos. 24  
**Hexagon nut**

pos. 32  
**Bearing at tube end**

pos. 36  
**Kit "pendulum shaft"**

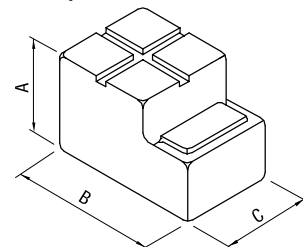


Spring  
1.4301 (304)

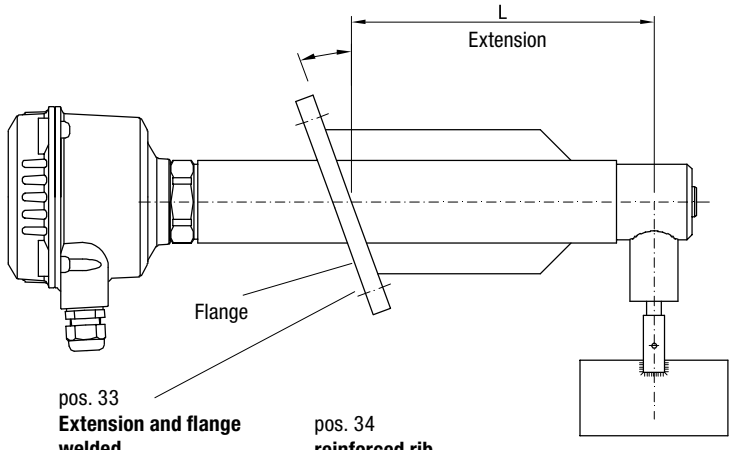
Shaft for  
L=500mm (19.7"),  
with drilled holes  
also for L=300  
and 400mm  
(11.8 and 15.8")

Alternative:  
Shaft for  
L=1.000mm  
(39.4") with drilled  
holes also for  
L= 600/ 700/  
800 and 900 mm  
(23.6/ 27.6/ 31.5  
and 35.4")

pos. 21  
**Weather protection cover**



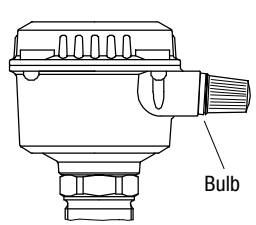
	RN 3000	RN 6000
A	100mm (3.94")	130mm (5.12")
B	165mm (6.30")	200mm (7.87")
C	95mm (3.54")	125mm (4.92")



