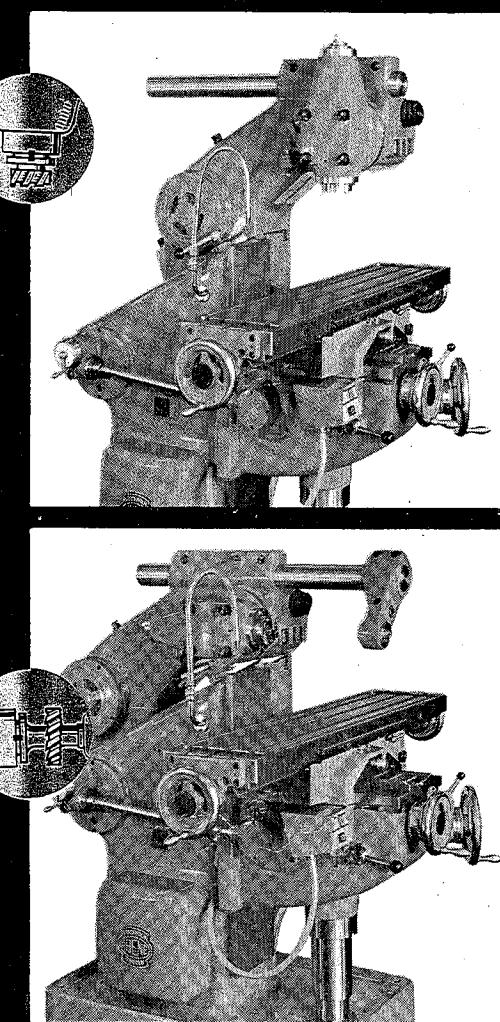
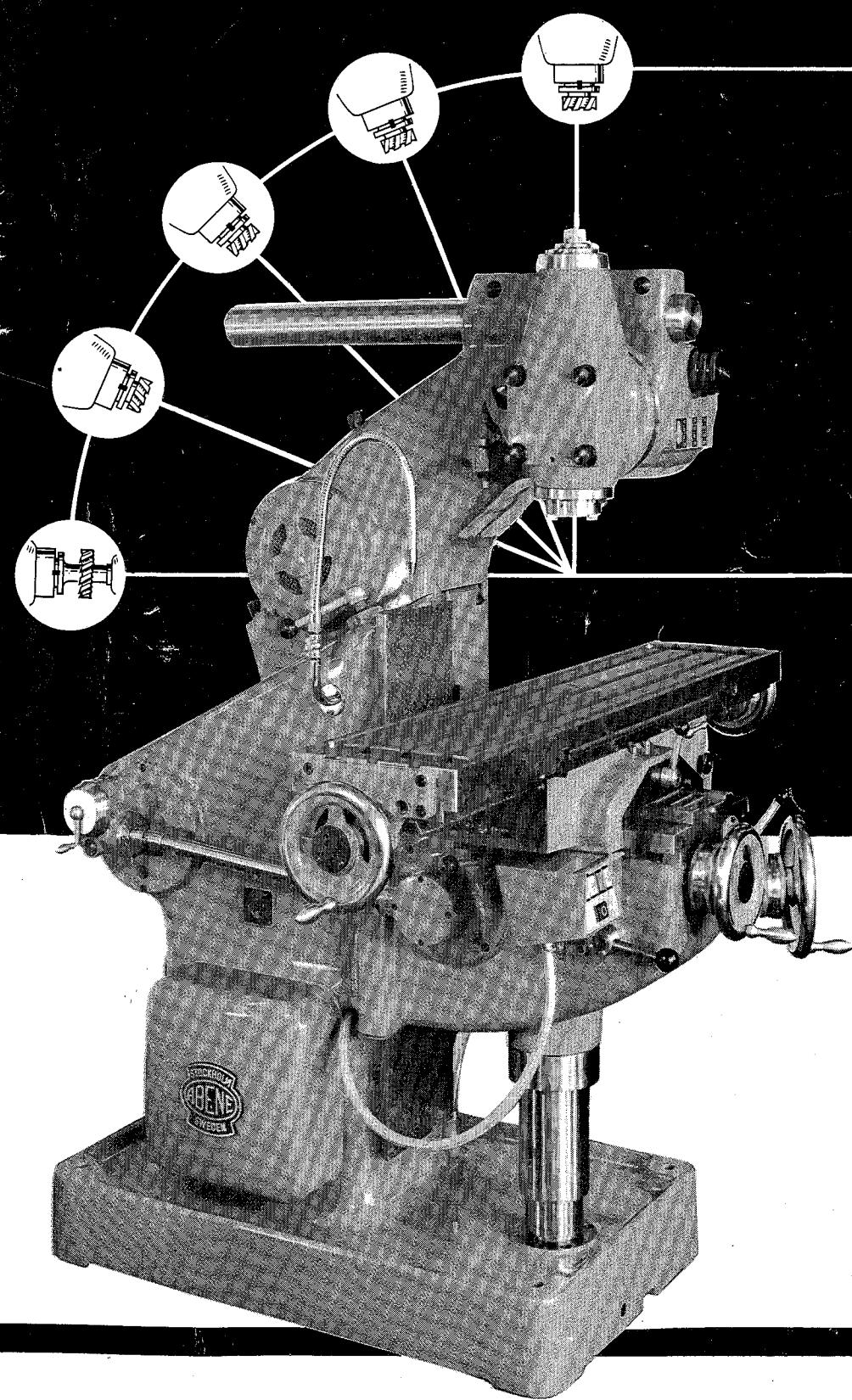


