

## Arrow E/Dart (ERM) Specification

	Units	500	750
<b>Axis Travel Ranges, X,Y,Z</b>			
Longitudinal (table X axis) .....	mm	510	762
Cross (saddle Y axis) .....	mm	510	510
Vertical (spindle carrier Z axis) .....	mm	510	510
Range, spindle gauge line to work surface .....	mm	127	127
..... minimum			
..... maximum	mm	637	637
<b>Table X-Axis</b>			
Work surface dimensions .....	mm	700	950
..... length			
..... width	mm	520	520
Load capacity .....	kg	350	455
<b>Spindle Carrier, Z-Axis</b>			
AC Drive Motor (continuous rated) .....	kW	3.7	3.7
Spindle speed range .....	rpm.	60	60
..... minimum			
..... maximum	rpm.	6000	6000
Speed selection .....		1 rpm increments	
Tool holder .....		#40 ANSI/ASME B5.50-1985 std. #40 ISO 7388/1-1983(E) std. #40 DIN 69 871-1986 (part 1) std #40 BT40 MAS 403-1982 (option)	
<b>Linear Axis Feedrates and Thrust</b>			
Rapid traverse rate .....	m/min	16	16
..... X,Y,Z			
Axis thrust (duty rated) .....	kN	2	2
..... X,Y			
..... Z	kN	7	7
<b>Accuracies</b>			
Uni-directional positioning per linear axis over full travel .....	mm	0.004	0.004
Uni-directional repeatability per linear axis over full travel .....	mm	0.001	0.001
<b>Automatic Storage/Changer Unit</b>			
Storage capacity .....	Number of tools	21	21
Tool selection method .....		Bi-directional rotation of tool drum	
Tool and holder weight .....	kg	6.8	6.8
..... maximum			
Tool drum load (evenly spaced) .....	kg	68	68
..... maximum			
Tool length .....	mm	385	385
..... maximum			
Tool diameter (adjacent pockets full) .....	mm	80	80
Tool diameter (adjacent pockets empty) .....	mm	160	160
Automatic tool change time (metal to metal) .....	s	8	8

## Arrow E/Dart (ERM) Specification

<b>Units</b>	<b>500</b>	<b>750</b>
--------------	------------	------------

### CNC System

Model and type .....	ACRAMATIC 2100E
Manufacturer .....	Vickers E.S.D., Inc.
Number of contouring axes .....	X, Y, Z

### Lubrication System

Axes ballscrew nuts .....	grease	P 64	P 64
Spindle bearing lubrication .....	air/oil	Automatic Oil Lube P 38	

### Coolant System

Coolant delivery system .....		Flood through nozzles	
		Through spindle (optional)	
Pump .....	without through spindle coolant	25l/min	@ 1 bar
	with through spindle coolant	27l/min	@ 10 bar
Tank capacity .....	l	178	178

### Air requirement

Air supply pressure .....	bar	5.5	5.5
Continuous volume .....	standard machine ANR	dm <sup>3</sup> /s	6.6

### Electrical Power Requirement

Spindle drive unit .....	kVA	6.0	6.0
Axis drive units (including 4th axis) .....	kVA	8.0	8.0
Tool drum .....	VA	50	50
Tool change motor .....	VA	225	225
Coolant pump - standard .....	kVA	1.8	1.8
Through spindle coolant pump (120 psi) .....	kVA	3.7	3.7
Through spindle coolant pump (80 psi) .....	kVA	1.7	1.7
Control gear .....	VA	750	750
Miscellaneous .....	VA	400	400
Lubrication pump (if fitted) .....	VA	24	24

### Machine Weight/Floor Space

Machine net weight approx. ....	kg	3050	3300
Overall machine height (max) .....	m	2.7	2.7
Overall floor space - width .....	m	2.6	3.4
- width .....	m	2.2	2.8
- depth .....	m	2.92	2.92

All illustrations and specifications contained in this literature are based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice in prices, materials, equipment, specifications, and models and to discontinue models. Information is not warranted and many item discussed herein may be optional cost and not necessarily supplied as standard. In addition, all dimensions are nominal and can vary with machine model change.

