



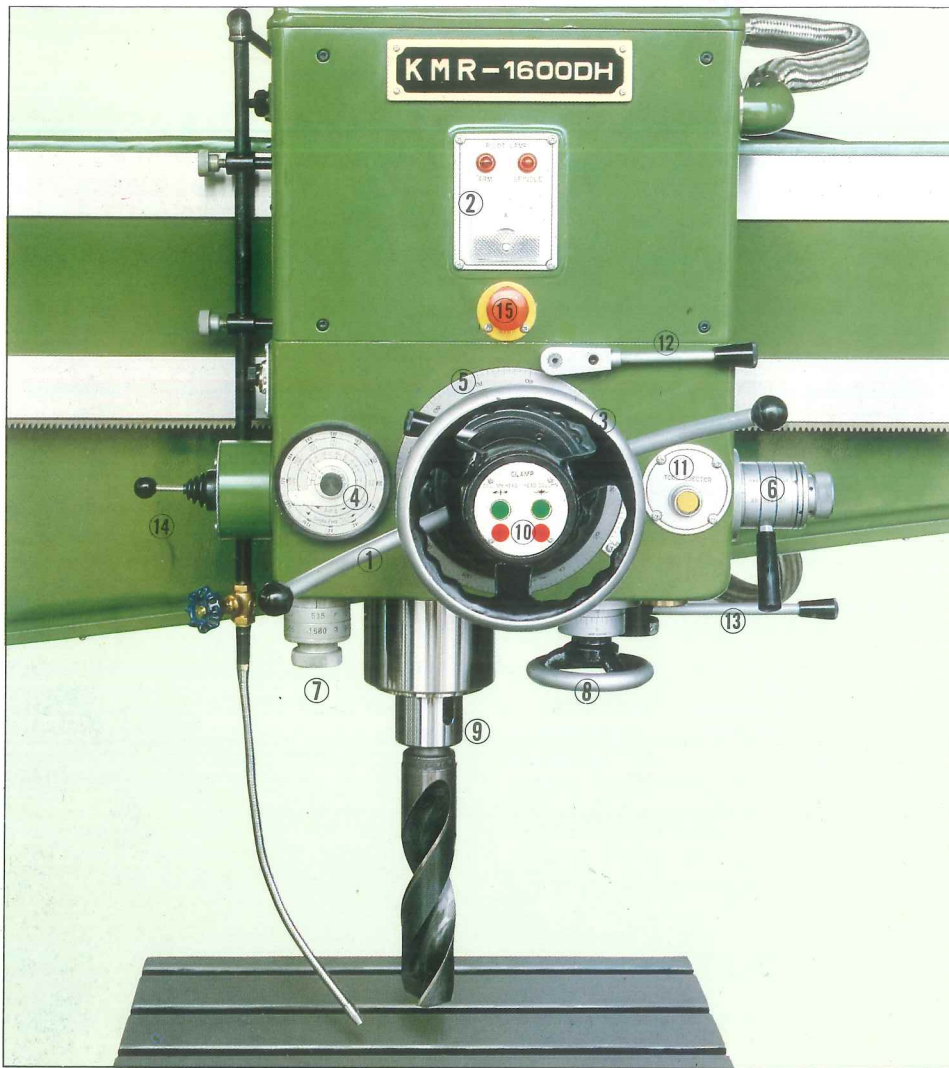
HYDRAULIC RADIAL DRILLS



RADIAL DRILLS



No. 3151



- ① Automatic/manual feed operating lever
- ② Ammeter
- ③ Spindle head transverse shifting handle
- ④ Spindle speed/feed rate rough estimate chart
- ⑤ Feed dial plate
- ⑥ Spindle feed rate change handle
- ⑦ Spindle speed change handle
- ⑧ Precision manual feed handle
- ⑨ Spindle
- ⑩ Spindle head/column clamp push button
- ⑪ Drill ejecting push button
- ⑫ Clutch handle for spindle feed
- ⑬ Clutch handle for normally and reversely operating and stopping spindle
- ⑭ Switch for elevating arm and normally and reversely operating and stopping main motor
- ⑮ Emergency off button



RELEASE

In case of centering with a working material or connecting/disconnecting a drill, the hydraulic pressure is applied by depressing a button for release and the clutch of the spindle driving gear is disconnected, so that the spindle can be released very lightly.