**COMBINED VERTICAL AND HORIZONTAL
MILLING MACHINES**

VHF-2B VHF-3

18

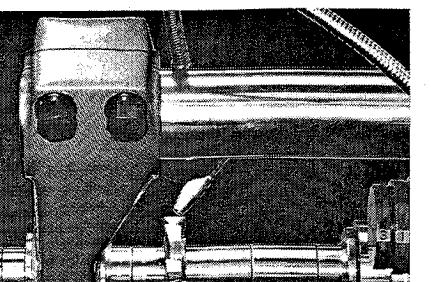
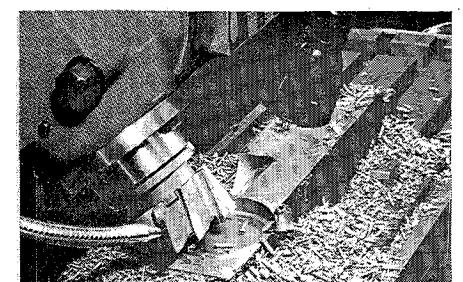
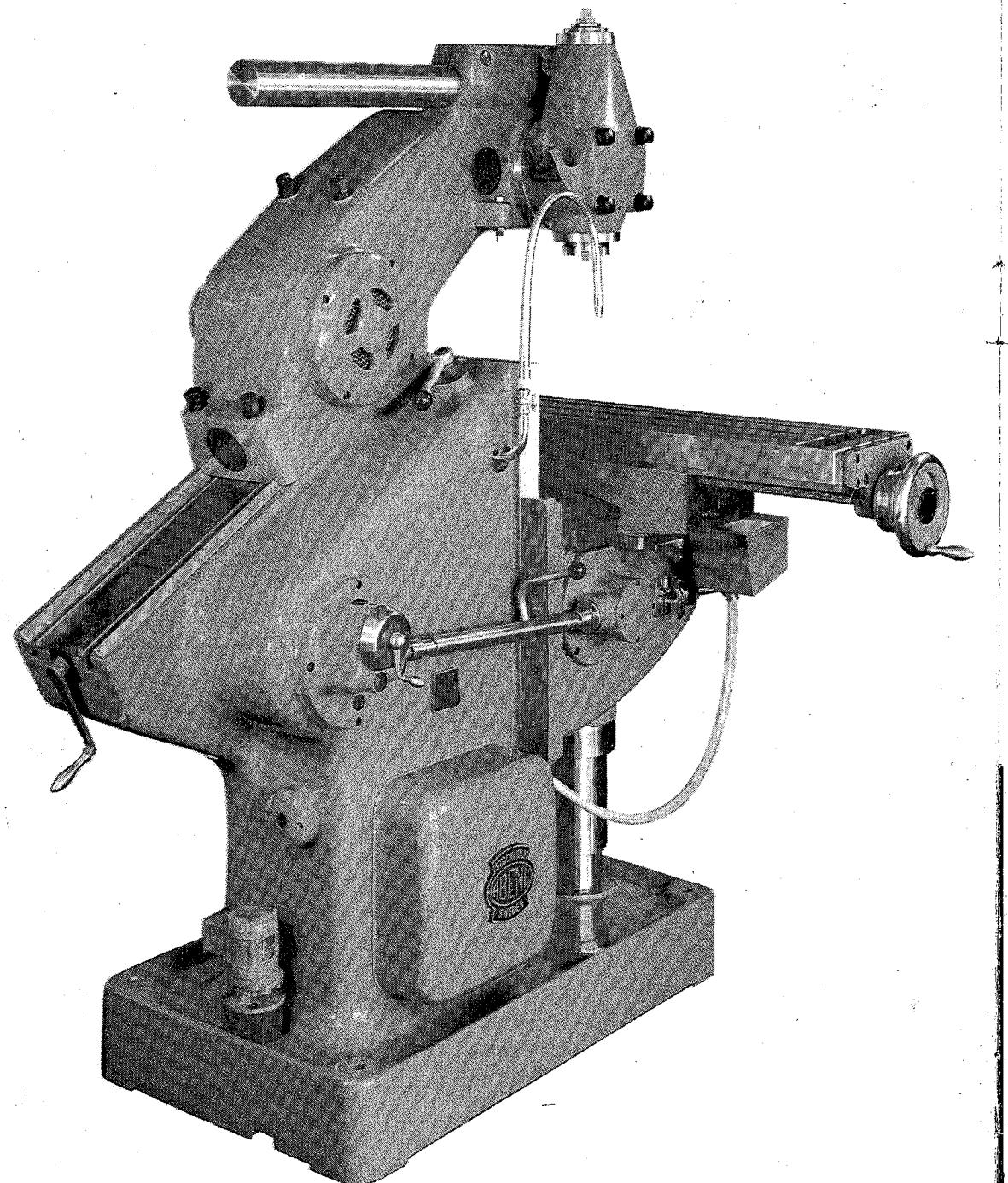


PEERLESS SUPPLY, INC.
414 E. Court 243-4181
DES MOINES, IOWA 50309





COMBINED VERTICAL AND HORIZONTAL MILLING MACHINES



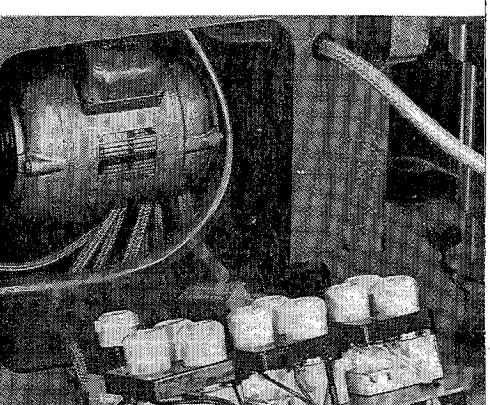
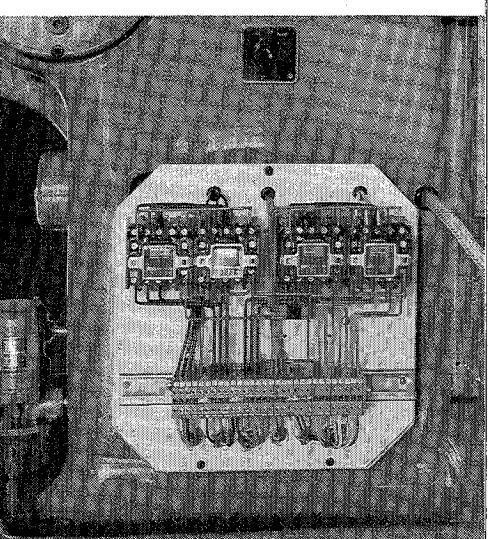
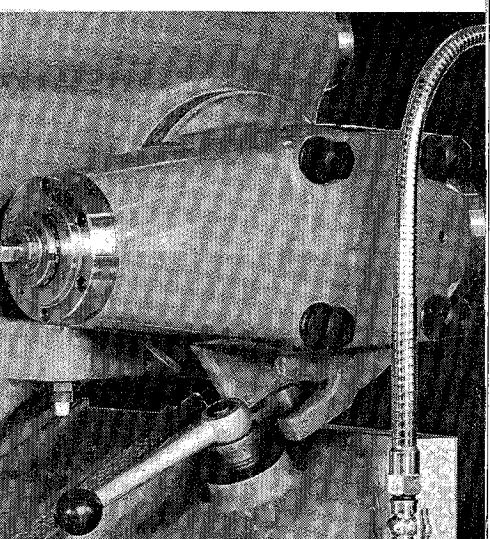
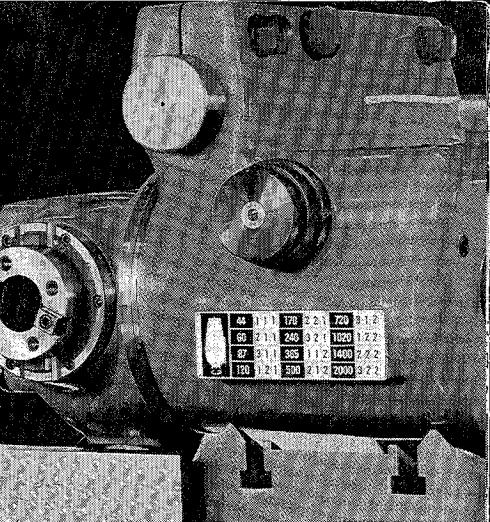
DESCRIPTION