pos. 33  
**Extension and flange welded**

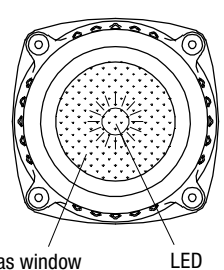
pos. 34  
**reinforced rib**

pos. 27a  
**Bulb in cable gland**

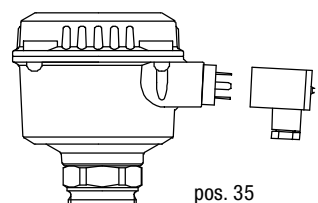


Bulb

pos. 27b  
**LED (Glass window in lid)**



Glas window      LED



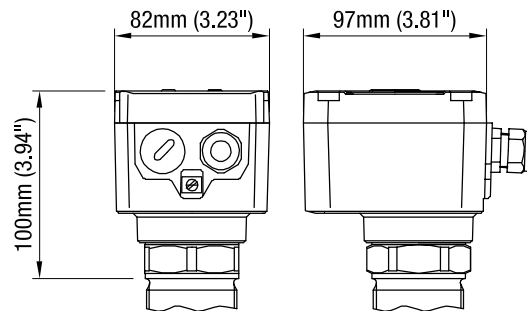
pos. 35  
**Plug 4-pole**

## Dimensions

### Housing versions

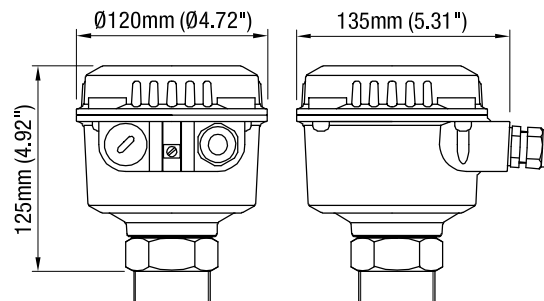
#### Series RN 3000

Standard



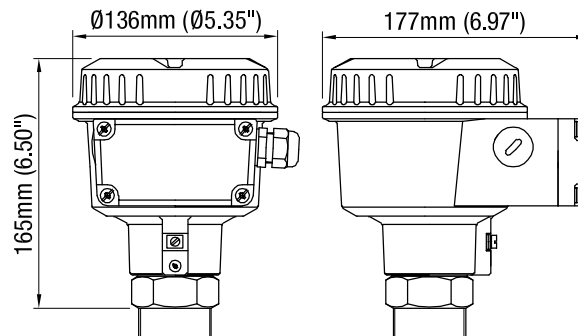
#### Series RN 6000

Standard



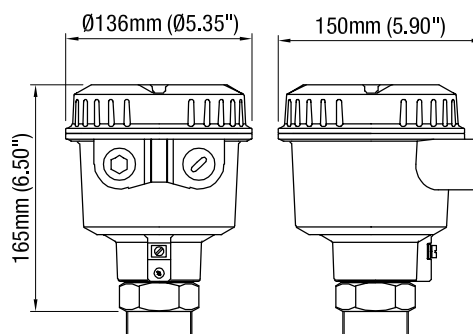
de

explosionproof with  
 increased safety  
 terminal box



d

flameproof /  
 explosionproof

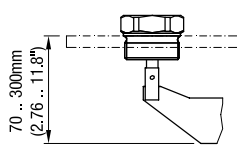


## Dimensions

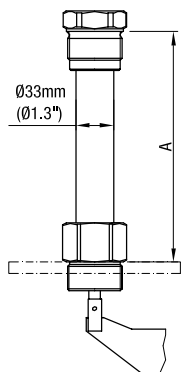
### Extensions

#### RN ..001

Process temperature	A
150 / 250°C (302 / 482°F)	200mm (7.87")
350°C (662°F)	300mm (11.8")



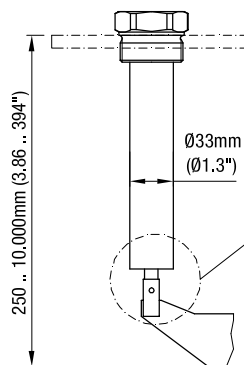
Thread / Flange



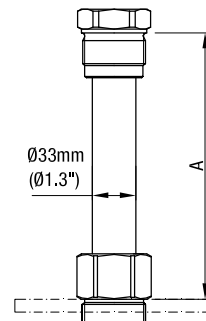
Temperature extended shaft

#### RN ..002

Process temperature	A
150 / 250°C (302 / 482°F)	200mm (7.87")
350°C (662°F)	300mm (11.8")



Thread / Flange

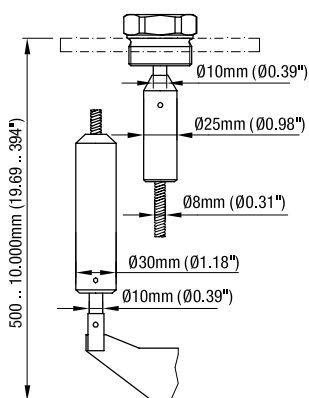


Temperature extended shaft

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

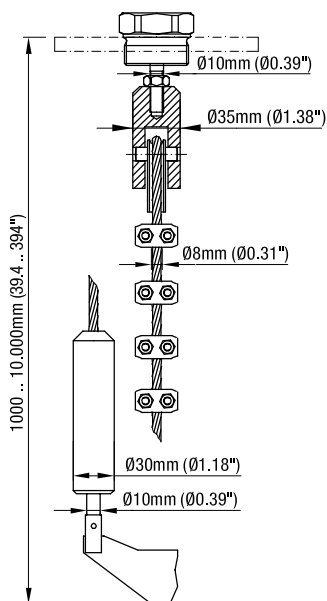
#### RN ..002 rope

Type standard (pos.1 C)  
(max. 4kN load)

