

dametric 

TDC-DD

TDC-RZBT

TDC-RZMC

TDC-RZMD

TDC-RZOT

TDC-RZBTX

TDC-RZMCX

TDC-RZMT



TDC-SENSORS FOR THE RMS-DD SYSTEM USERS MANUAL



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1 TECHNICAL DATA

Measurement range: 0-3.00 mm. The plate material must be of a type with relatively good reluctance, maximum allowed magnetism is 20 Gauss in a position 10 mm above the segment surface.

Temperature range: 0-220 °C

Wear limit: 3 mm

Material: Stainless steel, bronze

Connection: 6-pole bayonet contact

2 MODEL DESIGNATION

<i>Refiner</i>	<i>Article number</i>	<i>VAL number</i>	<i>SKC number</i>	<i>Weight (kg)</i>	<i>Length (mm)</i>
RGP-68DD	TDC-RZMT	0131499	9315734	0.81	140
	TDC-RZMC	0131501	7322 729	0.81	140
	TDC-RZMCX	0349290	9952319	0.81	140
	TDC-RZMD	0311694	9952302	0.81	140
RGP-65DD	TDC-RZOT	0123102	9635098	0.74	128
	TDC-RZBT	0123100	8457277	0.57	98
	TDC-RZBTX	0349291	9952292	0.57	98

These sensors are designed for the double disc refiners and to be mounted from the back side of the rotor. TDC-RZMT and TDC-RZMC is for the RGP-68DD refiner while TDC-RZOT fits the RGP-65DD refiner.

The connector in type TDC-RZMC is upgrade to a high temperature version. It has a different outline which then uses another rotating cable, K-DDRSC.

Old refiners type TDC-RZMT/K-DDRS1 will be rebuilt to the TDC-RZMC/K-DDRSC successively. The mechanical support is different for the K-DDRSC cable in a way that a supporting nipple is removed from the cable and an extra piece has to be attached between the sensor edge and the cover of the TDC hole.

3 X-MODEL

Sensors with an X in the article number includes a prolonged tip.

It is prolonged into the refining zone giving that this is normally the first port that will touch the opposing rotor during the TDC calibration. This will give a more distinct touch point signal.

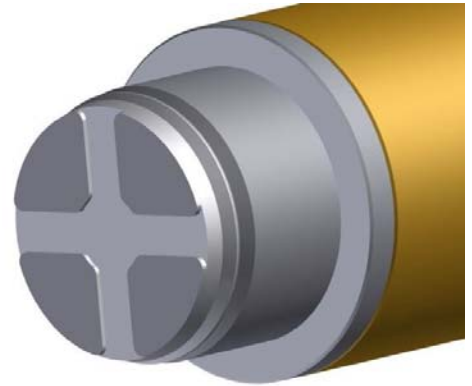
The operator must be aware of this feature to be alert to back off the rotor.

The Dametric service panel system handles this feature and will inform the operator if the X-model is installed.

The tip is quickly heated-up during contact with the rotor and the increased signal is also used to determine the touch point.

The advantage with the X-model is to avoid the rotors from touching each other during the zero calibration of the sensor

The prolonged part of the sensor is of non-magnetic material so it will not affect the gap measurement when worn down.



4 DESCRIPTION OF THE TDC-SENSOR

The basic principle for measurement of the clearance between two discs of magnetic material is to measure the reluctance (magnetic resistance) of a circuit that includes the gap between the sensor and the other disc. The reluctance is measured with the aid of static-magnetic fields applied by coils supplied with current.

5 DOCUMENT REVISION

Sept. 16, 2019/BL Added SKC numbers

6 TDC-SENSOR WINDING CONNECTION

The following check is a simple method to determine the DC- connectivity of the windings in the sensor. Since the sensor, however, works with AC-current, this is not a 100 % fail proof test.

To make the connectivity-check, a resistance indicator from 0 to 1 Mohm is required.

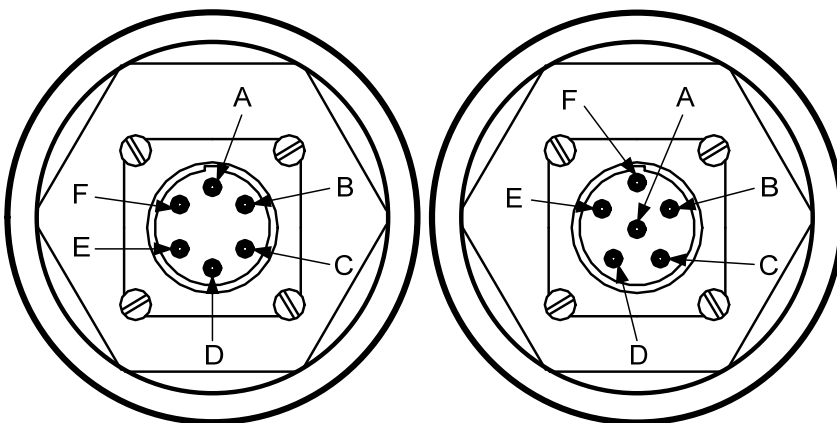
Disconnect the sensor and measure between the contact poles. Check the resistance in the meter-connection first.

Measure	From	To	Resistance
Excitation-winding	A	B	1.0 0.5 Ω
Reference-winding	C	D	2.0 0.5 Ω
Measurement-winding	C	F	2.0 0.5 Ω
Pt-100-element(T-type)	C	E	see below
Interconnection	A	C	min 100 k Ω
Interconnection	A	E	min 100 k Ω
Interconnection	A	COVER	min 100 k Ω
Interconnection	C	COVER	min 100 k Ω
Interconnection	E	COVER	min 100 k Ω

PT-100-element resistance is dependent on the sensor-temperature.

Sensor-temperature	Resistance
$^{\circ}\text{C}$	Ω
0	100
25	110
50	119
75	129
100	139

The sensors can have different pin configuration.



7 CONTACT

Sales, development, production and service:

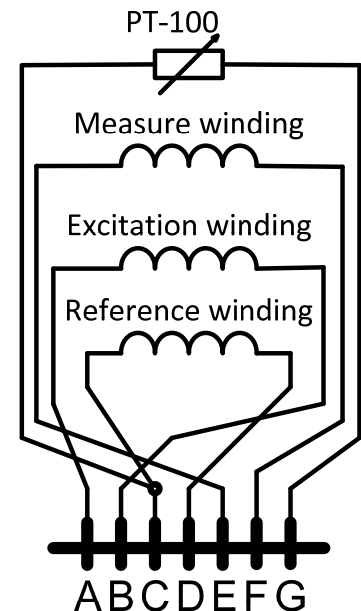
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