

Алматы (7273)495-231	Иваново (4932)77-34-06	Магнитогорск (3519)55-03-13	Ростов-на-Дону (863)308-18-15	Тольятти (8482)63-91-07
Ангарск (3955)60-70-56	Ижевск (3412)26-03-58	Москва (495)268-04-70	Рязань (4912)46-61-64	Томск (3822)98-41-53
Архангельск (8182)63-90-72	Иркутск (395)279-98-46	Мурманск (8152)59-64-93	Самара (846)206-03-16	Тула (4872)33-79-87
Астрахань (8512)99-46-04	Казань (843)206-01-48	Набережные Челны (8552)20-53-41	Санкт-Петербург (812)309-46-40	Тюмень (3452)66-21-18
Барнаул (3852)73-04-60	Калининград (4012)72-03-81	Нижний Новгород (831)429-08-12	Саратов (845)249-38-78	Ульяновск (8422)24-23-59
Белгород (4722)40-23-64	Калуга (4842)92-23-67	Новокузнецк (3843)20-46-81	Севастополь (8692)22-31-93	Улан-Удэ (3012)59-97-51
Благовещенск (4162)22-76-07	Кемерово (3842)65-04-62	Ноябрьск (3496)41-32-12	Саранск (8342)22-96-24	Уфа (347)229-48-12
Брянск (4832)59-03-52	Киров (8332)68-02-04	Новосибирск (383)227-86-73	Симферополь (3652)67-13-56	Хабаровск (4212)92-98-04
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Владимир (4922)49-43-18	Краснодар (861)203-40-90	Оренбург (3532)37-68-04	Ставрополь (8652)20-65-13	Череповец (8202)49-02-64
Волгоград (844)278-03-48	Красноярск (391)204-63-61	Пенза (8412)22-31-16	Сургут (3462)77-98-35	Чита (3022)38-34-83
Вологда (8172)26-41-59	Курск (4712)77-13-04	Петрозаводск (8142)55-98-37	Сыктывкар (8212)25-95-17	Якутск (4112)23-90-97
Воронеж (473)204-51-73	Курган (3522)50-90-47	Псков (8112)59-10-37	Тамбов (4752)50-40-97	Ярославль (4852)69-52-93
Екатеринбург (343)384-55-89	Липецк (4742)52-20-81	Пермь (342)205-81-47	Тверь (4822)63-31-35	

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RESOLUTE™ encoder series

The RESOLUTE™ true-absolute encoder is a high-speed fine-resolution position measurement system. Position is acquired immediately on start-up, without requiring any motion, offering smooth velocity control and dependable positional stability.

Combining advanced optics with innovative position determination algorithms, the RESOLUTE encoder measures absolute position with fine resolutions down to 1 nm and high speeds up to 100 m/s. This delivers exceptional metrology performance such as low Sub-Divisional Error (SDE) of ± 40 nm and ultra-low noise (jitter) of less than 10 nm RMS, suitable for the most demanding motion control challenges.

RESOLUTE encoders are available with linear and rotary scales with a variety of serial interfaces. Application-specific variants including RESOLUTE UHV (Ultra-High Vacuum), RESOLUTE ETR (Extended Temperature Range) and RESOLUTE FS (Functional Safety) are compatible with the optional Advanced Diagnostic Tool ADTa-100 and ADT View software, which acquire comprehensive real-time encoder data allowing optimisation and in-field fault finding.



True-absolute position measurement



The RESOLUTE encoder series provides absolute position measurement from single-track linear and rotary scales. Position is acquired immediately on start-up without requiring any motion.

High speed and fine resolution



RESOLUTE encoders combine advanced optics with innovative position determination algorithms to measure absolute position with fine resolutions down to 1 nm and high speeds up to 100 m/s (36 000 rpm).

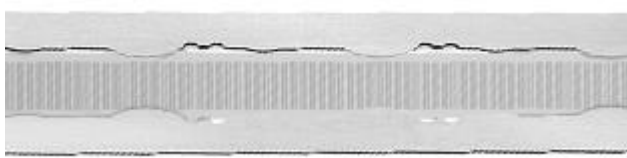
Excellent metrology performance



RESOLUTE encoder systems provide absolute position measurement with low Sub-Divisional Error (SDE) of ± 40 nm and ultra-low noise (jitter) of less than 10 nm RMS, resulting in smooth velocity control performance and dependable positional stability.

Standard

Linear

Scale type	Scale name	Accuracy	Scale pitch	Thermal expansion coefficient at 20 °C	Supplied length
 Stainless steel tape with track option	RTLA30 with optional FASTRACK™	$\pm 5 \mu\text{m/m}$	30 μm	10.1 $\pm 0.2 \mu\text{m/m/}^\circ\text{C}$	Up to 21 m
Narrow stainless steel tape 	RKLA30-S	$\pm 5 \mu\text{m/m}$	30 μm	Matched to substrate material when scale ends are fixed with end clamps	Up to 21 m
ZeroMet™ spar 	RELA30	$\pm 1 \mu\text{m}$ for up to 1 m, then $\pm 1 \mu\text{m/m}$	30 μm	0.75 $\pm 0.35 \mu\text{m/m/}^\circ\text{C}$	Up to 1.5 m
Stainless steel spar 	RSLA30	$\pm 1.5 \mu\text{m}$ up to 1 m, $\pm 2.25 \mu\text{m}$ up to 2 m, $\pm 3 \mu\text{m}$ up to 3 m, $\pm 4 \mu\text{m}$ up to 5 m	30 μm	10.1 $\pm 0.2 \mu\text{m/m/}^\circ\text{C}$	Up to 5 m

