

KMR series

HYDRAULIC RADIAL DRILLS

KAO MING MACHINERY INDUSTRIAL CO., LTD.

HYDRAULIC RADIAL DRILLS



KMR-700DS

MACHINE FEATURES

- Convenient for Working Operations
- Easy to Operate
- Drilling Depth Setting
- Automatic Feed
- High Precision and Great Efficiency



KMR-1100S

MACHINE FEATURES

- Gearbox with automatic lubrication
- Double tube column
- Drilling depth setting
- High precision
- 9 stages of speed
- Safety feeding device



KMR-1250DH

MACHINE FEATURES

- Spindle can be released to slightly rotate during workpiece centering
- Pre-selection system
- Gearbox controlled by hydraulic system
- Quick hydraulic clamping system for head, arm and column
- Automatic feed
- Safety feeding device against overload
- Centralized control for easy operations
- High precision and great efficiency
- Tool ejector

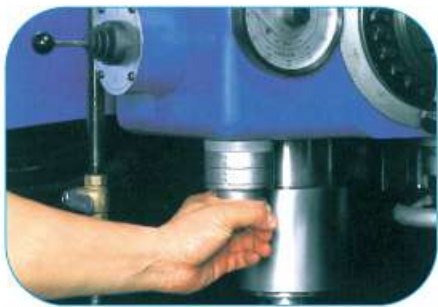


KMR-1600DH

MACHINE FEATURES

- Spindle can be released to slightly rotate during workpiece centering
- Pre-selection system
- Gearbox controlled by hydraulic system
- Quick hydraulic clamping system for head, arm and column
- Automatic feed
- Safety feeding device against overload
- Centralized control for easy operations
- High precision and great efficiency
- Tool ejector

SPINDLE HEAD DESCRIPTION



PRE-SELECTION (for KMR-DH)

If the rotational frequency necessary for the next work is set during drilling process, it can automatically be changed by turning a lever. Radial drilling machines KMR-1600D.H/KMR-1250D.H are full-scale machines that improve working efficiency while being easy to operate.



TOOL EJECTOR (for KMR-DH)

A tool can be easily replaced by simply pushing a button. It remarkably improves working efficiency during tool replacement and maintains high accuracy for a long period of time without damaging the spindle or bearing sections.



RELEASE (for KMR-DH)

In case of working material centering or drill connection/disconnection, a hydraulic pressure can be applied by depressing the button for release. Then, the clutch of the spindle driving gear will be disconnected to easily release the spindle.