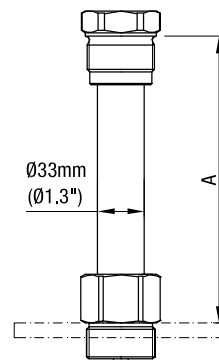


Thread / Flange

Type reinforced (pos.1 H)  
(max. 28kN load)



Thread / Flange

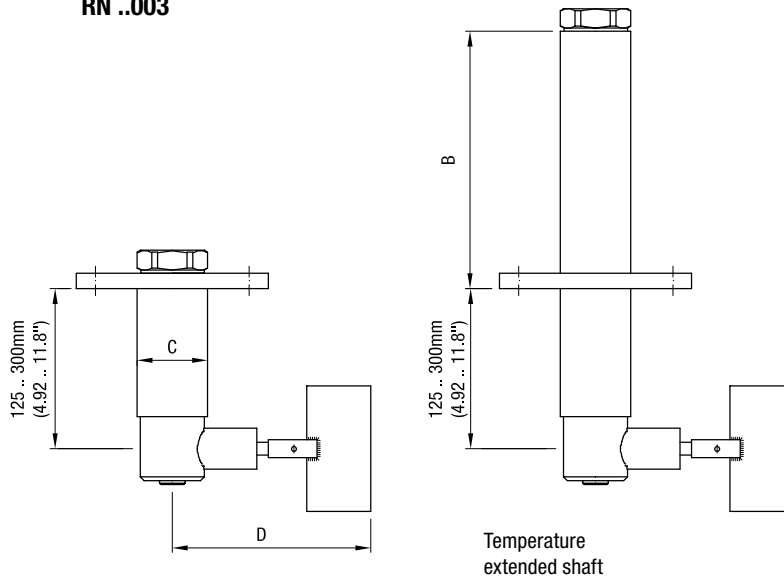


Temperature extended shaft

Process temperature	A
150 / 250°C (302 / 482°F)	200mm (7.87")
350°C (662°F)	300mm (11.8")

