



Runner Clearance Probe

RCP-008 & RCP-010

FEATURES

- Non-contact proximity probe based on eddy current measuring principle
- Linear range:
 - 0 to 8mm (RCP-008)
 - 0 to 10mm (RCP-010)
- Sensitivity :
 - 1 V/mm for RCP-008
 - 0.8 V/mm for RCP-010
- Linearity: +/-2.5 % from 0 to 8mm
- Frequency range : up to 500 Hz(-3dB)
- Excellent chemical and mechanical rigidity, excellent wear resistance
- 10 meters integral or push-pull connector extension cable. Other length upon request
- Sensor delivered with stainless steel mounting flange

Monitoring solution

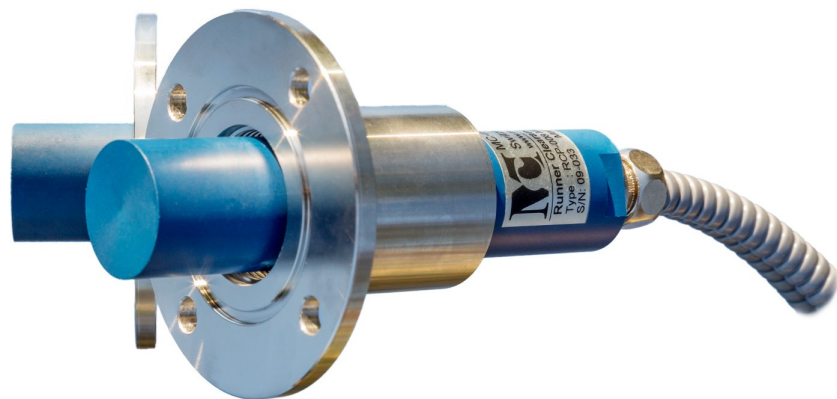


Runner clearance monitoring

Typical applications



Hydrogenerators



DESCRIPTION

The RCP-008 and RCP-010 displacement probes are used for non-contact measurements of turbine runner clearance of large Francis or Kaplan turbines. The high performance casing material of the probe offers excellent wear resistance.

The entire signal processing is built in the sensor body. The voltage output is directly proportional to the measured distance between the metallic target and the sensor face.

GLOBAL SPECIFICATION

OPERATION

Version	RCP-008	RCP-010
Linear range	0 to 8mm	0 to 10mm
Sensitivity	1V/mm	0.8V/mm
Linearity (full scale)	± 2.5%	± 2.5% from 0 to 8mm ± 5% from 8 to 10mm
Minimum target size	ø28mm	
Reference target material	<ul style="list-style-type: none"> ◆ ST37-2K (1.0037) ◆ VCL 140 (1.7223) ◆ X3CrNiMo13-4 (1.4313) ◆ C35E (1.1181) ◆ 15NiCr13 (1.5752) ◆ CA 6NM (1.4317) 	
Signal output	2 to 10V	
Resolution	Less than 10µm	
Temperature stability	Less than 0.05%/°C FSO	
Linearization module	Built-in electronic module with microcontroller	
Power		
Supply	+15V _{DC} to +26V _{DC}	
Current consumption	30mA typical	

ENVIRONMENTAL

Temperature range	
Sensor & cable	
Operation	0° to +55°C
Non-destructive	-20° to +70°C
Shock and vibration	IEC 60947-5-2 / 7.4
Ingress protection	IP67

