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Shadow Dextrous Hand Research Systems

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Prices issued in Pounds Sterling, and valid until December 2009.

Shadow is the world-leading supplier of Dextrous Hand systems for research platforms. On the following pages you will find details and pricing for the Smart Motor Hand, the Air Muscle Hand, the three-finger Air Muscle Hand, the Finger Test Unit, and the Biomorphic Arm. Please do not hesitate to get in touch with us shortly to discuss the details of the package and options that you need, or any alternative capabilities you may require.

Rich Walker
Managing Director
Shadow Robot Company
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Guarantees and Maintenance

We are happy to deliver and maintain any of our systems world-wide; please ask for costing information on these services. As part of our standard service, Shadow will endeavour to make good any failures or faults (of component or manufacture) in the system within the first 12 months; thereafter, for us to do repairs either a Service Agreement must be in force or we will need a purchase order for the value itemised as the Overhaul rate for that system.

Pricing and Payment

All prices are subject to normal Shadow Terms and Conditions. Local taxes may be payable in addition to these charges. If you require a quotation in another currency, please ask, but do note that this will be time-limited. Our normal payment terms for systems and components are 50% on receipt of order, 50% within 14 days of delivery. Standard UK late payment charges apply. Support contracts are payable in advance.

CyberGlove Control

Shadow are pleased to supply the CyberGlove Systems 22-sensor CyberGlove as an option for the Dextrous Hand. The CyberGlove is fully integrated into the Dextrous Hand control software, allowing local or remote control of the Dextrous Hand for manipulation and handling.

Dextrous Hand system, model C6M

This is the Smart Motor Hand System, with the same movements as the Human hand, as detailed in the Shadow Smart Motor Dextrous Hand Technical Specification document.



- 24 movements; 20 degrees of freedom
- 20 integrated Smart Motor units providing opposing tendon drive of the joints (2 tendons per motor)
- Dynamic force control of tendons by Smart Motor unit to provide compliance
- Motor current and temperature sensing integrated into control
- Position sensing on all joints
- CAN interface, host PC and power supplies
- Mounting fixtures on forearm section for attachment to a platform, to be specified by you
- Open-source software provided, with access to our CVS repository
- Kinematic and geometric data for modelling
- Electronics schematics and system firmware sources supplied
- System documentation
- One year's Full Support and Service

£115000

Options and Extras for C6M Dextrous Hand

- Addition of tactile sensing regions on each finger and thumb, sensitive between 10g and 1kg
- CyberGlove control system. Includes 22-sensor CyberGlove and software integration.
- Delivery to Europe, installation, configuration and setup by Shadow. Includes basic training
- Full Support and Service (return-to-base) per annum after first year
- Overhaul Hand system returned to us outside Service agreement

£25000

£17000

£2500

£11500

£3000

**+ shipping
and parts**

Dextrous Hand system, model C6

This is the “Standard” Hand System, with the same movements as the Human hand, as detailed in the Shadow Dextrous Hand Technical Specification document.



- 24 muscle-powered movements; 20 degrees of freedom
- 40 forearm-mounted muscles
- Pneumatic valves and controllers
- Position sensing on all joints
- CAN interface, host PC and power supplies
- Mounting fixtures on forearm section for attachment to a platform, to be specified by you
- Pressure sensing on all 40 muscles
- Open-source software provided, with access to our CVS repository
- Kinematic and geometric data for modelling
- Electronics schematics and system firmware sources supplied
- System documentation
- One year's Full Support and Service

£75000

Options and Extras for C6 Dextrous Hand

- Addition of tactile sensing regions on each finger and thumb, sensitive between 10g and 1kg
- CyberGlove control system. Includes 22-sensor CyberGlove and software integration.
- Delivery to Europe, installation, configuration and setup by Shadow. Includes basic training
- Full Support and Service (return-to-base) per annum
- Overhaul Hand system returned to us outside Service agreement

£25000

£17000

£2500

£7500

£2500

+shipping and parts

(pepper not included!)

3-Finger Hand system, model C6F1F3T

This is a “reduced” version of the full Hand, including the first and third fingers, and the thumb. The second and fourth fingers, and the wrist movement, are removed. This provides a useful manipulator at a significant reduction in price.



- 13 muscle-powered movements; 11 degrees of freedom
- 22 forearm-mounted muscles
- pneumatic valves and controllers
- position sensing on all joints
- CAN interface, host PC and power supplies
- Mounting fixtures on forearm section for attachment to a platform, to be specified by you.
- Pressure sensing on all 22 muscles
- Provision of e-mail support
- Open-source software provided, with access to our CVS repository
- Kinematic and geometric data for modelling
- Electronics schematics and system firmware sources supplied
- System documentation
- One year's Full Support and Service

£43000

Options and Extras for C6F1F3T Dextrous Hand

- Addition of tactile sensing regions on each finger and thumb, sensitive between 10g and 1kg
- Delivery to Europe, installation, configuration and setup by Shadow. Includes basic training
- Full Support and Service (return-to-base) per annum
- Overhaul Hand system returned to us outside Service agreement

£15000

£2500

£4750

£1700

+shipping and parts

Finger Test Unit, model FTU-C6

This is a slice through the C6 Hand System, providing access to all the subsystems of the full Hand. It can be used for teaching, initial research, or as a testbed for software intended to run on the full Hand.



- 4 muscle-powered movements; 3 degrees of freedom
- 6 forearm-mounted muscles
- Pneumatic valves and controllers
- Position sensing on all joints
- CAN interface, host PC and power supplies
- Pressure sensing on all 6 muscles
- Open-source software provided, with access to our CVS repository
- Kinematic and geometric data for modelling (delivered at start)
- One year's Full Support and Service
- Electronics schematics and system firmware sources supplied
- System documentation

£15000

Options and Extras for C6 Finger Test Unit

- Addition of tactile sensing regions on finger sensitive between 10g and 1kg
- Delivery to Europe, installation, configuration and setup by Shadow. Includes basic training
- Full Support and Service (return-to-base) per annum
- Overhaul system returned to us outside Service agreement

£5000

£2500

£1250

£600

**+shipping
and parts**

Biomorphic ARM

This is a four degree of freedom Arm, with integral antagonistic actuation. It is capable of supporting a C6 Hand with up to 2.5kg payload, across a range of movement equalling or exceeding the human for each of the four movements. It can be integrated with a C6 Hand, or sold separately; in either case, Shadow's standard Open Source software system and host PC is supplied.



- 4 muscle-powered movements; 4 degrees of freedom
- pneumatic valves and controllers
- 8 integral muscles
- position sensing on all joints
- CAN interface, host PC and power supplies
- Mounting fixtures on wrist plate for attachment to end-effector tooling as specified by you.
- Pressure sensing on all muscles
- Open-source software provided, with access to our CVS repository
- Kinematic and geometric data for modelling
- Electronics schematics and system firmware sources supplied
- System documentation
- One year's Full Support and Service

£39000

Options and Extras for Biomorphic ARM

- Delivery to Europe, installation, configuration and setup by Shadow. Includes basic training
- Integration of ARM with Dextrous Hand
- Full Support and Service (return-to-base) per annum
- Overhaul ARM system returned to us outside Service agreement

£3000

£3500

£3900

£1950

+shipping and parts