ABENE VHF-2B and VHF-3 are both combined milling machines. They are thus suitable for both horizontal and vertical milling operations without any heavy attachments. The spindle can be pivoted at right-angles to the longitudinal direction of the table and is variably adjustable to the desired position from 0° in the horizontal position to 45° past vertical, that is to say, from 0—135°. In all positions the rigidity is extremely good and the only thing that limits the milling is the effect of the spindle motor. The machines are normally supplied with NS40 taper spindle National Standard but can also be obtained with any other taper required. The shape of the frame enables the nose of the spindle to maintain the same distance from the table in both the horizontal and vertical positions. The machines are equipped with separate motors for feed drive and spindle drive. The gear wheels in the milling head run in an oil bath. All the shafts in the machine run in SKF precision ball and roller bearings. The vertical feed lead screws run in an oil bath and are totally enclosed in a telescopic protecting tube. The longitudinal feed screw is equipped with back lash eliminator, adjustable from the frontside of the cross slide. That permits parallel milling. All cast material is of the highest quality and machined with utmost precision. Other material is carefully selected and well-proved. The machines are painted with plastic enamel over carefully carried out priming treatment. The paintwork has good resistance to coolant fluids and impacts. ABENE milling machines are characterized by great precision, simple and rapid adjustments and rigidity in all milling positions. In addition, the machines have a pleasing and functional design.

The spindle is made of toughened chrome-nickel steel, ground and carried in adjustable, double-row precision roller bearings. The spindle housing has exact zero positions for horizontal and vertical milling. In the horizontal position there is a scraped support face for locking the spindle head against the frame. The milling head has 12 spindle speeds in geometrical series which are conveniently controlled from the front of the machine. The gear wheels, which are hardened and ground, run in an oil bath and the shafts are carried in SKF precision ball bearings. The electrical equipment is well grouped and protected but easily accessible when necessary. The controls are centrally located on the front-side of the machine and are of pushbutton type with illuminated buttons. The control current for contacts and lighting is 24 volts regardless of the mains voltage. The machines can be supplied for any mains voltage without extra cost.

For the United States and Canada, instrumentation of Allen Bradley's make.

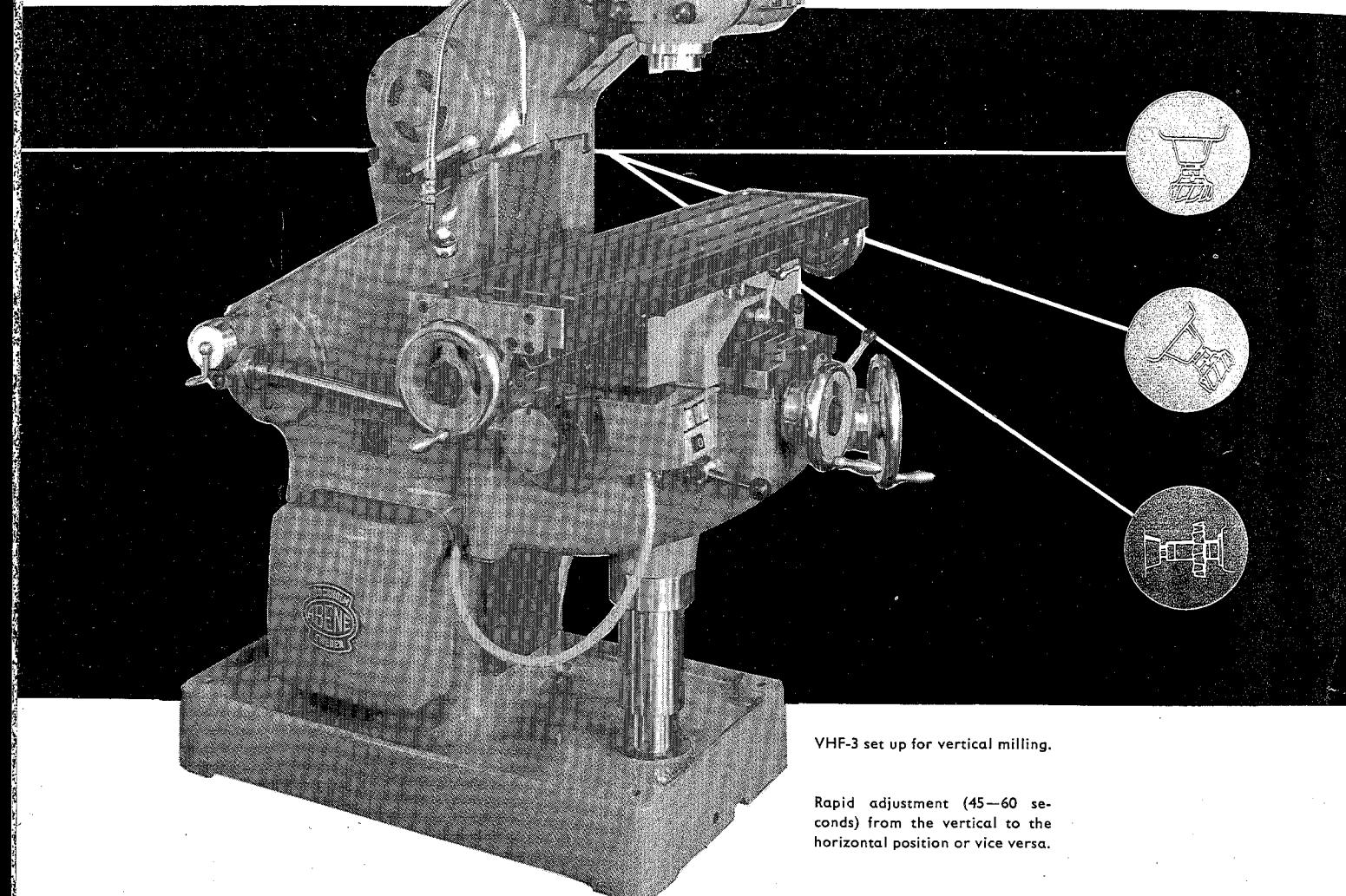
ABENE milling machines are delivered with written guarantee of one year, operator's manual, work test certificate and complete catalogue of spare parts.



