

## VZO 15 ... 50

### Technical data <sup>1)</sup>



- Volume display on roller register, in litres
- fuel oil meter with threaded or flanged ends
- for horizontal, vertical or inclined mounting

Option: Reed pulser or RV / IN pulser

Versions available on request:

- different flange drillings, such as ANSI, JIS
- meters in US gallons <sup>2)</sup> (option)

Type		VZO 15	VZO 20	VZO 25	VZO 40	VZO 50
<b>Nominal diameter</b>	<b>DN</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>40</b>	<b>50</b>
	mm					
	inch	1/2	3/4	1	1 1/2	2
Installation length		165	165	190	300	350
Nominal pressure with threaded ends	PN	16				
with flanges	PN	25, 40				
Maximum temperature	°C	130, 180				
Maximum flow rate	Q <sub>max</sub> <sup>3)</sup>	600	1500	3000	9000	30000
<b>Nominal flow rate</b>	<b>Q<sub>n</sub> <sup>3)</sup></b>	<b>400</b>	<b>1000</b>	<b>2000</b>	<b>6000</b>	<b>20000</b>
Minimal flow rate	Q <sub>min</sub>	10	30	75	225	750
Approx. starting flow rate		4	12	30	90	300
Max. permissible error		± 1% of actual value				
Repeatability		± 0,2%				
Smallest readable amount	l	0,01	0,1	0,1	0,1	1
Registration capacity	m <sup>3</sup>	1000	10000	10000	10000	100000
Registration at Q <sub>n</sub> before return to zero	h	2500	10000	5000	1667	5000
Safety filter mesh width	mm	0,400	0,400	0,400	0,800	0,800
<b>Dirt trap mesh width</b>	<b>mm</b>	<b>0,250</b>	<b>0,400</b>	<b>0,400</b>	<b>0,600</b>	<b>0,600</b>
Volume of the measuring chamber	approx. cm <sup>3</sup>	12	36	100	330	1200
Housing finish		enamelled red RAL 3013				
Weight with threaded ends <sup>4)</sup>	approx. kg	2,2	2,5	4,2	17,3	–
with flanges PN 25	approx. kg	3,8	4,5	7,5	20,3	41,0
with flanges PN 40	approx. kg	4,4	5,5	7,8	20,5	42,0
Pulse values of pulsers:						
IN inductive according to DIN 19234	l/pulse	0,01	0,01	0,1	0,1	1
RV Reed	l/pulse	0,1	1	1	1	10
RV Reed	l/pulse	1	–	–	10	100
Pulse frequency IN	at Q <sub>max</sub> Hz	16,667	41,667	8,333	25,000	8,333
	at Q <sub>min</sub> Hz	0,278	0,833	0,208	0,625	0,208

1) Manufacturer's specification, valid for the reference condition as specified under meter data (annex).

2) 1 US gallon corresponds to 3.785 litres

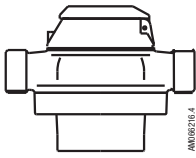
3) For burners and engines or motors, the meter must basically be selected for permanent flow. For higher viscosity, or if the meter is installed on the suction side, the pressure drop and any reduction in the measuring range must also be considered; see Chapters 5 and 8.

4) Weight without couplings.

### Pressure drop curves

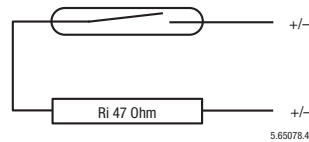
in chapter 5

## Dimensions in mm

	Meter	Length	Width	Height of meters VZO					
				VZO ... 130 °C			VZO ... 180 °C		
					-RV	-IN		-RV	-IN
				L	W	H	H	H	H
VZO 15	165	105	106	130	185	147	171	225	
VZO 20	165	105	115	139	194	156	180	234	
VZO 25	190	130	142	166	221	183	207	261	
VZO 40	300	210	235	259	273	235	259	313	
VZO 50	350	280	291	315	329	291	315	369	

Detailed dimensional drawings see chapter 5

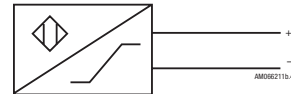
## RV Pulsers



This pulser is integrated into the roller counter and is thus especially appropriate for remote totalisation. For other applications the use of the inductive pulser IN is preferable.

Switching element:	• Reed switch with dry contact (inert gas)
Switching voltage:	• max. 48 V AC/DC
Switching current:	• max. 50 mA (Ri = 47 Ohm/0,5 W)
Static current:	• Open Contact
Switching power:	• max. 2 W
ON-time:	• 50% ± 10%
Temperature:	• Ambient -10 ... +70 °C
Protection:	• IP 65 (IEC 144) against water-jets and dust
Connection:	• Cast-in cable, length 3 m
Cable cross section:	• 2 × 0,14 mm <sup>2</sup>

## IN Pulsers

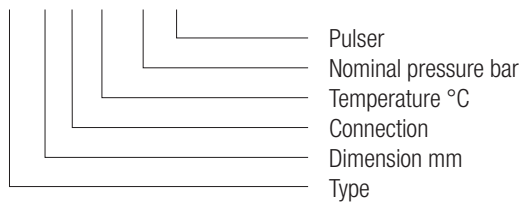


Pulser for industrial applications. Supplied with plug-in pulser sensor.