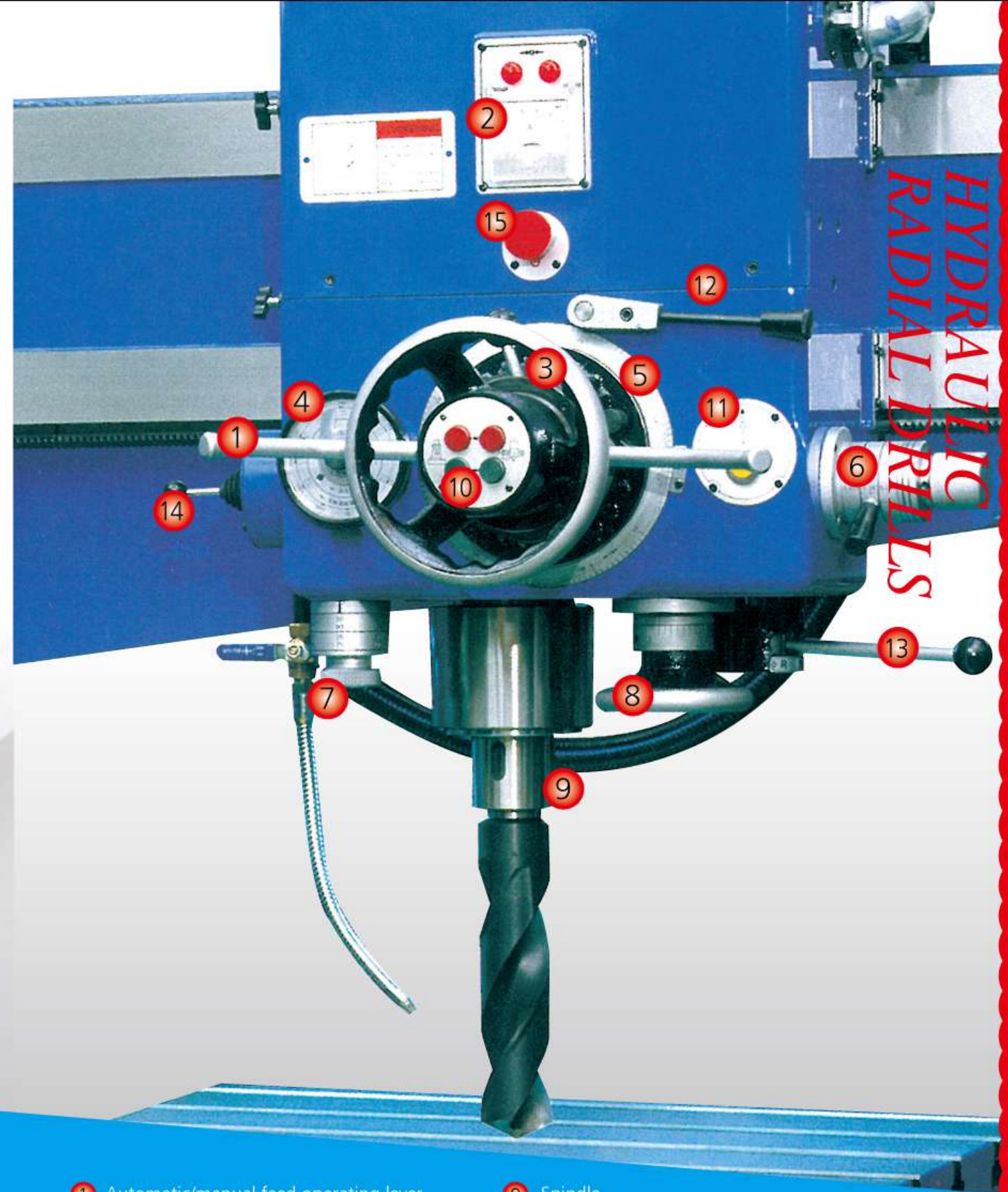
HYDRAULIC CLAMPING SYSTEM (for KMR-DH)

This machine is equipped with a hydraulic clamping system, which is faster and more powerful than conventional electric system. Tightening and loosening operations of the column sleeve and spindle head can be performed continuously or separately with hydraulic system. Positioning is greatly facilitated and represents a significant advantage for boring operations.



GEARBOX (for KMR-DH)

Besides using SCM as material for gears, KAOMING also grinds them precisely after carburized hardening process to increase the strength of teeth surface. It guarantees high durability and reliability.



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For operating the spindle head, a front operation system made with compact handles & push buttons can be used from the standpoint of the operator, facilitating working process while improving efficiency. A pre-selected hydraulic pressure system is set for changing the spindle speed through 12 stages in coordination with the feed rate for a wide range of applications. In addition, spindle is built with SCM4 material for high torque capabilities. A multiple disc clutch allows for starting and stopping the spindle in order to repeat normal and reverse operations smoothly. Finally, a safety clutch fully protects the machine against overload issue.

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

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HIGH RIGIDITY & DURABILITY

High-grade cast iron is used for the main machine parts. Reinforced with ribs, it provides the rigidity, durability and stability required for heavy drilling.
(KMR-1600DH/1250DH/1100S)



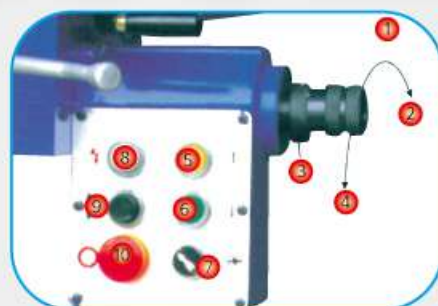
SPEED CHANGE (for KMR-700DS)

1. High or low speed lever (2 stages)

Pull for high speed
Push for low speed

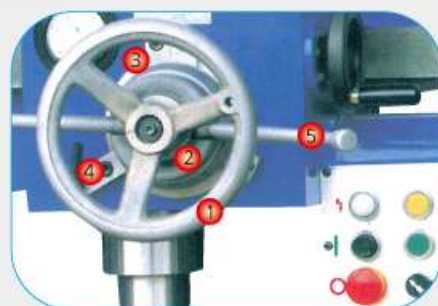
2. Speed change lever (3 stages)