## Dimensions

### RN ..003

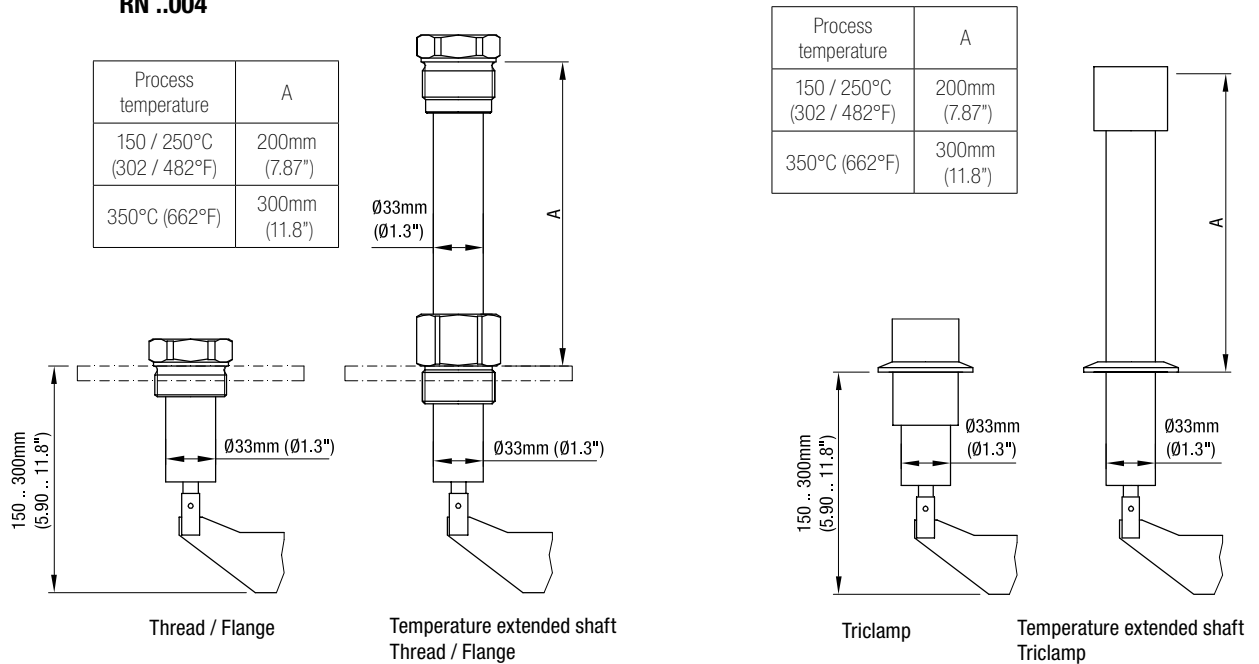


Process temperature	<b>B</b>
80°C (176°F) 0.8 bar (11.6psi)	10mm (0.39")
80°C (176°F) 5/ 10bar (73/ 145psi)	75mm (2.95")
150/ 250°C (302/ 482°F) 0.8/5/10 bar (11.6/73/145psi)	210mm (8.27")

Material	<b>C</b>
steel	ø55mm (2.17")
aluminium	ø60mm (2.36")

Vane	<b>D</b>
50mm x ..mm (1.97" x ..")	139mm (5.47")
98mm x ..mm (3.86" x ..")	187mm (7.36")

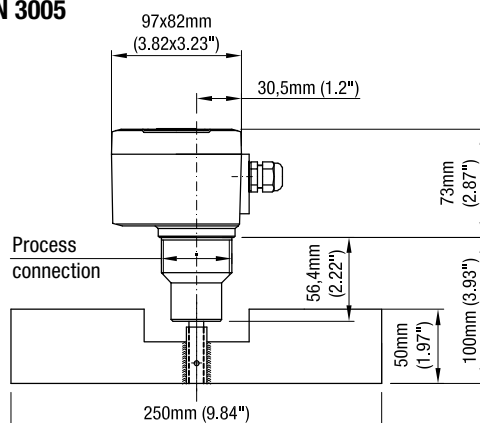
### RN ..004



Process temperature	<b>A</b>
150 / 250°C (302 / 482°F)	200mm (7.87")
350°C (662°F)	300mm (11.8")

Process temperature	<b>A</b>
150 / 250°C (302 / 482°F)	200mm (7.87")
350°C (662°F)	300mm (11.8")

### RN 3005



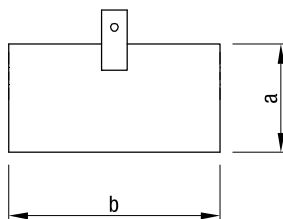


## Dimensions

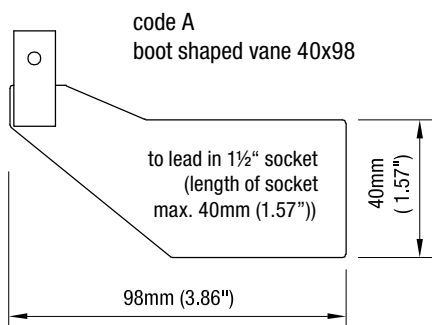
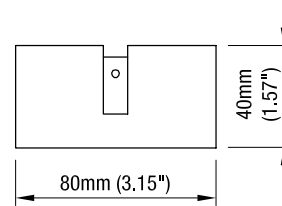
### Measuring vanes

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

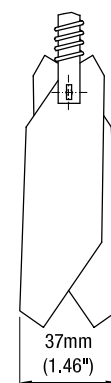
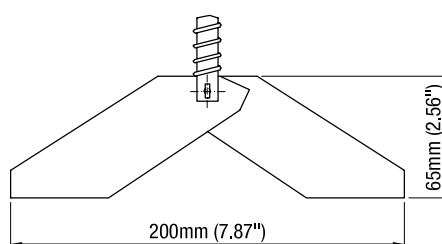
code B,C,E,F,G,I  
rectangular vane



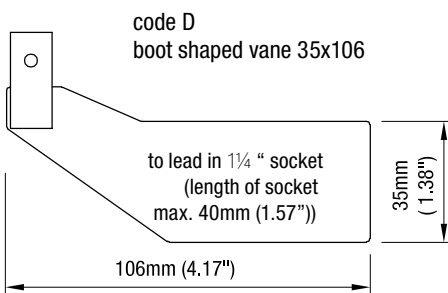
code P  
notched 40x80



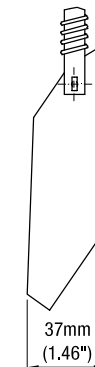
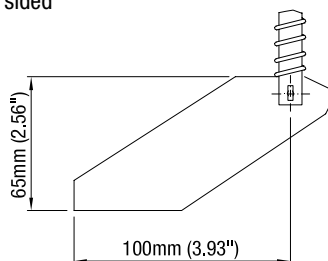
code K  
hinged vane 98x200 double sided