VHF-3

COMBINED VERTICAL AND HORIZONTAL MILLING MACHINES

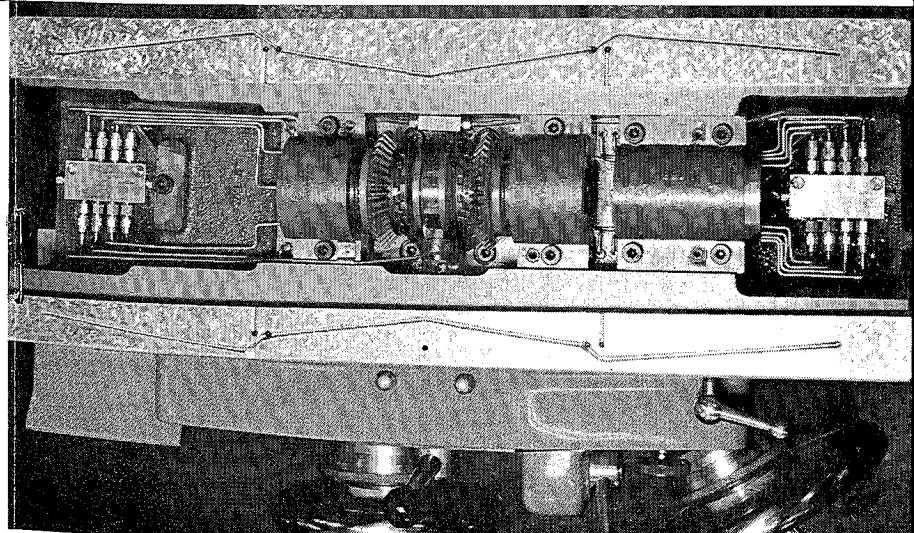
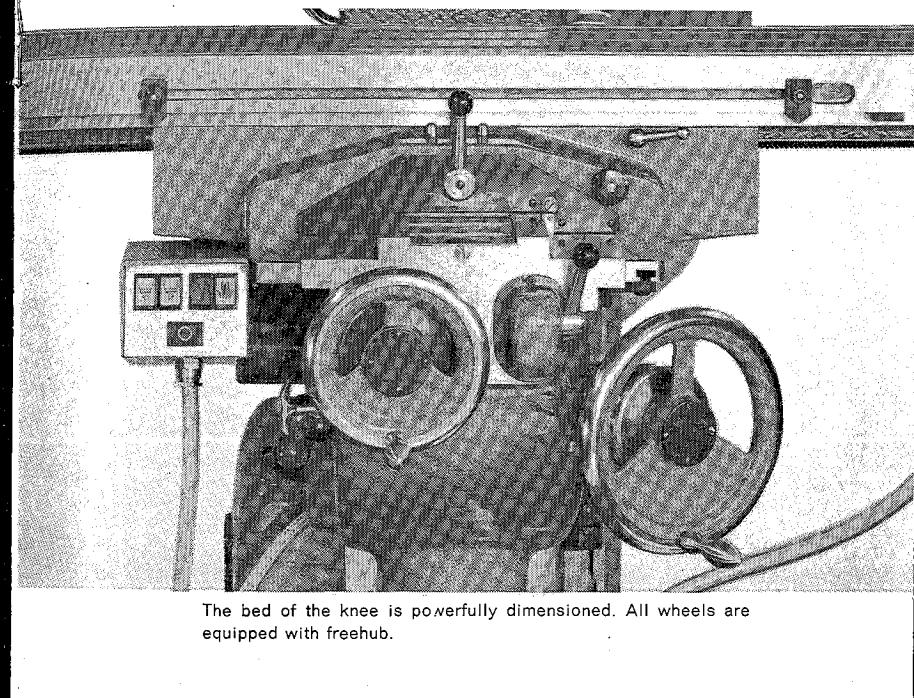
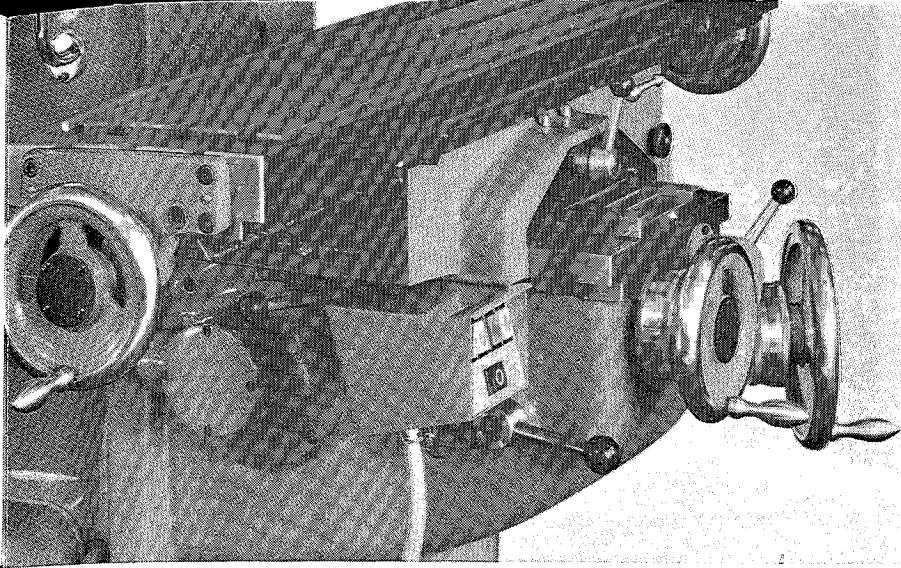
— has mechanical feed and rapid travel
in all directions



