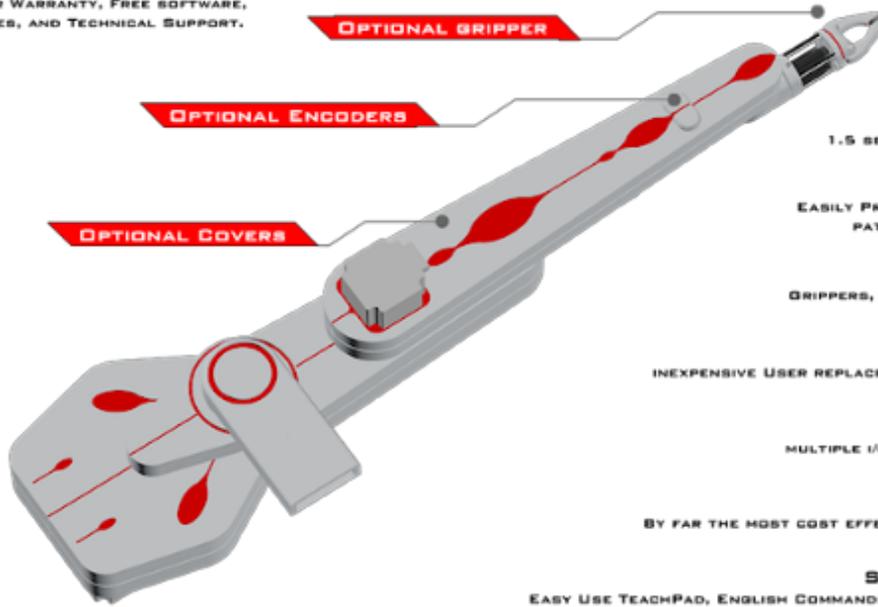


**PEACE OF MIND**  
2 YEAR WARRANTY, FREE SOFTWARE,  
UPDATES, AND TECHNICAL SUPPORT.



**500MM REACH**

**ARTICULATED, 5-AXIS**  
360° ROTATION, PITCH, AND YAW

**FASTEST IN CLASS**  
1.5 SECONDS CYCLE TIME (STANDARD TEST)

**VERSATILE**  
EASILY PROGRAM COMPLEX TASKS AND MOTION  
PATHS WHILE UTILISING MULTIPLE TOOLS

**EASY MOUNT**  
GRIPPERS, TOOLS, SENSORS, AND ACCESSORIES

**ROBUST**  
INEXPENSIVE USER REPLACEABLE PARTS, MTBF: 10,000 HOURS

**EXPANDABLE**  
MULTIPLE I/O INTERFACE OPTION, FLASH MEMORY

**AFFORDABLE**  
BY FAR THE MOST COST EFFECTIVE ROBOT-IN-CLASS IN THE WORLD

**SIMPLE, INTUITIVE CONTROLS**  
EASY USE TEACHPAD, ENGLISH COMMANDS, ENGLISH SOFTWARE PROGRAMMING

**READY TO RUN**  
COMPLETE WITH CONTROLLER, SOFTWARE, CABLES, MANUALS

## *Description*

The R12-500, Firefly is a complete self-contained five (optional six) axis vertically articulated robot arm system designed as a cost effective solution for bench top automation. Applications include testing, sample handling, machine feeding. The hand terminates in a mounting plate for grippers, vacuum cups etc.

R12-six is a very low cost entry to robotics, fast, accurate and reliable and easy to program. It has a useful 500mm reach. R12-six is a technological breakthrough in bench top robotics. Like the R17 it is a 5 axis articulated robot arm but with a 500mm reach. It employs new light weight, high efficiency digital motors driving through steel reinforced polyurethane timing belts. Optional incremental optical encoders provide exceptional integrity (see below).

Do not let the low cost mislead you - this is not a hobby robot. It is a professional tool made to industrial standards of quality, reliability and performance, machined from solid alloy and finished with aesthetic acrylic covers. The system is supplied complete with controller, all cables, connectors, software, comprehensive manuals, ready to unpack and use immediately.

The **K11 robot controller** uses a partnership of MPU and DSP processors and compact high voltage micro-stepping drives providing both speed and precise control and is provided with a simple intuitive teach pad. The controller can also interface with or even control other equipment at the same time as the robot. Software is **ROBOFORTH II** which makes this robot really easy to get started with yet capable of the most complex tasks, assisted by RobWin project manager which brings everything together on one Windows screen.

## Specifications

Drives:	High power micro-stepped hybrid stepping motors, optional encoder watchdogs
Reach:	500mm/20ins in any direction; 360 degree waist rotation
Repeatability:	0.1mm (see note)
Payload:	nominal 500g, max 1Kg (2.2lbs) at flange (repeatability and speed degrade with increasing payload and reach).
Compliance: droop at 250mm at nominal payload:	0.4mm
droop at max reach with max payload:	2.3mm
Maximum speed:	Shoulder 180 deg/sec, Elbow 270deg/sec, Waist 180 deg/sec.
Standard cycle time:	2 secs.
Max torque for hand pitch or roll:	2 Nm (repeatability figures degrade).
Weight	Robot 12.8Kg/29lbs Controller 11kg/25lbs
Power:	110/240v ac 420VA (standard controller)
Temperature range:	0 - 30C (wider range optional)
MTBF:	10,000 hours
Safety:	Class 2 stop circuit, stall detect, risk assessment guide. High intensity red LEDs along the arm serve as awareness barrier.
Noise:	Approx 40-50dB at 1m.

note: repeatability measured as a standard deviation of all 3 dimensions at 100% speed and zero payload over 24 hours after a 1 hour warming up period. Figures for ISO 9283 available on request.