

# Sapper™ Monitor Arm

## An Ergonomic Checklist

by Tom Albin, MA, MS, PE, CPE

Knoll asked a leading workplace ergonomist, Tom Albin, to provide an independent ergonomic assessment of the Sapper Monitor Arm. Albin heads an ergonomic consulting practice, High Plains Engineering Services, and has more than 20 years of experience in office ergonomics. He also chaired the committee that published the ANSI/HFES 100-2007 standards and serves as a US representative to various international standards committees. Below is Albin's assessment:

### What Makes a Monitor Arm a Good Ergonomic Tool?

An objective way to evaluate any monitor arm's performance is to assess whether it conforms to ergonomic technical standards, such as ANSI/HFES 100-2007. This standard contains ergonomic specifications for office furniture, displays, input devices, and the integration of all those components into a complete workstation, which accommodates at least 90% of the North American workforce.<sup>1</sup> It requires manufacturers to provide users with information on specific properties of the monitor arm, as described below. ANSI/HFES also provides guidelines for how a monitor arm should be set up in a workstation, which is fully explained in Knoll's paper, *A Guide to Trouble-Free Selection and Ergonomic Setup of Monitor Arms* (on knoll.com).

### ANSI/HFES 100-2007 Standards and Compliance

ANSI HFES 100 -2007 requires manufacturers to	Sapper Monitor Arm Collection	
	Compliance?	Function
Allow viewing distance adjustment	<input checked="" type="checkbox"/> Yes	3 – 17 inches with standard arm
Allow tilt adjustment	<input checked="" type="checkbox"/> Yes	165 degrees
Allow swivel adjustment	<input checked="" type="checkbox"/> Yes	180 degrees
Allow rotation adjustment	<input checked="" type="checkbox"/> Yes	360 degrees
Specify range of vertical height adjustment	<input checked="" type="checkbox"/> Yes	14 inches on standard 16-inch mast; 22 inches on a 24-inch mast; 30 inches on a 32-inch mast
Specify weight of monitor accommodated	<input checked="" type="checkbox"/> Yes	Monitors up to 20 pounds on standard collection Monitors up to 50 pounds on Sapper 50 arms and beams
Specify size of monitor accommodated	<input checked="" type="checkbox"/> Yes	VESA-compliant (Video Electronics Standards Association) hole patterns 75 x 75, 100 x 100, 100 x 200, 200 x 200, 300 x 300, 400 x 400, 400 x 600



### A Brief Assessment of the Sapper Monitor Arm

The Sapper Monitor Arm Collection provides the adjustment capabilities necessary to accommodate a wide range of users and workstation arrangements.

The various mast heights available accommodate the vertical height adjustments necessary to provide the recommended screen viewing angles for individuals ranging between a small female (5th percentile) and a large male (95th percentile).

The 17-inch horizontal adjustability of the arm provides a great deal of flexibility in viewing distance and the 2.5-inch folded position allows for full utilization of the worksurface.

The Sapper arm has several means of adjusting the monitor in order to position the screen as close to perpendicular as possible to the user's line of sight. First, the entire arm swivels 360° around the mast. Second, the mounting bracket allows 180° of swivel to either side. The mounting bracket also allows rotating the monitor between landscape and portrait mode.

The combination of this adjustability, plus the available options for mounting heavier monitors (up to 50 pounds) and multiple monitors, make the Sapper monitor arm a good ergonomic solution for any user.

<sup>1</sup> Human Factors and Ergonomics Society (2007). ANSI/HFES 100-2007 *Human Factors Engineering of Computer Workstations*. Human Factors and Ergonomics Society, Santa Monica, California.