MACHINE ARROW E / DART ARROW	X AXIS TRAVEL
500	510
750	762

The Information shown is general in nature. For absolute working dimensions refer to Dedicated Engineering Drawings supplied with the machine

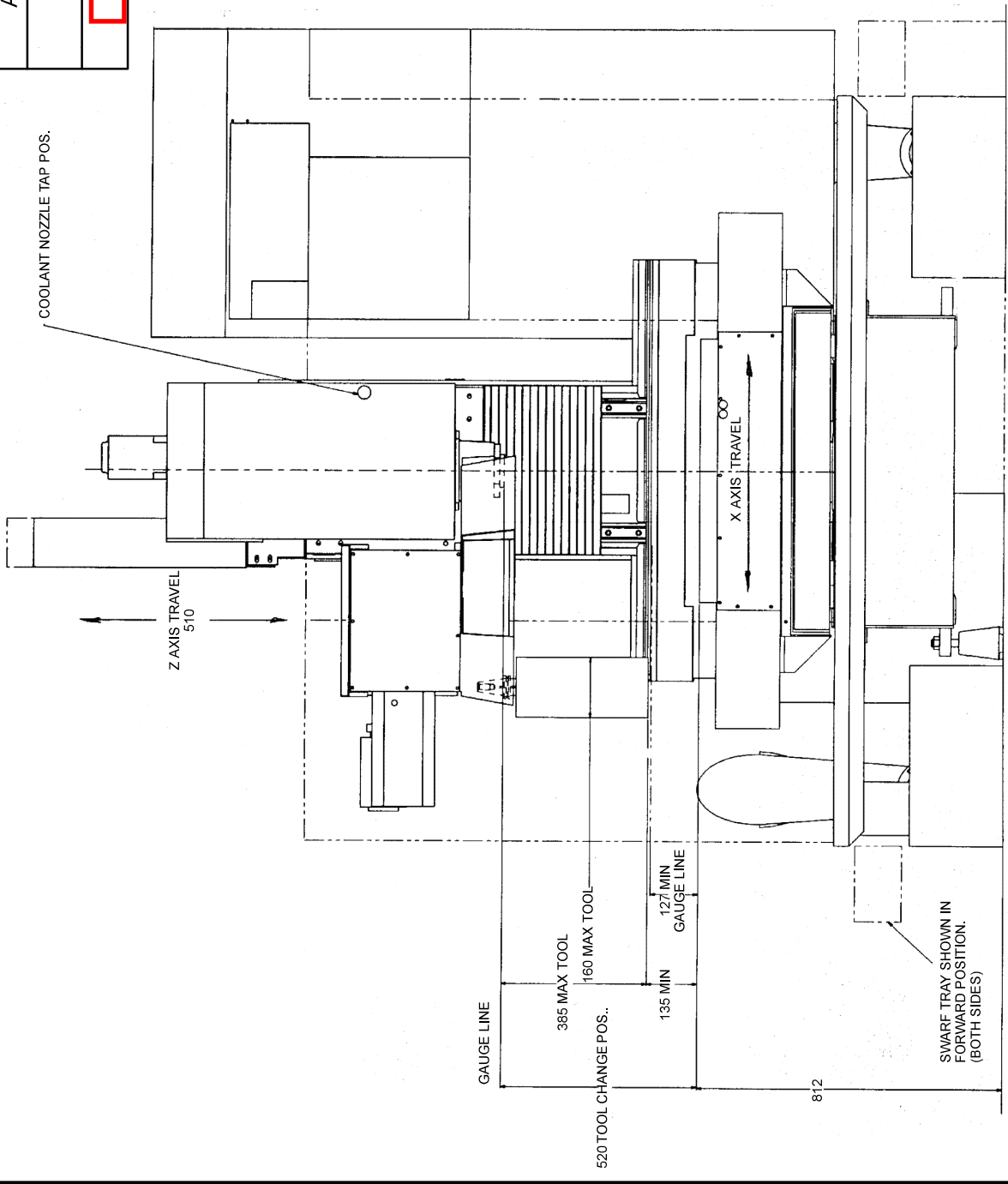


Fig. 22  
Range Drawing for Arrow E / Dart / Arrow 500, 750 (ERM) Machines -  
Front View