Partial arc

Scale type	Scale name	Accuracy	Scale pitch	Thermal expansion coefficient at 20 °C	Supplied length
 Narrow stainless steel partial arc tape	RKLA30-S	±5 µm/m	30 µm	Matched to substrate material when scale ends are fixed with end clamps	Up to 21 m

Rotary

Scale type	Scale name	Accuracy (depending on ring diameter)	Scale pitch	Thermal expansion coefficient at 20 °C	Ring diameter
 Stainless steel ring	RESA30	Graduation accuracy: 4 to 0.4 arc seconds	30 µm	15.5 ±0.5 µm/m/°C	52 to 550 mm
 Ultra-high accuracy stainless steel ring	REXA30	Installed accuracy: (≥100 mm diameter) ±1 arc second (75 mm diameter) ±1.5 arc seconds (≤57 mm diameter) ±2 arc seconds	30 µm	15.5 ±0.5 µm/m/°C	52 to 417 mm

Ultra-High Vacuum

Linear

Scale type	Scale name	Accuracy	Scale pitch	Thermal expansion coefficient at 20 °C	Supplied length
 Stainless steel tape with track option	RTLA30 with optional FASTRACK™	±5 µm/m	30 µm	10.1 ±0.2 µm/m/°C	Up to 21 m
ZeroMet™ spar	RELA30	±1 µm for up to 1 m, then ±1 µm/m	30 µm	0.75 ±0.35 µm/m/°C	Up to 1.5 m

					
Stainless steel spar 	RSLA30	$\pm 1.5 \mu\text{m}$ up to 1 m, $\pm 2.25 \mu\text{m}$ up to 2 m, $\pm 3 \mu\text{m}$ up to 3 m, $\pm 4 \mu\text{m}$ up to 5 m	30 μm	$10.1 \pm 0.2 \mu\text{m/m/}^\circ\text{C}$	Up to 5 m

Rotary

Scale type	Scale name	Accuracy (depending on ring diameter)	Scale pitch	Thermal expansion coefficient at 20 °C	Ring diameter
Stainless steel ring 	RESA30	Graduation accuracy: 4 to 0.4 arc seconds	30 μm	$15.5 \pm 0.5 \mu\text{m/m/}^\circ\text{C}$	52 to 550 mm
Ultra-high accuracy stainless steel ring 	REXA30	Installed accuracy: (≥ 100 mm diameter) ± 1 arc second (75 mm diameter) ± 1.5 arc seconds (≤ 57 mm diameter) ± 2 arc seconds	30 μm	$15.5 \pm 0.5 \mu\text{m/m/}^\circ\text{C}$	52 to 417 mm

Extended Temperature Range

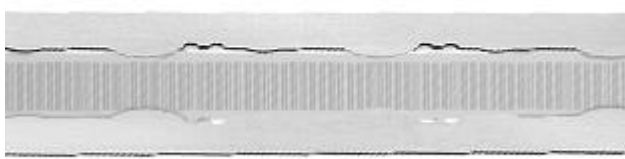
Rotary

Scale type	Scale name	Accuracy (depending on ring diameter)	Scale pitch	Thermal expansion coefficient at 20 °C	Ring diameter
Stainless steel ring 	RESA30	Graduation accuracy: 4 to 0.4 arc seconds	30 μm	$15.5 \pm 0.5 \mu\text{m/m/}^\circ\text{C}$	52 to 550 mm
Ultra-high accuracy stainless steel ring	REXA30	Installed accuracy: (≥ 100 mm	30 μm	$15.5 \pm 0.5 \mu\text{m/m/}^\circ\text{C}$	52 to 417 mm

		diameter) ± 1 arc second (75 mm diameter) ± 1.5 arc seconds (≤ 57 mm diameter) ± 2 arc seconds			
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Functional Safety

Linear

Scale type	Scale name	Accuracy	Scale pitch	Thermal expansion coefficient at 20 °C	Supplied length
 Stainless steel tape with track option	RTLA30 with optional FASTRACK™	$\pm 5 \mu\text{m/m}$	30 μm	$10.1 \pm 0.2 \mu\text{m/m/}^\circ\text{C}$	Up to 21 m
 ZeroMet™ spar	RELA30	$\pm 1 \mu\text{m}$ for up to 1 m, then $\pm 1 \mu\text{m/m}$	30 μm	$0.75 \pm 0.35 \mu\text{m/m/}^\circ\text{C}$	Up to 1.5 m
 Stainless steel spar	RSLA30	$\pm 1.5 \mu\text{m}$ up to 1 m, $\pm 2.25 \mu\text{m}$ up to 2 m, $\pm 3 \mu\text{m}$ up to 3 m, $\pm 4 \mu\text{m}$ up to 5 m	30 μm	$10.1 \pm 0.2 \mu\text{m/m/}^\circ\text{C}$	Up to 5 m

Rotary

Scale type	Scale name	Accuracy (depending on ring diameter)	Scale pitch	Thermal expansion coefficient at 20 °C	Ring diameter
 Stainless steel ring	RESA30	Graduation accuracy: 4 to 0.4 arc seconds	30 μm	$15.5 \pm 0.5 \mu\text{m/m/}^\circ\text{C}$	52 to 550 mm
Ultra-high accuracy stainless steel ring	REXA30	Installed accuracy: (≥ 100 mm diameter) ± 1 arc second (75 mm diameter)	30 μm	$15.5 \pm 0.5 \mu\text{m/m/}^\circ\text{C}$	52 to 417 mm

		±1.5 arc seconds (≤57 mm diameter) ±2 arc seconds			
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