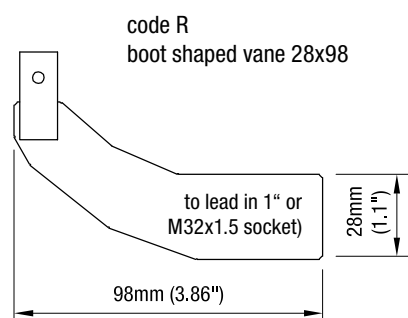
fold together  
to feed  
through  
socket 1 1/2"  
and 1 1/4"



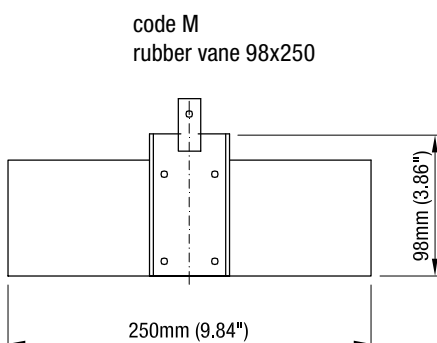
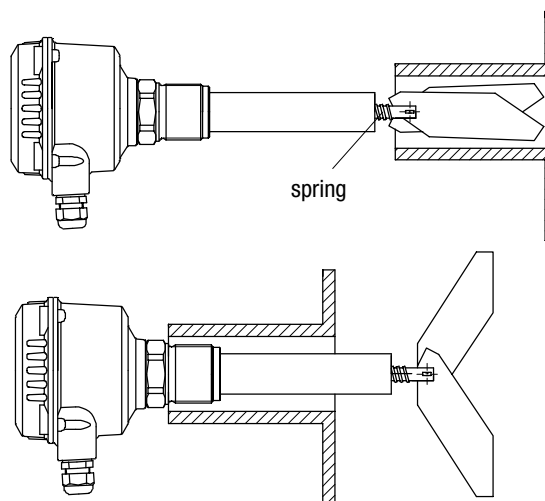
code S  
hinged vane 98x100 single sided



fold together  
to feed through  
socket 1 1/2"  
and 1 1/4"



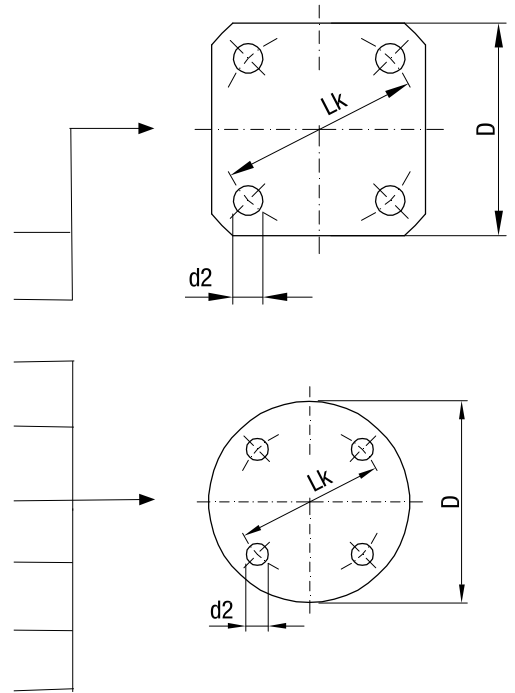
Example: Insertion of the hinged vane through a long socket