DESCRIPTION ON SPINDLE HEAD

For operating the spindle head, a front-concentrated operation system of handles, push-buttons, etc. is employed from the standpoint of the operator, so that work is facilitated and efficiency can be improved.

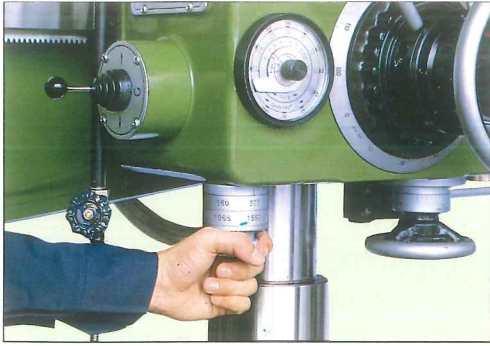
An hydraulic pressure pre-selection system is employed for changing the spindle speed in 12 stages, and together with the change of feed rate in 12 stages is suitable for a wide range of work.

In addition to using SCM4 as the material of spindle to work under higher torque, as a multiple disc clutch is employed for starting and stopping the spindle, normal and reverse operations can be repeated smoothly and powerfully.

In addition to this, as the safety clutch is employed, the machine is fully protected against overload during work.

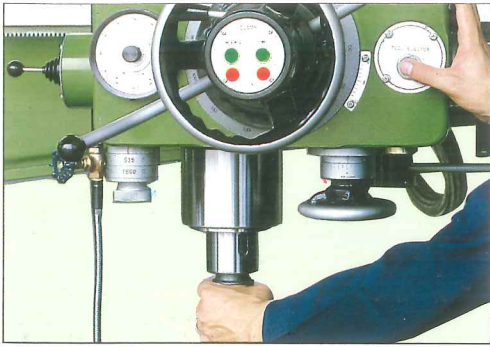


KMR-1600DH



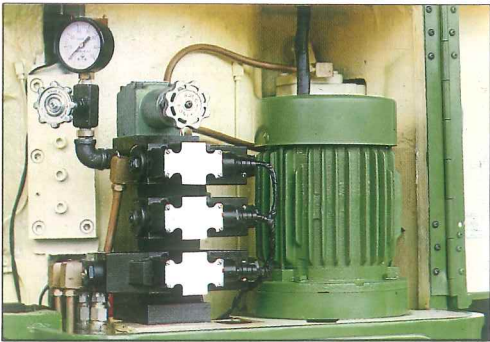
PRE-SELECTION

If the rotational frequency necessary for the next work is set during drilling work, it can automatically be changed by turning a lever. Radial drilling machines KMR-1600 D.H. /KMR-1250 D.H. are fullscale ones which improve working efficiency and can be easily operated by anyone.



TOOL EJECTOR

A tool can be easily replaced simply by operation of a push-button. Not only does it remarkably improve working efficiency during tool replacement but the high accuracy of the machine can be maintained for a long period without damaging the spindle or reducing the accuracy of bearing sections.



HYDRAULIC CLAMP SYSTEM

A hydraulic clamp system more powerful and speedier than an electric clamp system is employed. Powerful and speedy tightening and loosening can be performed by hydraulic operation.

As tightening and loosening of the column sleeve and the spindle head can be performed continuously or separately by operation of the hydraulic, positioning work is facilitated, this is advantageous above all for boring work.



GEAR BOX

Besides using SCM as the material of gears, KAO MING also grind them precisely after carburizing hardening to increase the surface strength of the teeth considerably and guarantee high durability and reliability.

KMR-1600DH. KMR-1250DH FEATURES:

- The spindle can be released to rotate lightly while centering a working piece.
- Pre-selection system.
- Hydraulic control system in gear box.
- Quick hydraulic clamping of head, arm and column.
- Automatic feed.
- Feed safety device against overload.
- Centralized control easy to operate.
- High precision and efficiency.
- Tool ejector.