Pull for high speed
Center for low speed
Push for middle speed



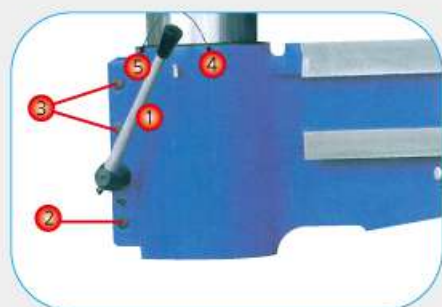
CENTRALIZED CONTROL (for KMR-700DS)

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



SPINDLE HEAD (for KMR-700DS)

1. Head moving hand-wheel
2. Scale ring
3. Automatic stop point
4. Revolution starting point
5. Feed lever
- Fixing lever



ARM CLAMPING & ADJUSTING (for KMR-700DS)

1. Arm clamping lever
2. Adjusting bolt
3. Adjusting bolt
4. Release
5. Tighten



PRECISION DRILLING FOR DEFINED DEPTH (for KMR-1100S)

A fine adjusting device with a set stop is provided in the horizontal shaft feed mechanism for obtaining high precision drilling operation for a defined depth. This is to ensure uniform depth of drilled holes.



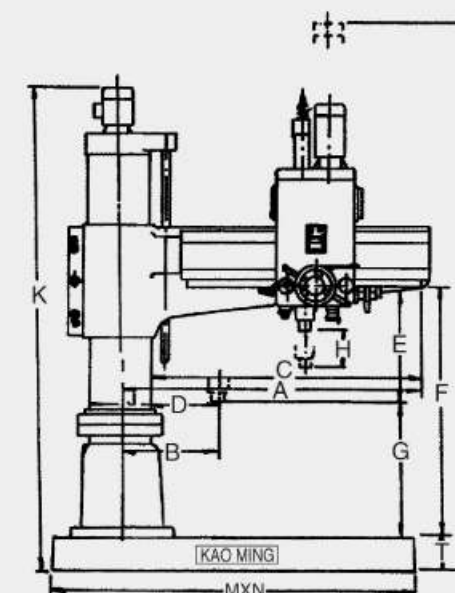
9 STAGES OF SPINDLE SPEED (for KMR-1100S)

Speed can be changed from 49 rpm to 1524 rpm by simply aligning the lever with the designed speed mark.

ONE CONTROL LEVER

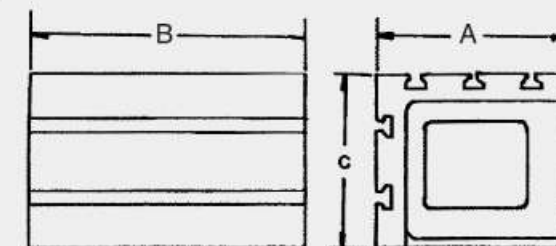
The control lever guides all functions for maximum output and ease of use.

MACHINE DIMENSIONAL:



STANDARD ACCESSORIES

- Tools 1 set
- Drilling oil pump 1 set
- Table 1 set



KMR-1600DH: 500 x 750 x 400 (19-11/16" x 29-17/32" x 15-3/4")

KMR-1250DH: 500 x 750 x 400 (19-11/16" x 29-17/32" x 15-3/4")

KMR-1100S: 500 x 750 x 400 (19-11/16" x 29-17/32" x 15-3/4")

KMR-700DS: 405 x 530 x 405 (15-15/16" x 20-7/8" x 15-15/16")

DRILLING CUTTING EXAMPLE

(KMR-1600DH)

	Max. Diameter	Workpiece Material	Spindle Speed	Feedrate
DRILLING	Ø60 mm	S45C	30 rpm	1.12 mm/min
BORE HOLE	Ø200	S45C	360 rpm	0.8 mm/min
TAPPING	M50*P1.5	S45C	30 rpm	

