

# Product Information

# Jetline® engineering

An Illinois Tool Works Company

## JETVIEW VMS Video Monitoring Systems

- Compact Design
- Large Monitor Screen
- Remote Control
- Full Color Image

### Introduction

The way in which an operator views the welding arc has changed little over the years. The operator's view is restricted by the welding screen and, to see clearly, he must work in close proximity to the welding arc where conditions are unpleasant and even unhealthy.

In mechanized welding however, the opportunity exists to control the arc remotely. All that is needed to complement the remote control of the welding parameters is to bring a clear view of the weld area to the operator at his control station. Jetview systems, designed primarily for welding, can be used for a variety of purposes where a clear, magnified view of an area is required at some remote location.

### Features

Because the camera/lens assembly is so compact and lightweight, it is capable of being mounted to the welding torch and thus maintain a constant view of the weld area. The system is designed to provide a preview of the weld area prior to welding and then to provide a clear, magnified image of the weld pool during the weld process. Each system includes the following parts:

#### • Camera and Lens Assembly

The assembly consists of a precision machined, aluminum body which houses the lens and the lens actuators. The unit incorporates an electronic shutter CCD micro-camera with a neutral density spot filter. Both the high intensity arc and the surrounding weld zone can be viewed at the same time.

Two cameras are available: the VMS-1300 is designed to be mounted 3" (76 mm) from the welding torch; the VMS-1600 camera is designed to



**Jetview System shown with camera control unit (CCU), camera assembly, and lens control box with optional joysticks. An LCD screen as shown here is available as an option.**

be mounted 6" (152 mm) from the welding torch and is used where the size of the weld head is not restricted.

The camera is available in NTSC or PAL color format with composite and S-Video outputs. This permits the use of a standard videotape recorder for quality assurance or welder training purposes.

#### • Camera and Lens Control Unit

The remote control unit is designed to be mounted at the operator control station to provide remote control of the camera and lens assembly. In addition to a power switch, it has a set-up light switch and controls to open and close the iris, and to control the focus. The unit has provisions for joysticks to be mounted to control a motorized cross-slide and a motorized wire guide positioner.

The VMSC lens controller is a smaller, compact version to be used where space is restricted. There is not joystick option for this compact model.

#### • High-Intensity Halogen Lamp

A low voltage, high intensity, halogen lamp is supplied for illumination of the weld zone. The lamp is typically mounted to the camera body.

#### • Color Monitor

The color monitor is a 14" (355 mm) CRT type. Two video inputs and two video outputs allow the connection of a videotape recorder or multiple monitors. An LCD type monitor is available as an option.

#### • Universal Mounting Bracket

The bracket is suitable for the mounting of the camera and lens assembly at a distance of 6" to 8" (150 to 200 mm) from the weld.

# JETVIEW VIDEO MONITORING SYSTEMS

## Camera and Lens Assembly

Camera Type: NTSC format, CCD Color  
PAL format, CCD Color (Optional)  
Shutter Speed: 1/60 to 1/10,000 sec.  
Outputs: Composite Video and S-Video  
Functions: Iris, Focus Control  
Temperature: 20° to 140°F (-7° to 60°C)  
Input Voltage: 12 volts DC  
Dimensions: Diameter: 1" (25.4 mm)  
Length: 3 1/2" (89 mm)  
Weight: 1/4 lb (0.11 kg)

## VMS-1121-IT Camera Control Unit

Input Voltage: 115/230V, 1 phase, 50/60Hz  
Mounting: Vertical or Horizontal surface  
Dimensions: Height: 10" (254 mm)  
Width: 8" (203 mm)  
Depth: 6" (152 mm)  
Weight: 10.1 lb (4.6 kg)

## LC-IT Operator Lens Controller

Switches for: Iris - Open/Close  
Focus - Far/Near  
Input Power  
Illumination Lamp  
Optional on VMS Model Only:  
Torch Cross-slide  
Wire Guide Positioner  
Input Voltage: 115/230V, 1 phase, 50/60 Hz

### Dimensions:

#### VMS Standard Model - LC-IT:

Height: 5 1/4" (133 mm)  
Width: 17" (430 mm)  
Depth: 15 1/2" (394 mm)  
Weight: 11.9 lb (5.4 kg)

Mounting: Table or 19" (483 mm) rack

#### VMSC Compact Model - LCC-IT:

Height: 2 1/2" (64 mm)  
Width: 5" (127 mm)  
Depth: 7" (178 mm)  
Weight: 1.5 lb (0.68 kg)

Mounting: Table only

## Set-Up Lamp

Type: Halogen  
Power: 6 watts

## Video Monitor

Type: Color - NTSC / PAL  
Mounting: Table (Rack or Panel optional)  
Screen: 14" (355 mm)  
Input Voltage: 115/230V, 1 phase, 50/60Hz

## Standard Cables

LC-IT to VMS-1121-IT: 33 ft (10 m)  
VMS-1121-IT to camera: 10 ft (3 m)  
Input to VMS-1121-IT: 6 ft (1.8 m)

Other size cables are available as an option.

## Applications

Large seam welders have a deep valley and it is often difficult for the operator to observe the progress of the weld. With the camera assembly mounted on the torch and the torch mounted on a motorized cross-slide, the operator can maintain the correct position of the torch over the weld seam. It is also possible to see the wire entry position into the weld pool and take corrective action if required with a motorized wire guide positioner.

In circumferential welding applications, the torch must lift to accommodate different part diameters. With the camera assembly mounted on the torch, it moves up and down with the arc length control actuator. Jetview systems are especially useful where two or more welds are taking place at the same time. In this case, both video pictures are fed to monitors on a common operator control station which houses all the controls needed by the operator to take any corrective action required to fine tune the weld and its position on the part.

See Jetline price list for complete ordering information

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