Note: Raised machine information  
 NOT applicable to  
 ARROW E/DART machines

MACHINE ARROW E / DART ARROW	AXIS TRAVEL		
	Y	Z	
500	510	510	510
750	510	510	510

The Information shown is general in nature. For absolute working dimensions refer to Dedicated Engineering Drawings supplied with the machine

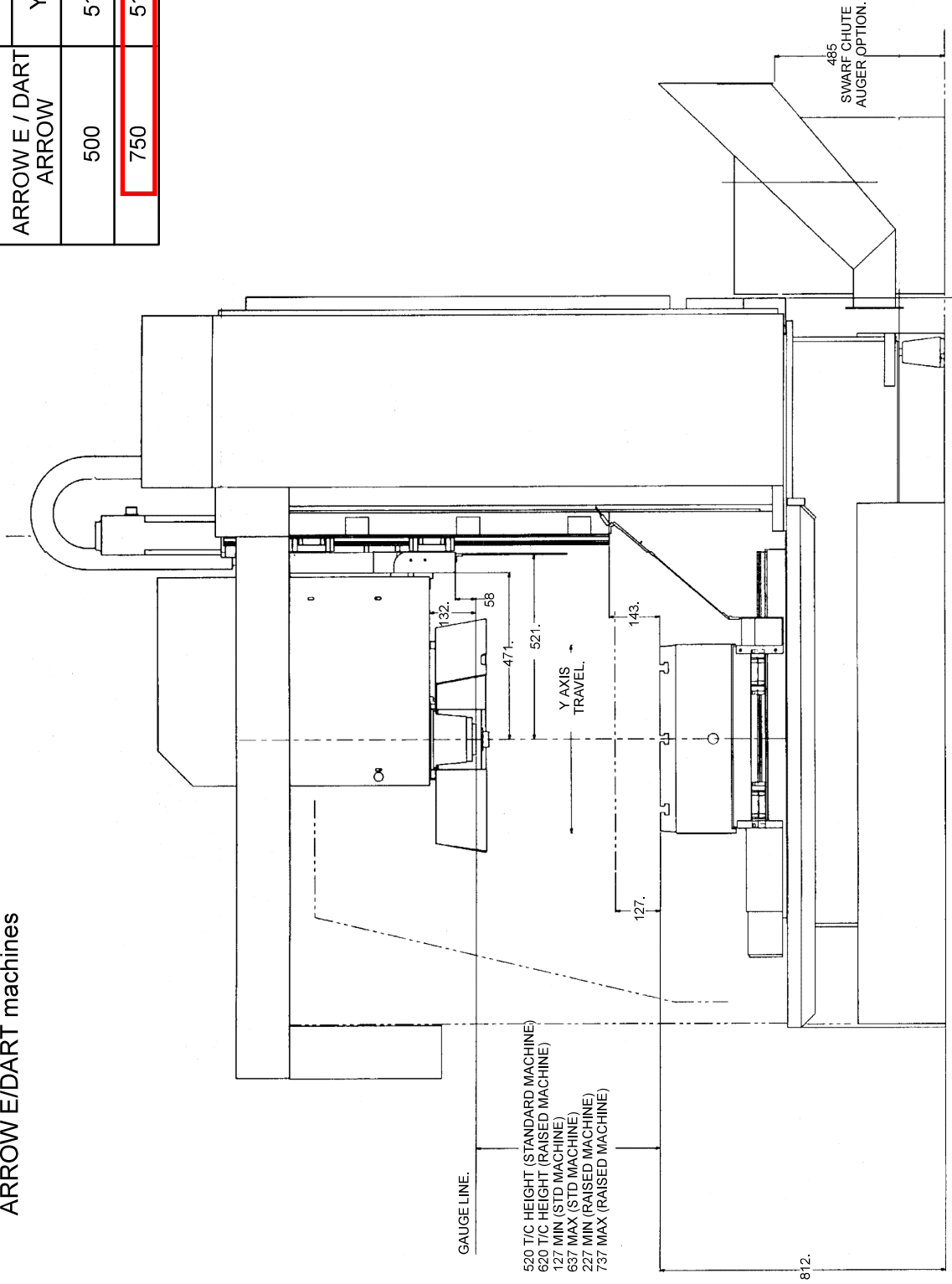
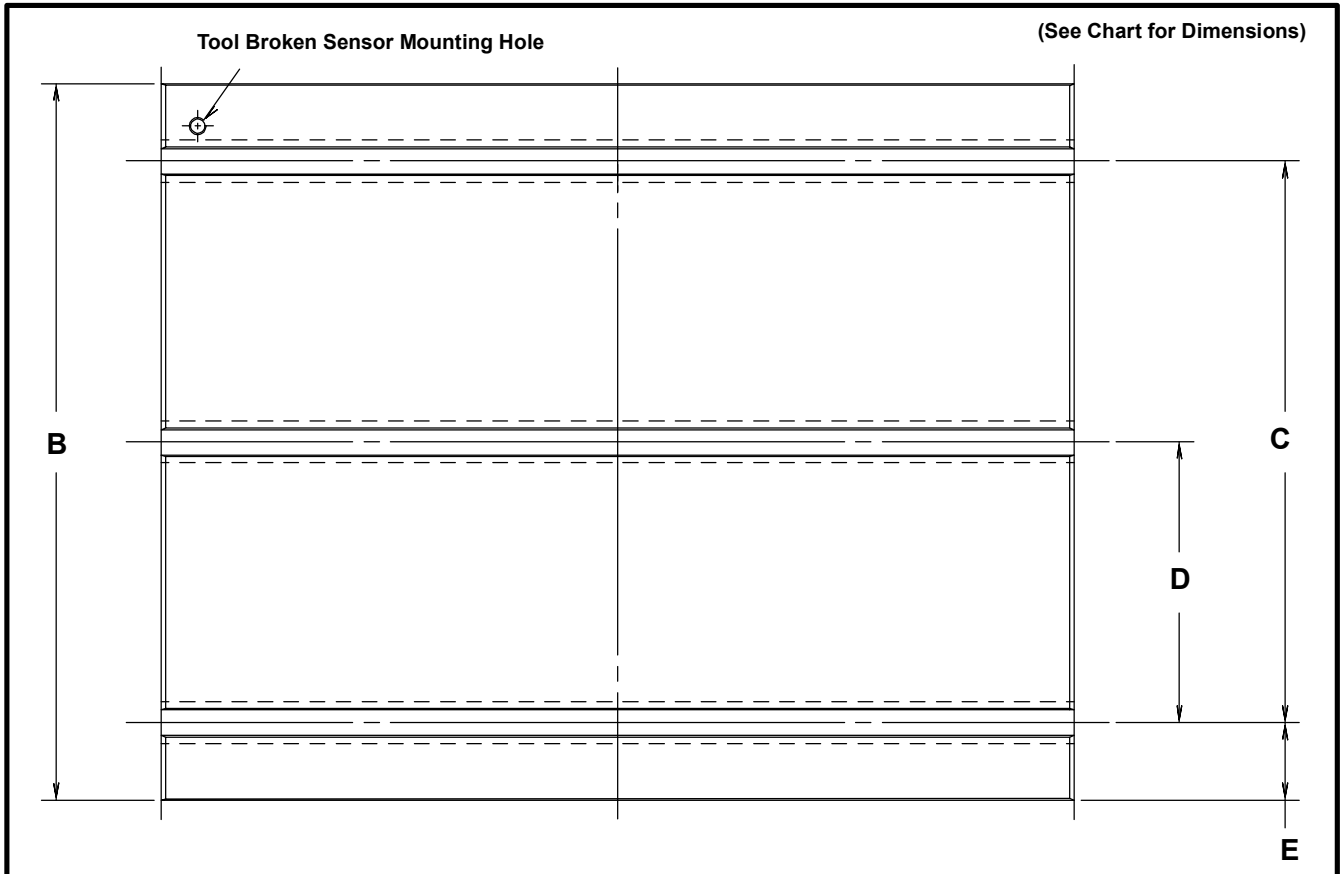


