

GENERAL CHARACTERISTICS

The sensor consists of a rotor vane that is rotated by the speed of the flowing medium. The speed of rotation is proportional to the volume flow per unit time. The rotation of the rotor is detected by an optical sensor.

- * with optical sensor
- * large wear liberty by high-quality ceramic axle and ceramic bearings
- * output circuit PNP or NPN
- * no straight line in-out necessary
- * easy measurement of flow rates
- * inherently safe properties
- * modular construction with the most versatile connection systems
- * connections can be plugged and rotated

Female- / male thread G3/8 / G1, nozzle Ø11 PVDF



RRO-025GVV

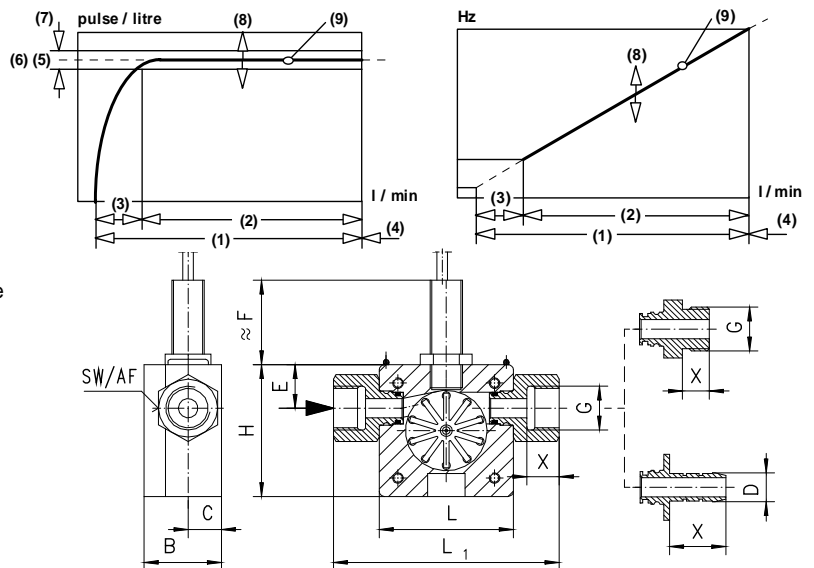
RRO-010GVV

TECHNICAL DATA

	G	Type	PN bar	Qmax. recom. l/min H ₂ O	metering range l/min H ₂ O			pulse/ litre (6)	frequency Hz of full scale (10)	weight kg
					(1)	(2)	(3)			
DN10	G3/8	RRO-010...020	16	1.8	0.1- 1.5	0.5- 1.5	0.1-0.5	11720	293	0.20
		RRO-010...050	16	12	0.2-10	2.0-10	0.2-2	2960	493	0.20
		RRO-010...070	16	16.8	0.4-12	2.0-12	0.4-2	1703	341	0.20
DN25	G1	RRO-025...080	16	36	2- 30	3- 30	2- 3	1090	545	0.55
		RRO-025...120	16	72	3- 60	5- 60	3- 5	588	588	0.55
		RRO-025...160	16	120	4-100	6-100	4- 6	265	442	0.55

The measurements were taken from left to right with the sensor stationary using water at 25°C.

- (1) **measuring range total**
- (2) **measuring range specified**
- (3) **measuring range non linear**
- (4) **extended operating range**
increase abrasion, Δp > 0.5 bar
- (5) **pulse/litre** (specification on the identification plate on each sensor)
- (6) **average pulse/litre**
- (7) **tolerance ±3%** of the measured value
- (8) **variation ±10%** of pulse/litre data (5) in the charge
- (9) **reproducibility (±1% of full scale)**
is the repetitive accuracy of frequency related to l/min
- (10) **frequency max.** related to the applicable measuring range up to approx 0.5 bar pressure loss over the Sensor



media temperature max. 60 °C

MATERIALS

	G	Type	H mm	L mm	L1 mm	B mm	C mm	D mm	E mm	F* mm	SW mm	X mm	
housing		PVDF											
rotor		PVDF											
bearings		Iglidur X											
axle		ceramck ZrO ₂ -TZP											
seal		viton											
no medium contact		PVC cable 1.4305, 1.4301											
	DN10	G3/8	RRO-010G	50	50	84	29	12,5	-	16,5	38	22	12
			RRO-010A	50	50	84	29	12,5	-	16,5	38	22	14
			RRO-010T	50	50	96	29	12,5	11	16,5	38	-	21
	DN25	G1	RRO-025G	70	70	110	53	23	-	27,5	33	38	18
			RRO-025A	70	70	122	53	23	-	27,5	33	38	18
			RRO-025T	70	70	176	53	23	30	27,5	33	38	45

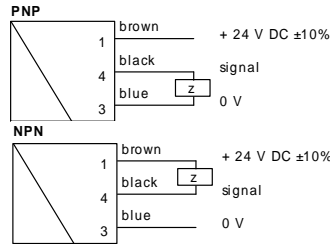
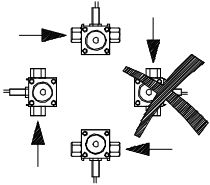
material options see nomenclature

* dimension F at Namur 8 mm cancel!

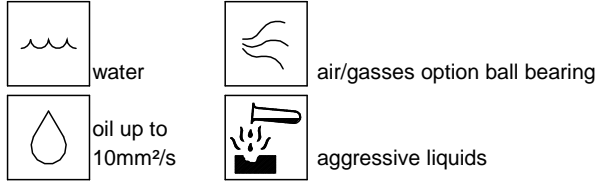
ELECTRICAL DATA

quiescent current consumption	30mA
max. output current	100mA
sensor connection	2m cable or conection at locking plugs M12x1, 4-pole
short-circuit proof	yes
reverse polarity proof	yes
protection class	IP67

MOUNTING POSITION



METERING SUBSTANCES



NOMENCLATURE

For combinations see table "technical data"

RRO-	010	G	V	V	020	V	P	K	basic type specification
	010								● DN 010
	025								● DN 025
		G							● female thread
		A							○ male thread
		T							○ hose nozzle
			V						● connection material PVDF
			M						○ connection material brass Ms58 nickel plated
			K						○ connection material stainless steel 1.4305
				V					● housing material PVDF
					020				● flow diameter Ø 2
					050				● flow diameter Ø 5
					070				● flow diameter Ø 7
					080				● flow diameter Ø 8
					120				● flow diameter Ø12
					160				● flow diameter Ø16
						V			● seal viton
						E			○ seal EPDM
						N			○ seal NBR
						K			■ seal Kemraz
							P		● PNP output
							N		● NPN output
							E		● ouput at suburb electronics (e.g. omni-RR)
								K	● 2 m cable
								S	○ connection at locking plugs M12x1, 4-pole

special applications: Switching output, frequency converter, current output and omni/flex processor

COMBINATIONS

omni-RR

local electronic unit,
2xNPN and PNP switch
4(0)..20mA output
graphical LCD display
with flashing LED
program ring



further transformers

- Flex switching and frequency exit, 0..10V or 4..20mA, pnp, npn
- ESA1 electronic monitoring unit
- ESK2 2 switchpoints - supply 24 V DC
- ESK3 1 switchpoint - supply 230 V AC
conceived for safety-relevant applications
- EFFS switch output
- EFFI current output 4(0)..20mA
- EFFF frequency output



All technical changes reserved

●BASIC Standard ○BASIC Programme option □VARIO Special option ⊕ PLUS Accessories ✗not recommendable