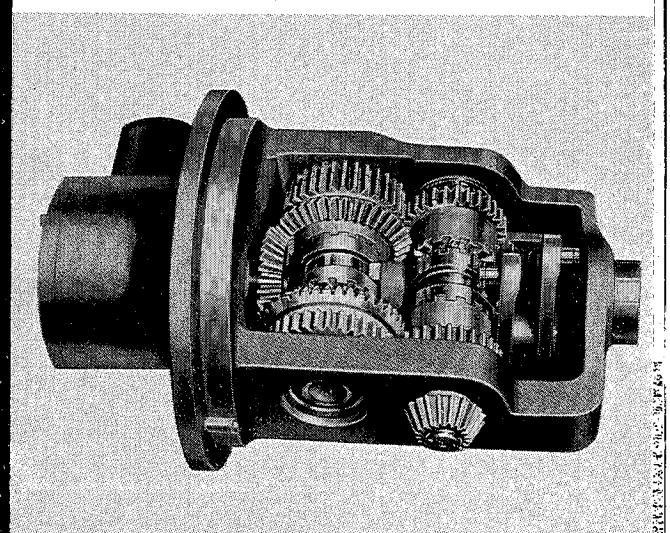
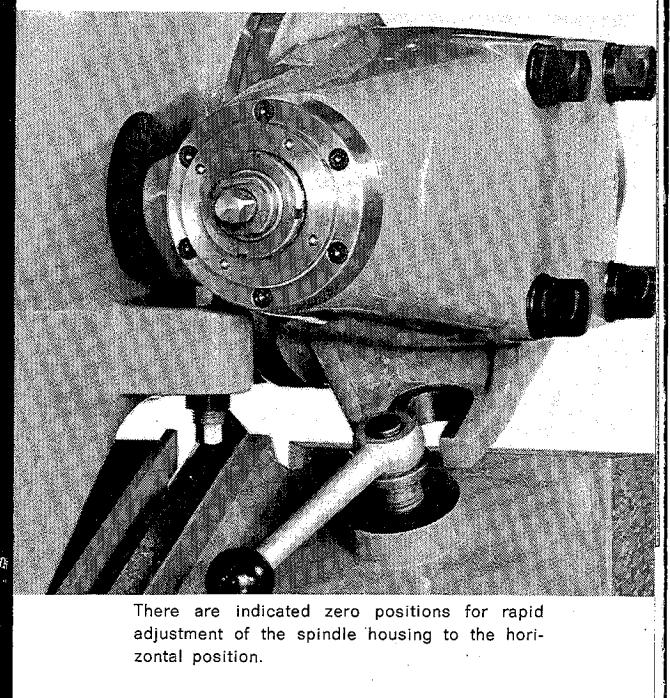
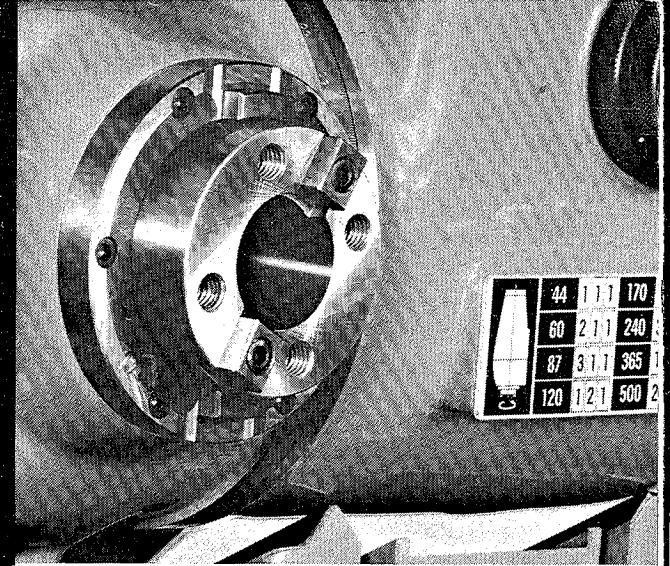
DESCRIPTION

VHF-3

The VHF-3 has mechanical feed and rapid travel in all directions. This means quick adjustments and great time saving. The machine is designed for rigidity and resistance to wear, permitting the use of modern milling cutters. All controls—electric as well as mechanical—are located on the frontside of the machine and are therefore easily accessible. The precision manufactured feed screws are provided with large, easily read and adjustable graduated scale. This permits extremely accurate work to be carried out. The machine is equipped with an overload clutch for automatic feed. When normal loading is resumed, the clutch re-engages and the machine continues to function without any further action being necessary. The VHF-3 has central lubrication and there are no lubricant nipples, security for wearing quality and life of the machine.



The VHF-3 is equipped with central lubrication for all guide surfaces and movable parts. All shafts and gear wheels are hardened and carried in needle bearing or ball bearing.