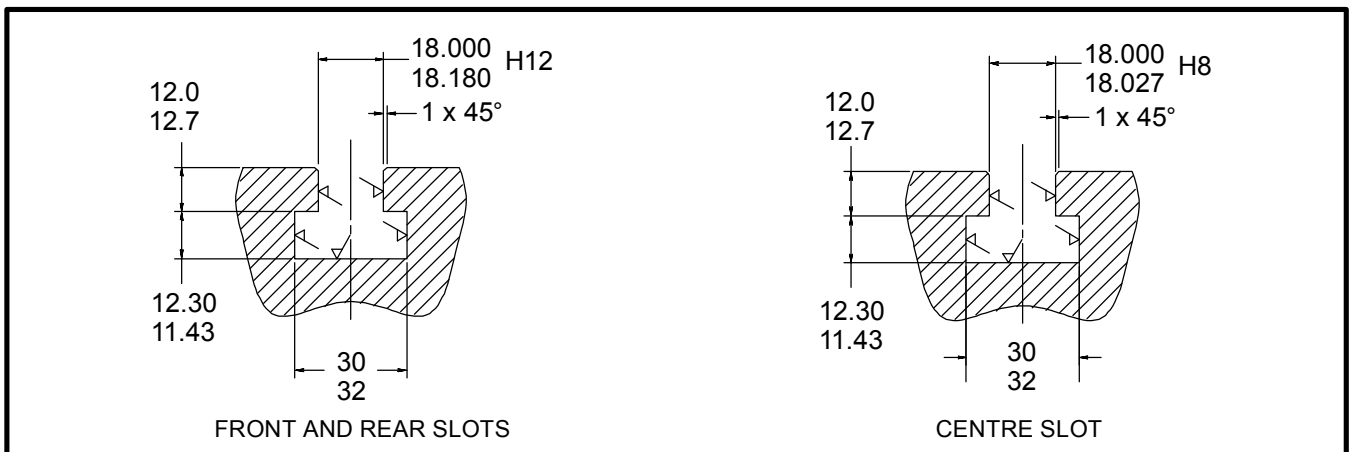
Fig. 23  
 Range Drawing for Arrow E / Dart / Arrow 500, 750 (ERM) Machines -  
 Right Hand Side View