## Dimensions / Detailed Ex-markings

### Flanges

Code	Type	Number of holes	d2	Lk	D	T (thickness)
H	flange 150x150	4	18mm (0.71")	170mm (6.69")	150mm (5.90")	10mm (0.39")
I	flange 150x150	4	14mm (0.55")	170mm (6.69")	150mm (5.90")	10mm (0.39")
K	flange DN32 PN6	4	14mm (0.55")	90mm (3.54")	120mm (4.72")	14mm (0.55")
L	flange DN100 PN6	4	18mm (0.71")	170mm (6.69")	210mm (8.27")	16mm (0.63")
M	flange DN100 PN16	8	18mm (0.71")	180mm (7.09")	220mm (8.66")	20mm (0.79")
S	flange 2" 150lbs	4	19.1mm (0.75")	120.7mm (4.75")	152.4mm (6.01")	19.1mm (0.75")
T	flange 3" 150lbs	4	19.1mm (0.75")	152.4mm (6.01")	190.5mm (7.5")	23.9mm (0.94")
U	flange 4" 150lbs	8	19.1mm (0.75")	190.5mm (7.5")	228.6mm (9")	23.9mm (0.94")

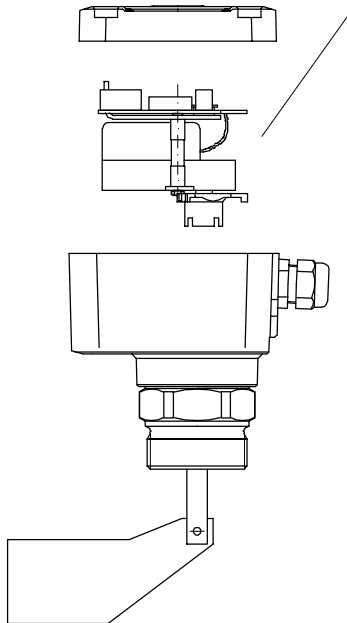


### Detailed Ex-markings

pos. 2	Certificate	Housing
0	CE .....	Standard
W	ATEX II 1/2D .....	Standard
R	ATEX II 2G EEx de IIC and ATEX II 1/2D .....	de
T	ATEX II 2G EEx d IIC and ATEX II 1/2D .....	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

## Spare parts

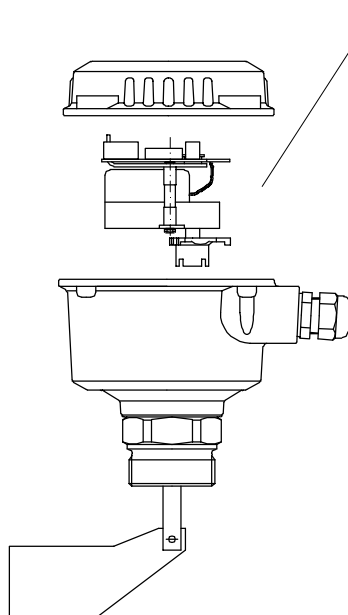
### Series RN 3000



#### Motor / PCB (without heating)

Article number		with fail safe alarm	without fail safe alarm
Motor speed			
1/min	5/min		
gm102000	gm103000		230V 50–60Hz
gm102005	gm103005		115V 50–60Hz
gm102015	gm103015		48V 50–60Hz
gm102010	gm103010		24V 50–60Hz
gm102020	gm103020		24V DC
gm102025	gm103025		230V AC/115V AC/24V DC multivoltage
gm104000	gm105000		230V 50–60Hz
gm104005	gm105005		115V 50–60Hz
gm104020	gm105020		24V DC

### Series RN 6000



#### Motor / PCB (without heating)

#### Output signal SPDT

Article number		with fail safe alarm	without fail safe alarm
Motor speed			
1/min	5/min		
gm112000	gm113000		230V 50–60Hz
gm112005	gm113005		115V 50–60Hz
gm112015	gm113015		48V 50–60Hz
gm112010	gm113010		24V 50–60Hz
gm112020	gm113020		24V DC
gm110000	gm120000		230V AC/115V AC/24V DC multivoltage
gm114000	gm115000		230V 50–60Hz
gm114005	gm115005		115V 50–60Hz
gm114020	gm115020		24V DC

#### Output signal DPDT

Article number		without fail safe alarm
Motor speed		
1/min	5/min	
gm116000	gm117000	230V 50–60Hz
gm116005	gm117005	115V 50–60Hz
gm116015	gm117015	48V 50–60Hz
gm116010	gm117010	24V 50–60Hz
gm116020	gm117020	24V DC