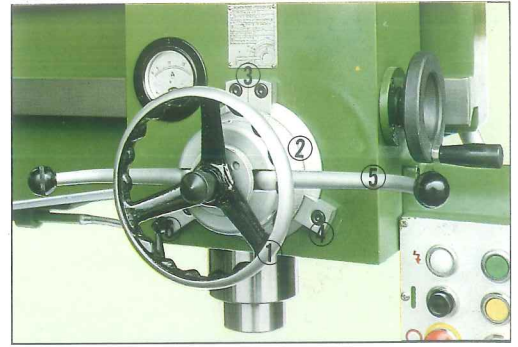


KMR-1250DH



PRECISION DRILLING OF PREDETERMINED DEPTH:

A fine adjusting device and a set stop are provided in the horizontal shaft feed mechanism for obtaining predetermined depth drilling operation with high precision so as to ensure uniformity of depth of holes drilled.



SPINDLE HEAD:

- ① Head moving hand-wheel
- ② Scall Ring
- ③ Automatic stop point
- ④ Revolution starting point
- ⑤ Feed lever
- ⑥ Fixing lever



9 STEPS OF SPINDLE SPEED:

49 R.P.M. to 1524 R.P.M. changes can be made by aligning the lever with the desired speed mark.

ONE LEVER CONTROL:

The control lever guides all functions for maximum output and ease of handling.



ARM CLAMPING & ADJUSTING:

- ① Arm clamping lever
- ② Adjusted bolt
- ③ Adjusted bolt
- ④ Release
- ⑤ Tighten



HIGH RIGIDITY & DURABILITY:

High grade cast iron is used in all main castings and with ribs to provide the rigidity & durability of the machine so the stability during heavy drilling is ensured.

KMR-1100S. KMR-980S FEATURES:

- All lubricated automatically in gear box.
- Double tube column.
- Setting depth of drilling.
- High precision.
- 9 stages of speed.
- Feed safety device.

KMR-1100H FEATURES:

- Quick hydraulic clamping of head, arm and column.

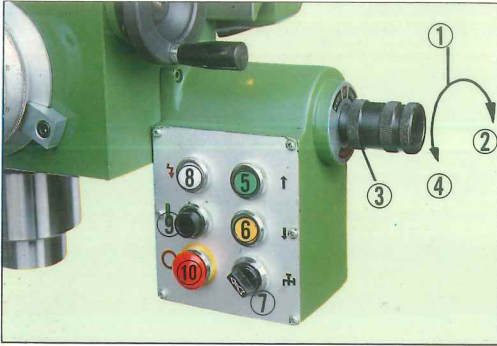
KMR-700DS FEATURES:

- Convenient for work.
- Easy to operate.
- Setting depth of drilling.
- Automatic feed.
- High precision and efficiency.



KMR-1100S-1100H

RADIAL DRILLS



CENTRALIZED CONTROLS:

- ① Stop
- ② Forward
- ③ Spindle switch
- ④ Reverse
- ⑤ Button for elevating arm
- ⑥ Button for lowering arm
- ⑦ Cooling Pump
- ⑧ Pilot lamp
- ⑨ Start switch
- ⑩ Stop switch



*** STANDARD ACCESSORIES**

TOOLS	1 SET
DRILLING OIL PUMP	1 SET
TABLE	1 SET

KMR 1600DH: 500 x 650 x 400 (19-11/16" x 25-19/32" x 15-3/4")
KMR 1250DH: 500 x 650 x 400 (19-11/16" x 25-19/32" x 15-3/4")
KMR 1100S-1100H: 500 x 650 x 400 (19-11/16" x 25-19/32" x 15-3/4")
MKR 980S: 405 x 530 x 405 (15-15/16" x 20-7/8" x 15-15/16")
KMR 700DS: 405 x 530 x 405 (15-15/16" x 20-7/8" x 15-15/16")

SPEED CHANGING:

- ① High or low speed-two stages lever:
High speed on pull
Low speed on push
- ② Three stages speed change lever:
High speed on pull
Low speed on center
Middle speed on push



KMR-980S



KMR-700DS

RADIAL DRILLS

SPECIFICATION/OVERALL DIMENSION:

X.M.L.