HYDRAULIC RADIAL DRILLS SPECIFICATION

MODEL		KMR-1600DH	KMR-1250DH	KMR-1100S	KMR-700DS
Distance Between Spindle Center and Column Center	Max.(A) Min.(B)	1795 (70 21/32") 565 (22 1/4")	1425 (56 1/8") 535 (21 1/16")	1250 (49 1/4") 505 (19 7/8")	810 (31 7/8") 290 (11 13/32")
Distance Between Spindle Center and Column Face	Max.(C) Min.(D)	1600 (63") 370 (14 9/16")	1250 (49 7/32") 360 (14 1/8")	1100 (43 5/16") 355 (14")	710 (28") 190 (7 15/32")
Distance from Spindle to Base Surface	Max.(F) Min.(G)	1570 (61 13/16") 435 (17 1/8")	1390 (54 23/32") 390 (15 11/32")	1265 (49 13/16") 345 (13 9/16")	1065 (41 15/16") 320 (12 19/32")
Column Diameter	(J)	390 (15 3/8")	350 (13 3/4")	300 (11 13/16")	200 (7 7/8")
Column Height	(K)	2991 (117 3/4")	2685 (105 23/32")	2108 (83")	1966 (77 13/32")
Max. Height from Spindle Head to Base	(L)	3341 (131 17/32")	3075 (121 1/16")	2503 (98 17/32")	2166 (85 9/32")
Base Floor Space	(M×N)	2400 × 950 (94 1/2" × 37 3/8")	2035 × 840 (80 1/8" × 33")	1880 × 780 (74" × 30 3/4")	1250 × 650 (49 7/32" × 25 19/32")
Floor Space		2735 × 1250 (107 11/16" × 49 1/4")	2335 × 1140 (91 7/8" × 44 7/8")	2080 × 980 (81 7/8" × 38 9/16")	1730 × 1080 (68 1/8" × 42 1/2")
Base Height	(T)	230 (9 1/16")	188 (7 3/8")	170 (6 11/16")	145 (5 3/4")
Spindle Head Longitudinal Travel		1230 (48 7/16")	890 (35")	745 (29 3/4")	520 (20 15/32")
Vertical Arm Travel		835 (32 7/8")	700 (27 9/16")	700 (27 9/16")	535 (21 1/16")
Spindle Travel	(H)	300 (11 3/4")	300 (11 3/4")	220 (8 5/8")	210 (8 1/4")
Spindle Diameter	Quill/Spindle	105/80 (4 1/8"/3 1/8")	105/80 (4 1/8" / 3 1/8")	80/70 (3 3/16" / 2 3/4")	68/68 (2 11/16" / 2 11/16")
Morse Taper In Spindle	M.T.	NO.5	NO.5	NO.4	NO.4
Base Work Area		1643 × 930 (64 11/16" × 36 5/8")	1393 × 820 (54 27/32" × 32 9/32")	1260 × 760 (49 5/8" × 29 7/8")	893 × 630 (35 5/32" × 24 13/16")
Main Spindle Motor	Kw	5.5 (7.5HP)	3.7 (5HP)	2.2 (3HP)	1.5 (2HP)
Arm Elevating Motor	kw	1.5 (2HP)	1.5 (2HP)	1.5 (2HP)	0.75 (1HP)
Clamping Device Motor	kw	0.75 (1HP)	0.75 (1HP)	-	-
Spindle Feed Range	mm"/rev	0.06 - 1.12 mm (0.0023 - 0.044")	0.06 - 1.12 mm (0.0023 - 0.044")	0.1 - 0.35 mm (0.003 - 0.0137")	0.07 - 0.13 - 0.22 mm (0.003 - 0.0052 - 0.009")
	Steps	12	12	3	3
Spindle Speed Range	(60HZ)r.p.m	30 - 1580	30 - 1580	49 - 1524	88 - 1500
	(50HZ)r.p.m	25 - 1310	25 - 1310	41 - 1270	75 - 1250
	Steps	12	12	9	6
Working Capacity	Drilling	66 / 56 (2 5/8" / 2 1/4")	60 / 50 (2 3/8" / 2")	55 / 45 (2 1/4" / 1 3/4")	50 / 38 (2" / 1 1/2")
	Boring	186 / 126 (7 3/8" / 5")	180 / 120 (7" / 4 3/4")	150 / 100 (6" / 4")	105 / 70 (4 1/8" / 2 3/4")
	Tapping	60 / 50 (2 3/8" / 2")	60 / 50 (2 3/8" / 2")	38 / 25 (1 1/2" / 1")	22 / 16 (7/8" / 5/8")
Net Weight	kg/lbs	4790 (10557)	3460 (7626)	2375 (5235)	1160 (2557)
Gross Weight	kg/lbs	5050 (11130)	3780 (8331)	2675 (5896)	1290 (2843)
Dimensions	in.	108 × 46 × 117	88.5 × 39 × 100	81 × 41 × 93	55 × 31 × 77

○ Specifications and design characteristics are subject to change without prior notice.



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