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QUANSER ROTARY SERVO PLANT OPTIONS

Select the rotary servomotor plant that best fits the needs of your course. For more details, visit www.quanser.com or contact us at info@quanser.com

		QUBE-Servo Plant	SRV02 Rotary Servo Base Unit	QET DC Motor Trainer
Device Hardware Components	**Architecture**	Integrated hardware (DAQ included in USB interface version)	Separate components (see Workstation Details)	Integrated hardware and software
	Motor type **Terminal resistance** **Rotor inductance** **Nominal torque** **Rotor inertia**	7W Premotec DC motor 8.4 Ω 1.16 mH 89 mN-m 4.0 x 10^{-6} kg-m^2	3.23W Faulhaber DC motor 2.6 Ω 0.18 mH 17.1 mN-m 0.39 x 10^{-6} kg-m^2	18W Maxon DC motor 10.6 Ω 0.82 mH 35 mN-m 1.16 x 10^{-6} kg-m^2
	Gearbox	Direct-drive	Internal and external gearbox (high torque at output)	Direct-drive
	Amplifier type	PWM	Linear	Linear
	Sensors	Encoder	Tachometer, potentiometer, encoder, current (with VoltPAQX-1 amplifier)	Digital tachometer, potentiometer, encoder, current
	Analog control compatibility	No analog sensors	Can use potentiometer and tachometer sensors with custom analog control circuit (no supporting material provided)	Attached breadboard can be used with potentiometer (no supporting material provided)
Modules & Configurations	**Modules included**	Inertia disk and pendulum	Inertia disk and bar load	Inertia disk
	Add-on modules **(to be purchased separately)**	n/a	6 (for use with a single SRV02 unit) 4 (for use with two or more SRV02 units)	n/a
	Configurations	USB or Direct I/O interface	Low-gear and high-gear configurations	n/a
Workstation Details	**Workstation space requirements**	6 x 6 in 15 x 15 cm	18 in x 24 in 46 cm x 61 cm	8 in x 11 in 20 cm x 28 cm
	Workstation components	QUARC or RCP Toolkit control software	Data acquisition device, amplifier, QUARC or RCP Toolkit control software	Optional: QUARC control software
Courseware	**Courseware focus**	Introductory modeling and controls	Focus on control design and more complex modeling	Most in-depth material for PID control design and modeling
	Co-authors / source	Partially based on *Control Systems Engineering* by N. Nise		Co-written with Karl Åström
	ABET alignment	Yes	Yes	No
	Available online	Yes	No	No
	Labs	Short, self-contained labs	Longer, progressive labs	Longer, progressive labs
	Open courseware	Yes	Partially - only certain labs	No
	Document format	PDF, Word, TEX	PDF, Word, TEX (only certain labs)	PDF
	Ancillary material	Videos, lecture slides, textbook mapping	n/a	n/a
	Supplementary courseware	n/a	Digital controls	n/a
Controllers & Demos	**Controller support**	QUARC, RCP TK, stand-alone EXEs	QUARC, RCP TK	QUARC, QICii, basic DAQ-mx LabVIEW VI's
	Modifiable controllers	Yes, except for EXE solution	Yes	Only for QUARC and LabVIEW VI's
	Demos / extras	Quanser Driving Simulator Demo	Visualization	Haptic dial and haptic ball and beam virtual experiments