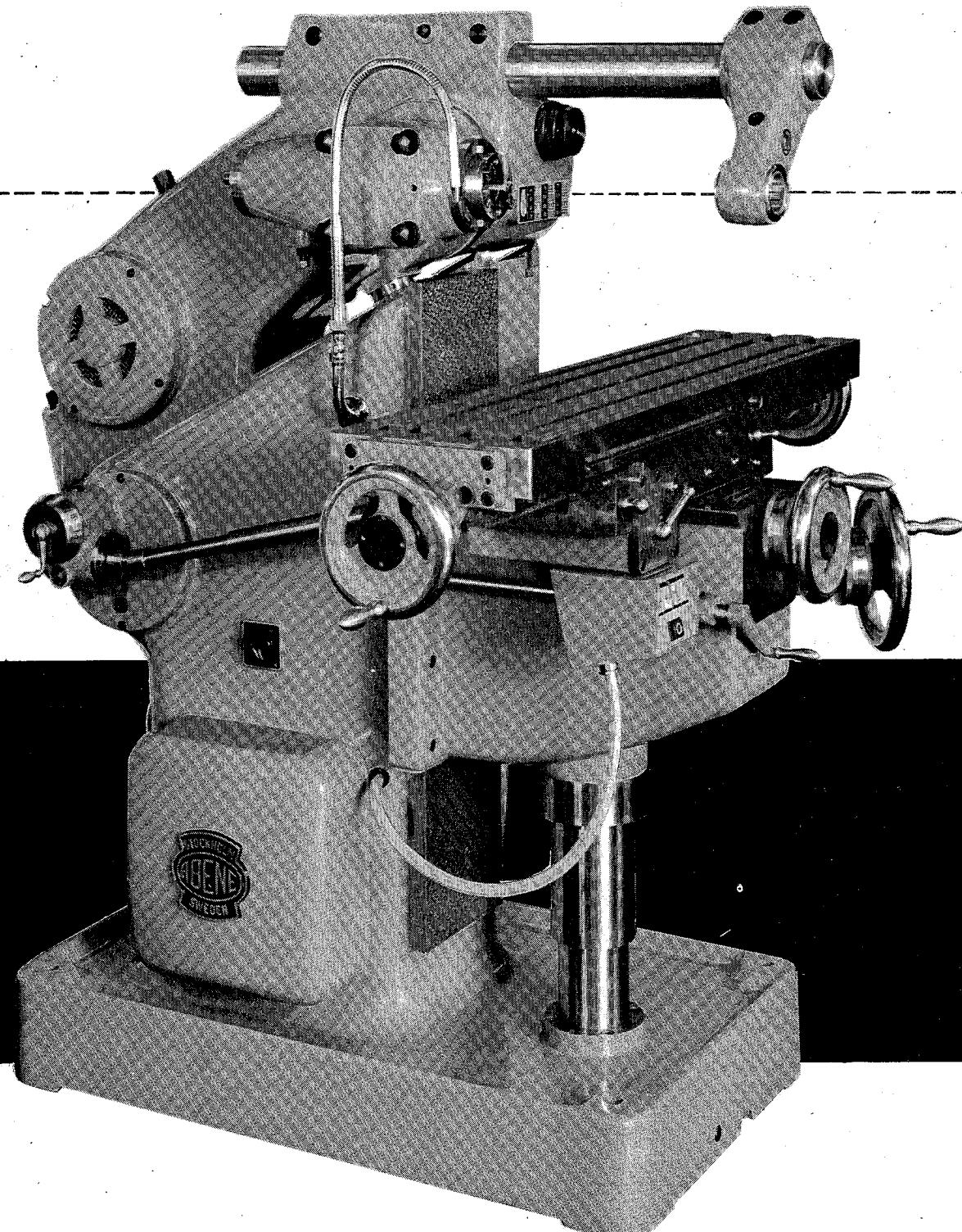


The feed gearboxes are made as individual units which are easily interchangeable if necessary.

VHF-2B

COMBINED VERTICAL AND HORIZONTAL MILLING MACHINES

With mechanical feed and rapid traverse for the longitudinal movement.



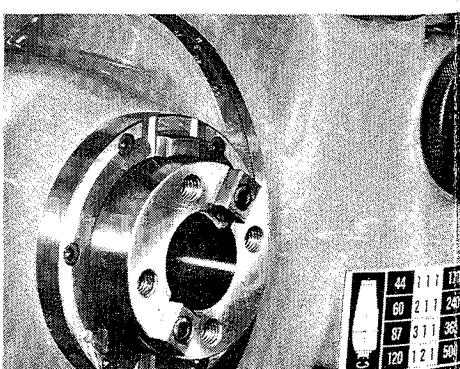
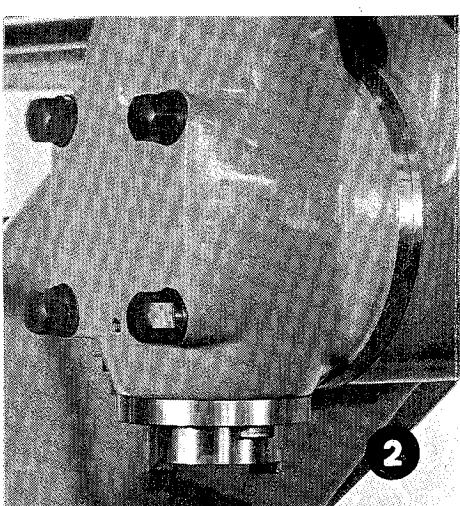
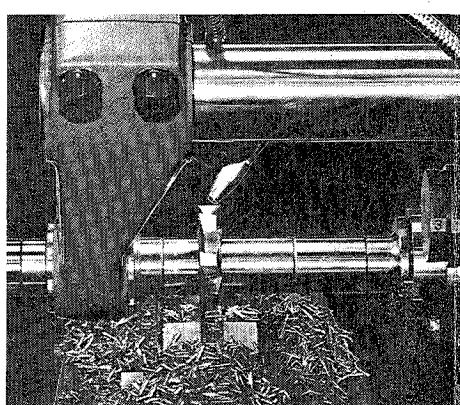
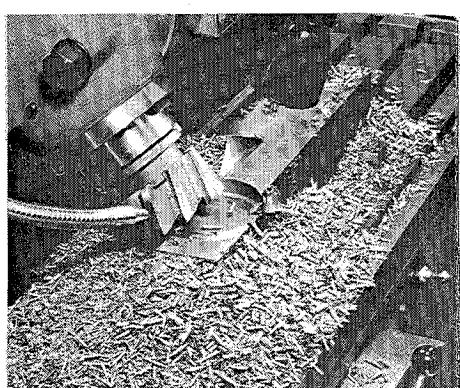
DESCRIPTION VHF-2B

This machine is the result of 25 years of development work. It has gained wide acknowledgements for its versatility, and open design.

The machine is a modified version of the VHF-3 and meets a wide demand in cases where our customers require a less expensive machine which only needs to be equipped for mechanical longitudinal feed with the other movements manually controlled and where mechanical feed in the other directions and rapid travel is not absolutely essential.

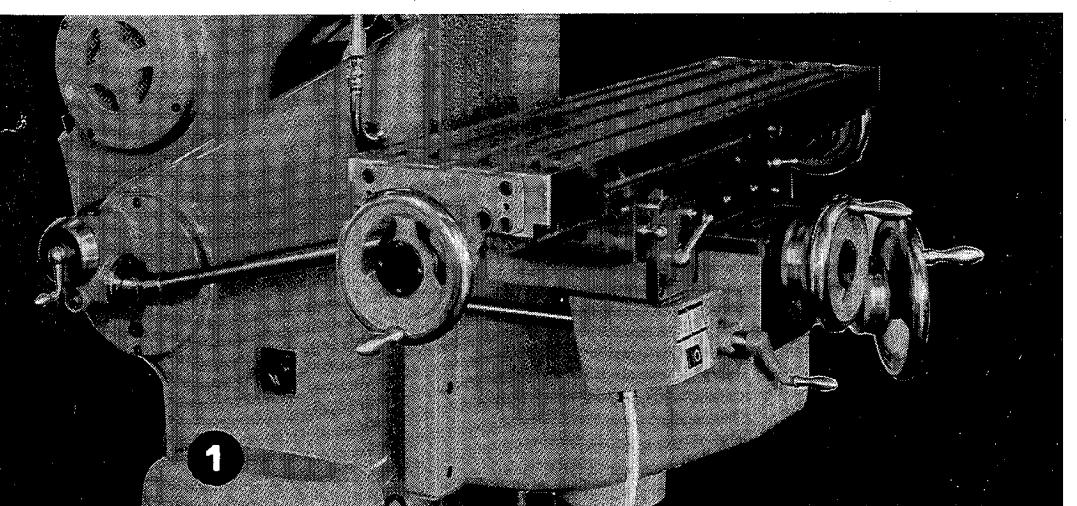
In all other respects the machine is built to the same high standards as regards first-class material and machining accuracy as our larger VHF-3 machine. It is also completely equipped with full electrical and coolant installations.

The precision-manufactured feed screws are provided with large, easily-read graduated scales. The longitudinal feed mechanism is provided with a vertically arranged worm gear of robust design and exact feed disengagement.



