

Craman Manipulator

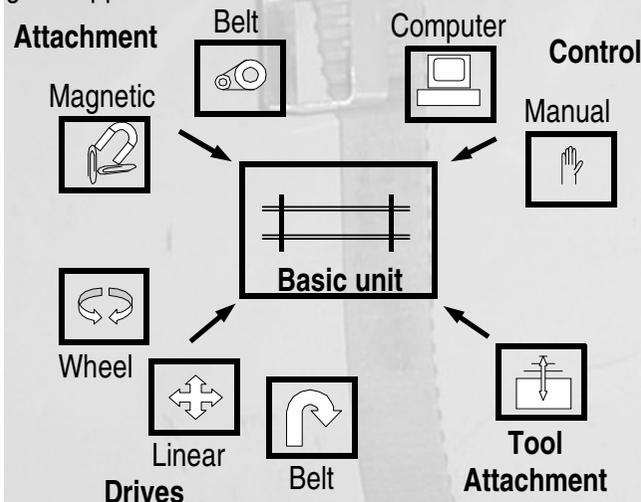
The manipulator that adapts to the situation

Features:

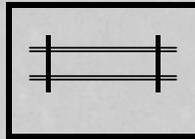
- Versatile manipulator that attaches to pipes and plates
- Adjustable wheels ensure low clearance
- Pipe sizes from as small as 75 mm
- Magnetic and non magnetic affixing options
- Manual, semi-manual and PC control
- High tech or Low tech adaptability
- Manufactured from stainless steel for nuclear use

System basics

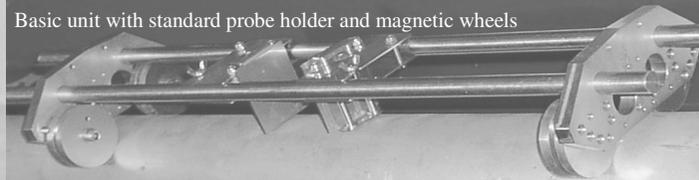
The system comprises of a basic unit that allows the attachment of the various modules to adapt it to the given applications.



Basic Craman unit



All the options described below are assembled around the basic unit consisting of two slider bars and two body plates. The basic unit has been carefully designed to allow attachment of the various units without compromise to functionality and robustness.



Basic unit with standard probe holder and magnetic wheels

The basic unit allows attachment to piping as small as 75 mm diameter, flat plate and convex surfaces. The Craman can work inside pipes of 160 mm in diameter. All this is achieved while still maintaining a low profile clearance - less than 75 mm in most applications.

Attachment to the work piece

The Craman may be attached to piping and flat plate by various methods.



Ferrous metals

Magnetic wheels offer the most versatile option for most ferrous metal applications



Non ferrous materials

Belt attachment method offers secure attachment to piping ranging from 75 to 600 mm diameter. The easily adjustable belt clip allows for quick attachment and removal of the unit.

Wheel adjustment

Both the magnet and belt attachment features are enhanced by adjustable wheel heights which allow minimal clearance as well as a wide variety of pipe sizes, applications and clearance of high profile welds.

Probe/tool attachment

Linear probe holder

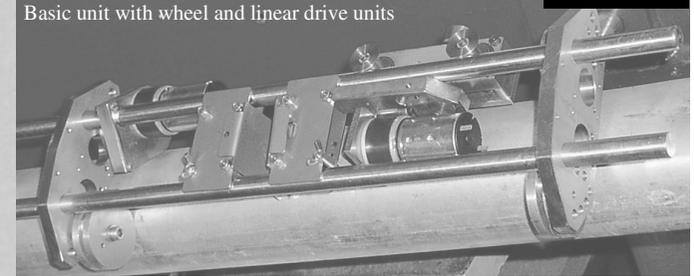


The standard probe slider unit allows attachment of various probe and probe configurations. This holder can slide perpendicularly to the surface while maintaining the contact pressure required by most ultrasonic probes.

Non standard tool holders.

Non standard probe and tool holders are also available on request.

Basic unit with wheel and linear drive units



Drives

All Craman can be hand driven in simple applications. However, for remote and repetitive applications the power drive attachments are available for the various wheel and attachment options. These drives can be supplied in various sizes for different load applications



Wheel drive

The wheel drive units can power each wheel independently allowing better positional and accurate location of the Craman. Turning of the Craman large areas (for example tank inspection) is therefore possible.



Linear drive

The linear drive unit can be used to drive the tool holder in a wheeled unit, or piggybacked with a additional linear unit to allow conventional XY motion.



Belt drive unit

When attached by a belt, the Craman can be powered by the wheels or a drive that powers directly off the belt.



Belt attachment drive unit

Control

Control of the motor drive units is achieved by a single control loop that powers each motor in the particular system as well as receiving information from the various encoders that may be attached.

Manual control



The control unit may be manually operated.

PC controlled



PC control may be achieved by two means, either directly linked to the operating system in the PC or by downloading a set of coordinates for later stand alone use when complicated path shapes need to be traced in challenging environments.

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