MODEL		KMR-1600DH	KMR-1250DH	KMR-1100S 1100H	KMR-980S	KMR-700DS	
Distance between spindle center and column center	Max. (A)	1795 (70 $\frac{1}{2}$ "')	1425 (56 $\frac{1}{8}$ "')	1250 (49 $\frac{1}{4}$ "')	1095 (43 $\frac{1}{8}$ "')	810 (31 $\frac{1}{8}$ "')	
	Min. (B)	565 (22 $\frac{1}{4}$ "')	535 (21 $\frac{1}{8}$ "')	505 (19 $\frac{1}{8}$ "')	415 (16 $\frac{1}{2}$ "')	290 (11 $\frac{1}{2}$ "')	
Distance between spindle center and column face	Max. (C)	1600 (63"')	1250 (49 $\frac{1}{2}$ "')	1100 (43 $\frac{5}{8}$ "')	980 (38 $\frac{5}{8}$ "')	710 (28"')	
	Min. (D)	370 (14 $\frac{3}{8}$ "')	360 (14 $\frac{1}{8}$ "')	355 (14"')	300 (11 $\frac{1}{8}$ "')	190 (7 $\frac{1}{2}$ "')	
Distance of spindle to base surface	Max. (F)	1570 (61 $\frac{3}{8}$ "')	1390 (54 $\frac{3}{8}$ "')	1265 (49 $\frac{3}{8}$ "')	1100 (43 $\frac{3}{8}$ "')	1065 (41 $\frac{1}{8}$ "')	
	Min. (G)	435 (17 $\frac{1}{8}$ "')	390 (15 $\frac{3}{8}$ "')	345 (13 $\frac{3}{8}$ "')	290 (11 $\frac{1}{8}$ "')	320 (12 $\frac{3}{8}$ "')	
Column diameter	(J)	390 (15 $\frac{3}{8}$ "')	350 (13 $\frac{3}{4}$ "')	300 (11 $\frac{1}{8}$ "')	230 (9"')	200 (7 $\frac{7}{8}$ "')	
Height of column	(K)	2991 (117 $\frac{3}{4}$ "')	2685 (105 $\frac{3}{8}$ "')	2108 (83"')	1948 (76 $\frac{1}{8}$ "')	1966 (77 $\frac{1}{2}$ "')	
Max. height from spindle head to base	(L)	3341 (131 $\frac{1}{2}$ "')	3075 (121 $\frac{1}{8}$ "')	2503 (98 $\frac{1}{2}$ "')	2363 (93 $\frac{1}{2}$ "')	2166 (85 $\frac{1}{2}$ "')	
Base floor space	(M x N)	2400 x 950 (94 $\frac{1}{2}$ "' x 37 $\frac{3}{8}$ "')	2035 x 840 (80 $\frac{5}{8}$ "' x 33"')	1880 x 780 (74" x 30 $\frac{3}{4}$ "')	1615 x 700 (63 $\frac{5}{8}$ "' x 27 $\frac{1}{4}$ "')	1250 x 650 (49 $\frac{1}{2}$ "' x 25 $\frac{1}{2}$ "')	
Floor space		2735 x 1250 (107 $\frac{1}{8}$ "' x 49 $\frac{1}{4}$ "')	2335 x 1140 (91 $\frac{3}{8}$ "' x 44 $\frac{3}{4}$ "')	2080 x 980 (81 $\frac{3}{8}$ "' x 38 $\frac{3}{8}$ "')	1800 x 900 (70 $\frac{3}{8}$ "' x 35 $\frac{3}{8}$ "')	1730 x 1080 (68 $\frac{1}{8}$ "' x 42 $\frac{1}{2}$ "')	
Height of base	(T)	230 (9 $\frac{1}{8}$ "')	188 (7 $\frac{3}{8}$ "')	170 (6 $\frac{3}{8}$ "')	160 (6 $\frac{1}{8}$ "')	145 (5 $\frac{3}{4}$ "')	
Spindle head longitudinal travel		1230 (48 $\frac{3}{8}$ "')	890 (35"')	745 (29 $\frac{3}{4}$ "')	680 (26 $\frac{3}{8}$ "')	520 (20 $\frac{1}{2}$ "')	
Vertical arm travel		835 (32 $\frac{3}{8}$ "')	700 (27 $\frac{1}{8}$ "')	700 (27 $\frac{1}{8}$ "')	590 (23 $\frac{1}{4}$ "')	535 (21 $\frac{1}{8}$ "')	