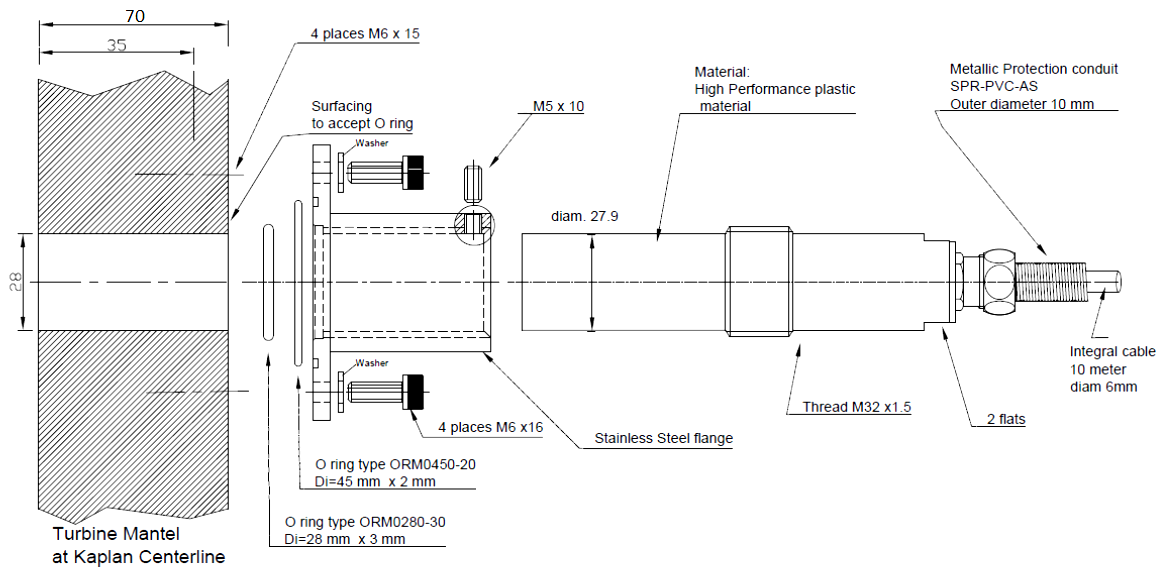
PHYSICAL

Sensor casing dimensions [mm]	124 L x ø27.9 ; threaded part : M32x1.5 x 20 L
Integrated cable dimensions	10m x ø10mm
Extension cable dimensions ("c" version)	10m x ø5mm cable with top radial exit via push-pull connector and open end termination
Insertion depth	The sensor can be adjusted for turbine throat material thickness of 35 to 70mm
Flange	Material : Stainless steel ; Sealing : by means of two O-rings

ORDERING INFORMATION

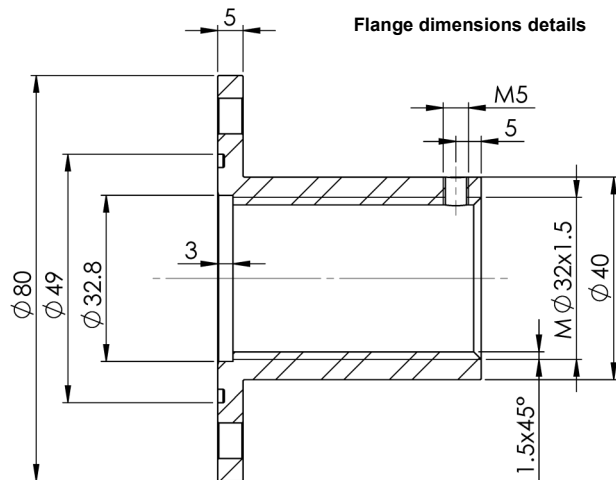
Part type	RCP-008	RCP-010
Ordering code	05.008.000 MX MX - insertion depth M1 for 45mm to 65mm M2 for 35mm to 55mm M3 for 50mm to 70mm	05.010.000 MX Y - C for push-pull connector version Blank for integral cable version

MECHANICAL DRAWING



FIELD WIRING

Cable version	Integrated	Extension (MxC)
Power supply	Brown	Brown
Voltage output	Green	Green
Signal common 0V	White	White
Cable shield	Black	Transparent
Not connected (only on MxC)	-	Yellow

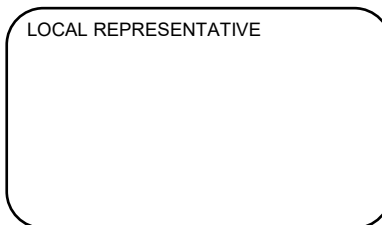


Note : The RCP-008 Mx or RCP-010 Mx sensor shall be flush adjusted on turbine throat thickness
M1 : 45-65mm ; M2 : 35-55mm ; M3 : 50-70mm

MC-monitoring Quality certifications



LOCAL REPRESENTATIVE



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