

Sapper XYZ™ 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 Sapper XYZ. 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.¹ 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 XYZ	
	Compliance?	Function
Allow viewing distance adjustment	☑ Yes	2–21 inches
Allow tilt adjustment	☑ Yes	153 degrees
Allow swivel adjustment	☑ Yes	180 degrees
Allow rotation adjustment	☑ Yes	360 degrees
Specify range of vertical height adjustment	☑ Yes	13 inches
Specify weight of monitor accommodated	☑ Yes	Monitors up to 20 pounds
Specify size of monitor accommodated	☑ 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 Sapper XYZ

The Sapper XYZ monitor arm combines ease of movement with the adjustment capabilities necessary to accommodate a wide range of users and workstation arrangements.

The vertical height adjustment range accommodates the recommended screen viewing angles for individuals ranging between a small female (5th percentile) and a large male (95th percentile).

The 21-inch horizontal adjustability of the arm allows for good flexibility in viewing distance and the 2-inch folded position allows for efficient use of the worksurface.

The XYZ 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, both the post and the entire arm independently swing 360°: the post rotates around the surface mount and the upper arm rotates around the post. Second, the screen-mounting bracket allows 180° of screen swivel to either side. Third, the screen-mounting bracket allows users to tilt the screen through a range of 153° up and down. Finally, the screen-mounting bracket rotates 360° to allow changing the monitor between landscape and portrait orientation.

A clever indicator on the XYZ arm shows the monitor weight that the arm is adjusted to balance, with markings in both English and metric units. Changing the adjustment is straightforward using the tool provided.

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