Spindle travel	(H)	300 (11 $\frac{3}{4}$ "')	300 (11 $\frac{3}{4}$ "')	220 (8 $\frac{5}{8}$ "')	220 (8 $\frac{5}{8}$ "')	210 (8 $\frac{1}{4}$ "')	
Spindle diameter	Quill/Spindle	105/80 (4 $\frac{1}{8}$ "'/3 $\frac{1}{8}$ "')	105/80 (4 $\frac{1}{8}$ "'/3 $\frac{1}{8}$ "')	80/70 (3 $\frac{3}{8}$ "'/2 $\frac{3}{4}$ "')	80/70 (3 $\frac{3}{8}$ "'/2 $\frac{3}{4}$ "')	68/68 (2 $\frac{1}{8}$ "'/2 $\frac{1}{8}$ "')	
Morse taper in spindle	M.T.	No. 5	No. 5	No. 4	No. 4	No. 4	
Work area of base		1643 x 930 (64 $\frac{1}{8}$ "' x 36 $\frac{3}{8}$ "')	1393 x 820 (54 $\frac{3}{8}$ "' x 32 $\frac{3}{8}$ "')	1260 x 760 (49 $\frac{3}{8}$ "' x 29 $\frac{3}{8}$ "')	1055 x 680 (41 $\frac{1}{2}$ "' x 26 $\frac{3}{8}$ "')	893 x 630 (35 $\frac{3}{8}$ "' x 24 $\frac{3}{8}$ "')	
Motor for main spindle	kw	5.5 (7.5HP)	3.7 (5HP)	2.2 (3HP)	2.2 (3HP)	1.5 (2HP)	
Motor for arm elevating	kw	1.5 (2HP)	1.5 (2HP)	1.5 (2HP)	0.75 (1HP)	0.75 (1HP)	
Motor for clamping device	kw	0.75 (1HP)	0.75 (1HP)	0.75 (1HP) * *	-	-	
Spindle feed ranges	mm ("')/rev	0.06-1.12mm (0.0023-0.044"')	0.06-1.12mm (0.0023-0.044"')	0.1-0.35mm (0.003-0.0137"')	0.1-0.22-0.35mm (0.003-0.0066 -0.0137"')	0.07-0.13-0.22mm (0.003-0.0052 -0.009"')	
	Steps	12	12	3	3	3	
Spindle speed ranges	(60Hz) r.p.m.	30-1580	30-1580	49-1524	49-1524	88-1500	
	(50Hz) r.p.m.	25-1310	25-1310	41-1270	41-1270	75-1250	
	Steps	12	12	9	9	6	
Working capacity	Drilling	Cast Iron/Steel (FC20/S45C)	66/56 (2 $\frac{5}{8}$ "'/2 $\frac{1}{4}$ "')	60/50 (2 $\frac{3}{8}$ "'/2"')	55/45 (2 $\frac{1}{8}$ "'/1 $\frac{3}{4}$ "')	54/42 (2 $\frac{1}{8}$ "'/1 $\frac{1}{8}$ "')	50/38 (2"'/1 $\frac{1}{2}$ "')
	Boring		186/126 (7 $\frac{3}{8}$ "'/5"')	180/120 (7"'/4 $\frac{3}{4}$ "')	150/100 (6"'/4"')	120/80 (4 $\frac{3}{4}$ "'/3 $\frac{3}{8}$ "')	105/70 (4 $\frac{1}{8}$ "'/2 $\frac{3}{4}$ "')
	Tapping		60/50 (2 $\frac{3}{8}$ "'/2"')	60/50 (2 $\frac{3}{8}$ "'/2"')	38/25 (1 $\frac{1}{2}$ "'/1"')	38/25 (1 $\frac{1}{2}$ "'/1"')	22/16 (7 $\frac{1}{8}$ "'/5 $\frac{1}{8}$ "')
Net weight	kg/lbs	4790 (10557)	3460 (7626)	2375 (5235)	1710 (3769)	1160 (2557)	
Gross weight	kg/lbs	5050 (11130)	3780 (8331)	2675 (5896)	1910 (4210)	1290 (2843)	
Measurement	in.	108 x 46 x 117	88.5 x 39 x 100	81 x 41 x 93	69.5 x 36 x 87	55 x 31 x 77	

* Design and specifications are subject to change without notice.

* * 1100H



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