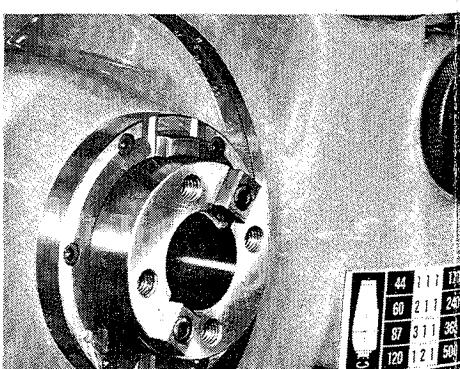
1 All controls are located on the frontside, and the table is equipped with wheels in both ends.

1



2 The spindle housing is equipped with easily-read graduation and exact zero positions in horizontal and vertical positions.

2



3 The spindle is made of chrome-nickel steel, accurately ground and securely journaled. The spindle nose has 1 3/4" Swedish Standard taper (NS 40). (Other taper on request.)

44	111
60	211
87	311
120	411
120	500

TECHNICAL DATA

	VHF-2B	VHF-3	VHF-2B	VHF-3
	mm	mm	inches	inches *)
Table				
Length x width	1050×260	1200×260	41×10½	48×10½
Number of T-grooves	3	3	3	3
Width of T-grooves	18	18	0.71	0.71
Distance between T-grooves	66	66	2.60	2.60
Longitudinal travel (manual)	550	750	22	29½
Longitudinal travel (mechanical)	550	750	22	29½
Vertical travel	500	500	20	20
Transverse travel	200	200	8	8
Feed speeds				
Number of feed speeds	12	12	12	12
Longitudinal, per min.	16—750	16—750	5/8—30	5/8—30
Transverse,	manual	16—750	manual	5/8—30
Vertical,	manual	8—375	manual	3/8—18¾
Rapid travel				
Longitudinal, per min.	1850	1850	75	75
Transverse,	—	1850	—	75
Vertical,	—	925	—	44
Spindle				
Spindle taper	1¾	1¾"	NS 40	NS 40
Number of spindles speed	12	12	12	12
Speed range r.p.m	44—2000	44—2000	44—2000	44—2000
Vertical extension	280	280	11	11
Motors				
Spindle h.p.	5	5	5	5
Feed	1	2	1	2
Coolant pump	0.06	0.06	0.06	0.06
Freight data				
Net weight kg/lb.	1200	1280	2650	2860
Gross weight	1300	1495	2850	3350
Packed volume m³/cu.ft.	3.8	4.9	134	173

Standard accessories

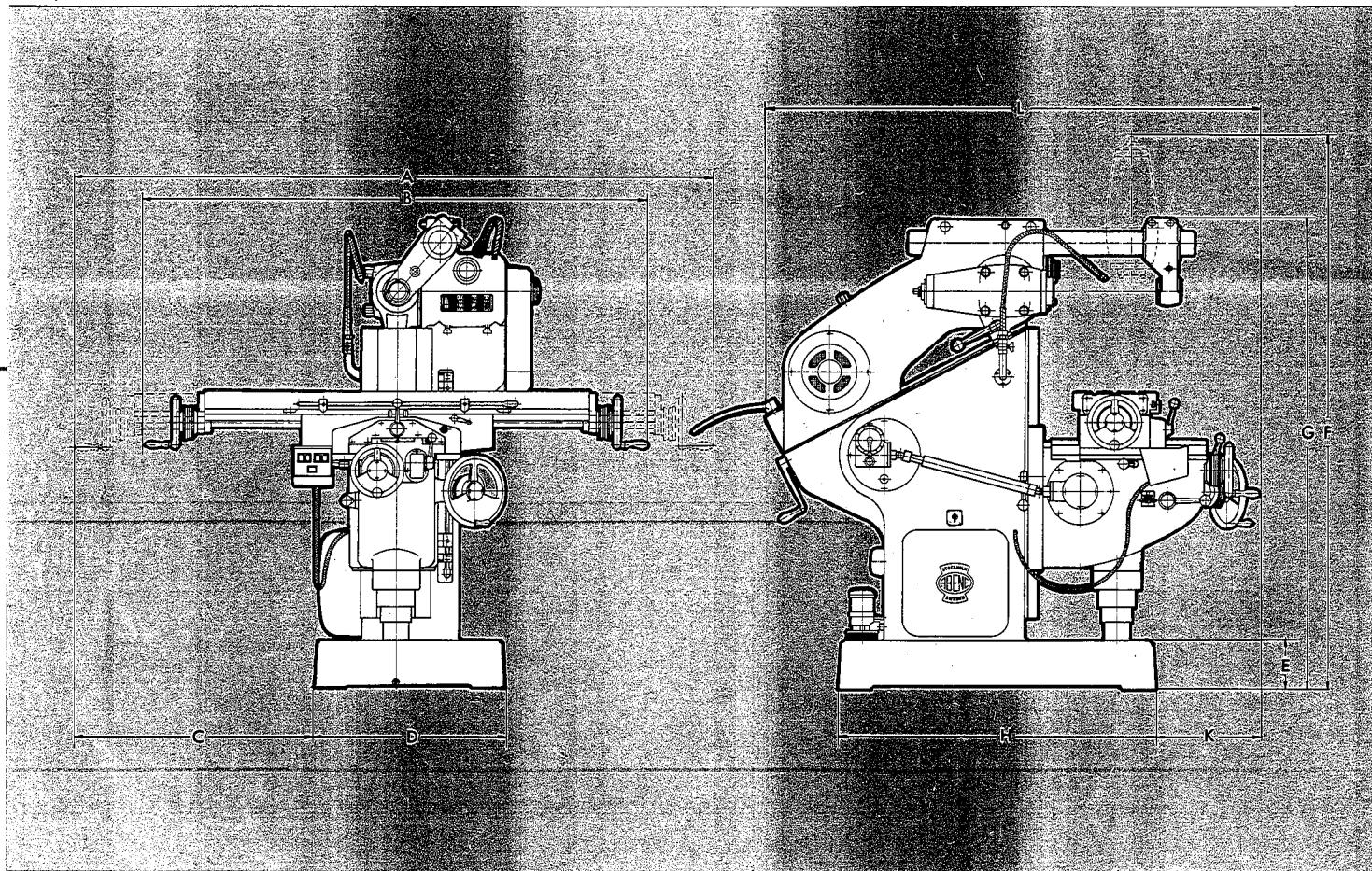
Coolant installation, electrical equipment including motors, control rod, beam support, set of spanners and lighting fittings for 24 volts.

Additional accessories offered on special request.

Subject to design modifications.