## DART/ARROW (ERM)Table Dimensions

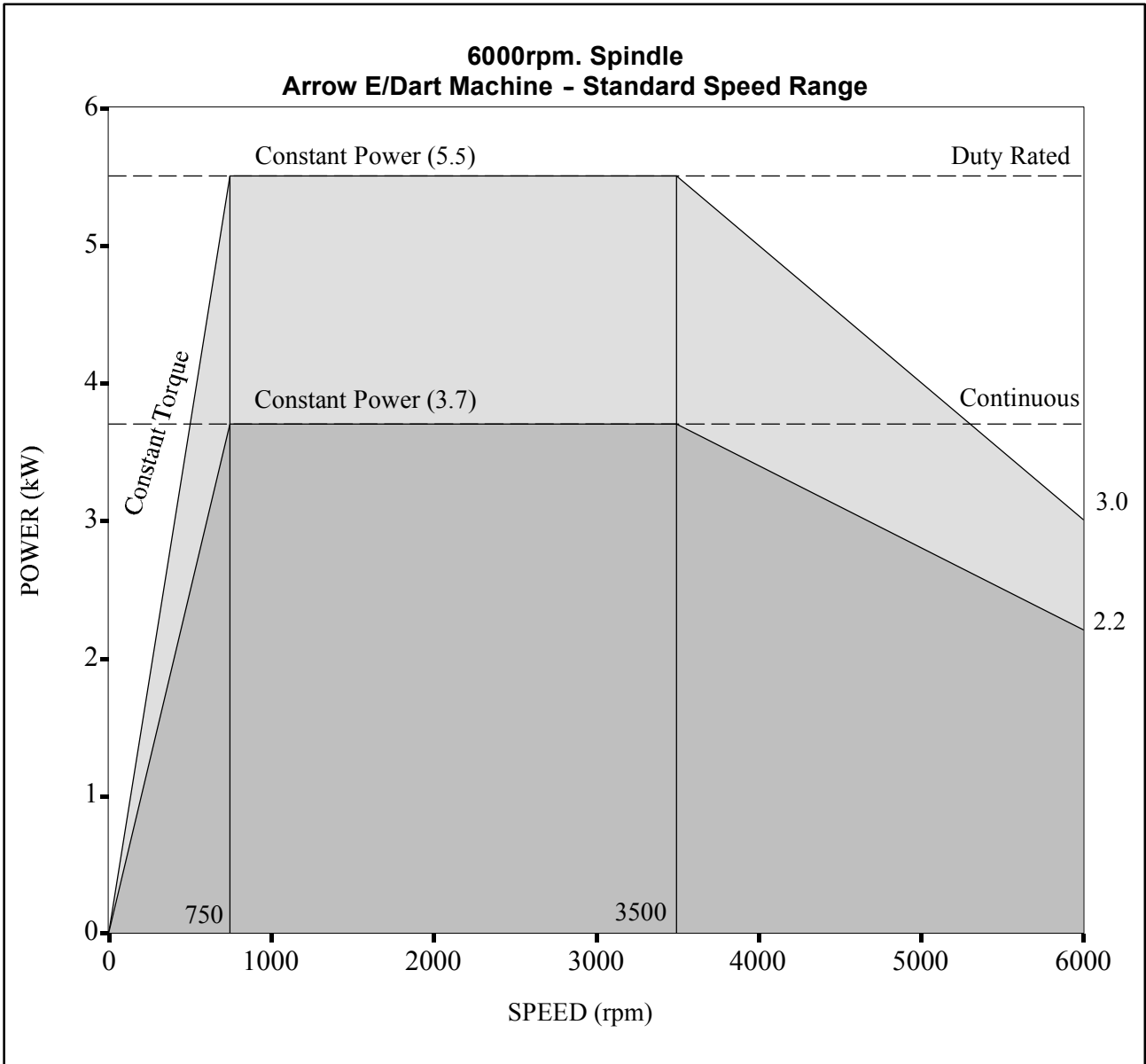


**Fig. 26**  
Table Dimensions

Machine	A	B	C	D	E	No of Slots
Arrow 500	700	520	400	200	60	3
Arrow 750	950	520	400	200	60	3
Arrow 1000	1120	610	400	200	105	3
Arrow 1250C	1370	610	400	200	105	3
Arrow E/Dart 500	700	520	400	200	60	3
Arrow E/Dart 750	950	520	400	200	60	3