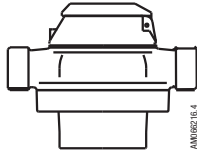
Switching element:	• Slot initiator according to DIN 19234
Switching voltage:	• 5 ... 15 V DC
Residual ripple:	• max. 5%
Switching current:	• > 3 mA bei 8 V DC / 1 kOhm
Static current:	• < 1 mA bei 8 V DC / 1 kOhm
ON-time:	• 50% ± 10%
Temperature:	• Ambient -10 ... +70 °C
Protection:	• IP 65 (IEC 144) against water-jets and dust
Connection:	• Pulser supplied with special plug. Required cable min. 2 x 0.35 mm <sup>2</sup> and 4...6 mm external diameter or optional pn 80019 with mounted cable.
Option:	• Cable mounted, 2 x 0.5 mm <sup>2</sup> , PVC black, length 3 m (pn 80019)

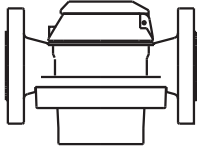
## Type designation key

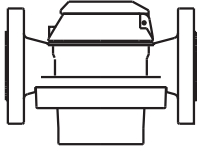
VZO 25 FL 130/25-IN ...

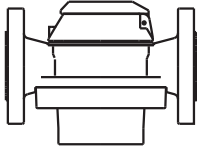


## Ordering specifications

Threaded ends 	Type	Order No.	Type	Order No.
	VZO 15 RC 130/16	92041	VZO 25 RC 130/16	92057
	VZO 15 RC 130/16-RV 0,1	92042	VZO 25 RC 130/16-RV 1	92058
	VZO 15 RC 130/16-RV 1	92043	VZO 25 RC 130/16-IN 0,1 <sup>1)</sup>	91913
	VZO 15 RC 130/16-IN 0,01 <sup>1)</sup>	91900		
VZO 20 RC 130/16	92047	VZO 40 RC 130/16	92004	
VZO 20 RC 130/16-RV 1	92048	VZO 40 RC 130/16-RV 1	92018	
VZO 20 RC 130/16-IN 0,01 <sup>1)</sup>	91902	VZO 40 RC 130/16-IN 0,1 <sup>1)</sup>	91906	

Flanges 130° C / PN 25 	VZO 15 FL 130/25	92044	VZO 40 FL 130/25	92005
	VZO 15 FL 130/25-RV 0,1	92045	VZO 40 FL 130/25-RV 1	92020
	VZO 15 FL 130/25-RV 1	92046	VZO 40 FL 130/25-IN 0,1 <sup>1)</sup>	91907
	VZO 15 FL 130/25-IN 0,01 <sup>1)</sup>	91910		
	VZO 20 FL 130/25	92049	VZO 50 FL 130/25	92007
	VZO 20 FL 130/25-RV 1	92050	VZO 50 FL 130/25-RV 10	92024
	VZO 20 FL 130/25-IN 0,01 <sup>1)</sup>	91903	VZO 50 FL 130/25-IN 1 <sup>1)</sup>	91909
	VZO 25 FL 130/25	92059		
	VZO 25 FL 130/25-RV 1	92060		
	VZO 25 FL 130/25-IN 0,1 <sup>1)</sup>	91914		

Flanges 180° C / PN 25 	VZO 15 FL 180/25	92250	VZO 40 FL 180/25	92274
	VZO 15 FL 180/25-RV 0,1	92251	VZO 40 FL 180/25-RV 1	92275
	VZO 15 FL 180/25-RV 1	92252	VZO 40 FL 180/25-IN 0,1 <sup>1)</sup>	92276
	VZO 15 FL 180/25-IN 0,01 <sup>1)</sup>	92253		
	VZO 20 FL 180/25	92258	VZO 50 FL 180/25	92280
	VZO 20 FL 180/25-RV 1	92259	VZO 50 FL 180/25-RV 10	92281
	VZO 20 FL 180/25-IN 0,01 <sup>1)</sup>	92260	VZO 50 FL 180/25-IN 1 <sup>1)</sup>	92282
	VZO 25 FL 180/25	92264		
	VZO 25 FL 180/25-RV 1	92265		
	VZO 25 FL 180/25-IN 0,1 <sup>1)</sup>	92266		

Flanges 180° C / PN 40 	VZO 15 FL 180/40	92254	VZO 40 FL 180/40	92277
	VZO 15 FL 180/40-RV 0,1	92255	VZO 40 FL 180/40-RV 1	92278
	VZO 15 FL 180/40-RV 1	92256	VZO 40 FL 180/40-IN 0,1 <sup>1)</sup>	92279
	VZO 15 FL 180/40-IN 0,01 <sup>1)</sup>	92257		
	VZO 20 FL 180/40	92261	VZO 50 FL 180/40	92283
	VZO 20 FL 180/40-RV 1	92262	VZO 50 FL 180/40-RV 10	92284
	VZO 20 FL 180/40-IN 0,01 <sup>1)</sup>	92263	VZO 50 FL 180/40-IN 1 <sup>1)</sup>	92285
	VZO 25 FL 180/40	92267		
	VZO 25 FL 180/40-RV 1	92268		
	VZO 25 FL 180/40-IN 0,1 <sup>1)</sup>	92269		

DN 15 only when the plant has a dirt trap with a max. 0.1 mm mesh width.

### Option / Accessory <sup>1)</sup>

Cable	Mounted cable IN/INA	80019
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