DIMENSIONS

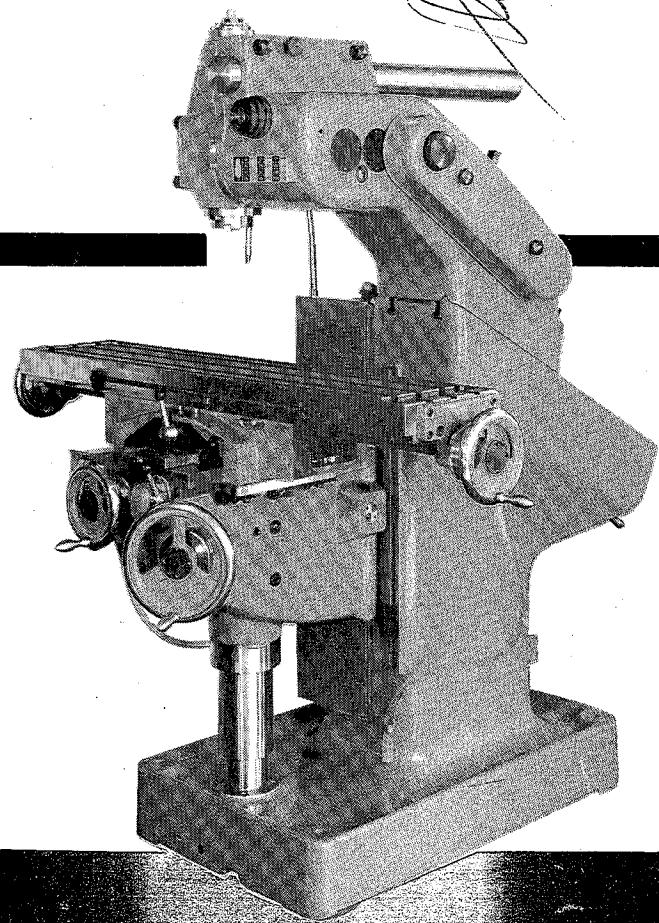
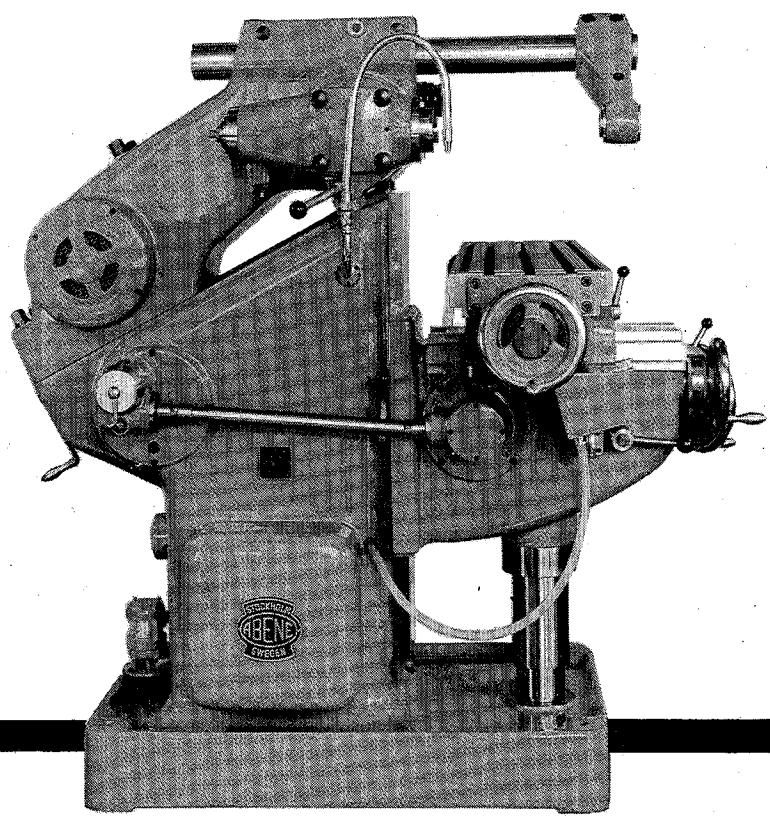
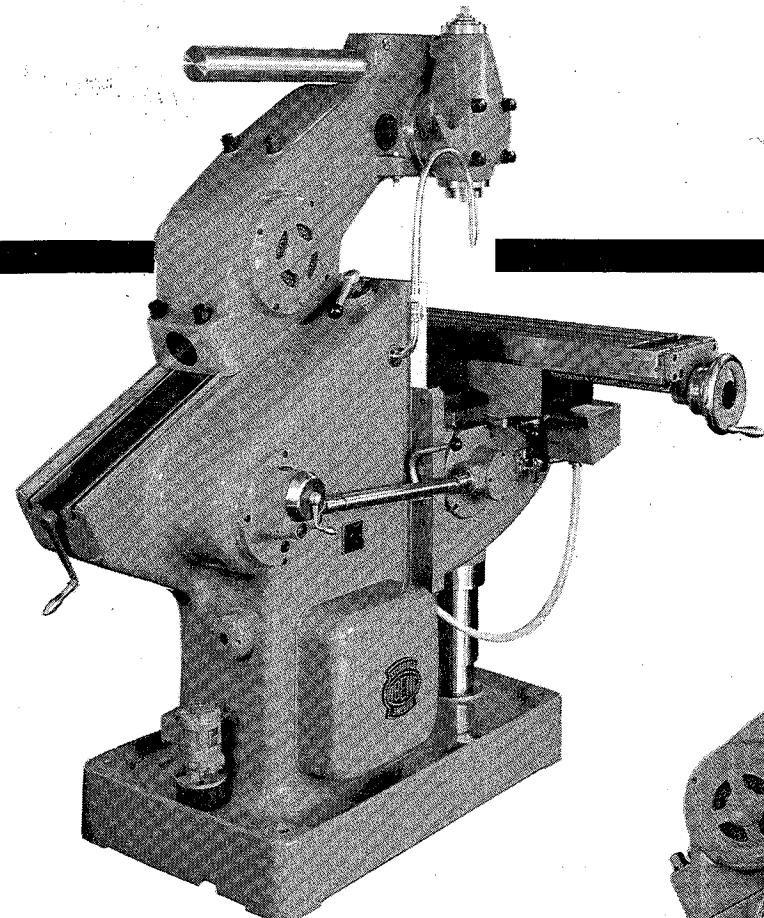


TABLE

	VHF-2B		VHF-3	
	mm	inches	mm	inches
A	2150	85	2300	91
B	1410	56	1560	62
C	770	31	850	34
D	600	24	600	24
E	150	6	150	6
F	1720	68	1720	68
G	1470	58	1470	58
H	965	38	965	38
K	235	9	320	13
L	1435	57	1520	60



VHF-3



UNITED STATES REPRESENTATIVES'

STANLEY SHEPPARD

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