**Fig. 27**  
Bolt and Tenon Slot Dimensions - Typical



**Fig. 35**  
**Spindle power characteristics (Arrow E/Dart Machine - Standard Speed Range)**

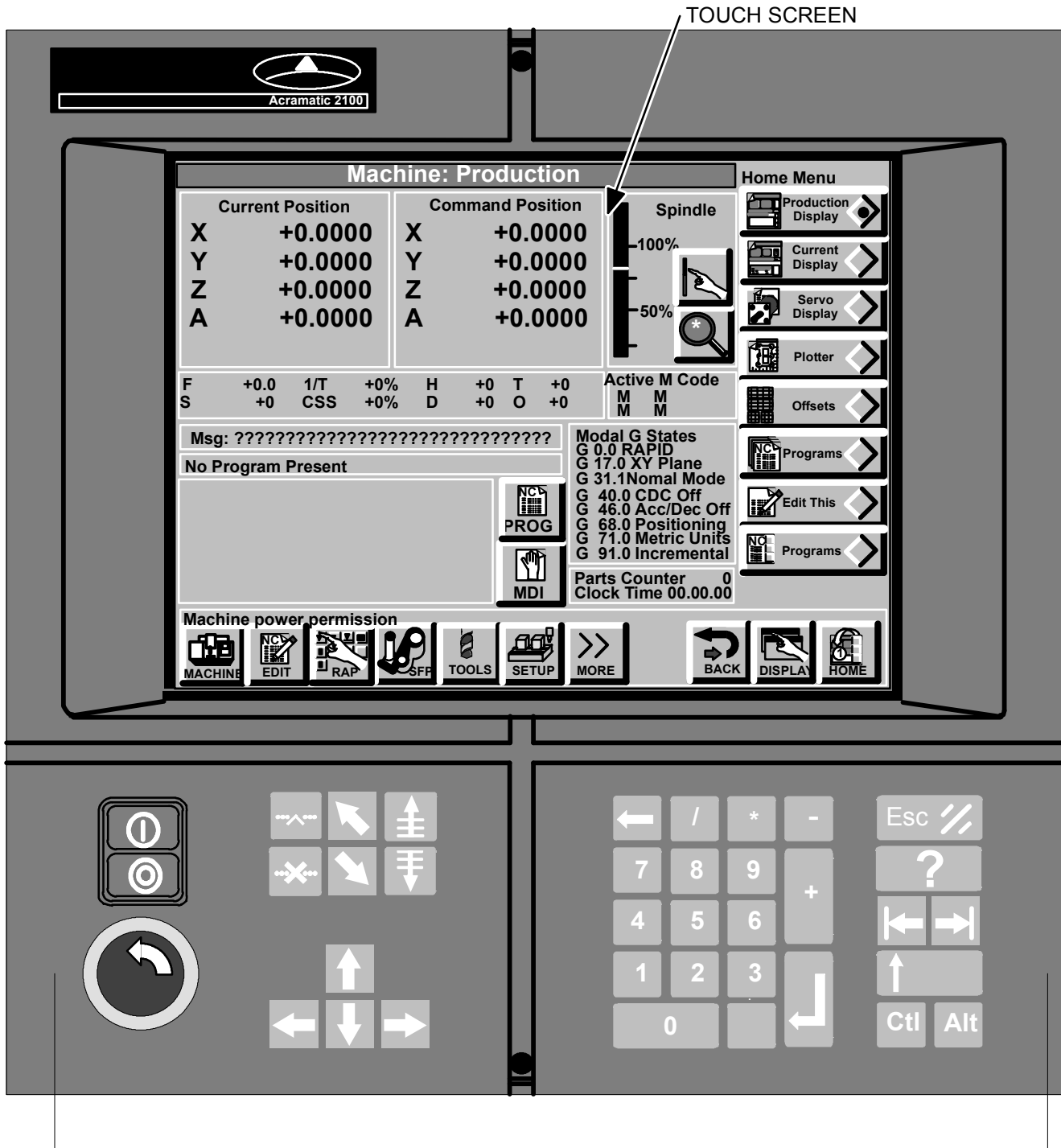
## Chapter 3 Control Introduction

Most of the ACRAMATIC 2100E Operating controls are located in the front Operator Station. Machine operator controls are located in the hand held Pendant control, which is mounted magnetically to the front of the machine. Optional keyboard usage is also accessed at the front of the machine.



Arrow Vertical Machining Center

# Operator Station



OSA KEYPAD

Operator interaction for A2100E takes place through the touch screen, Operator Station Assembly (OSA) Keypad, and machine pendant.

A2100E provides an operator interface which is graphical in nature and provides all levels of interaction.