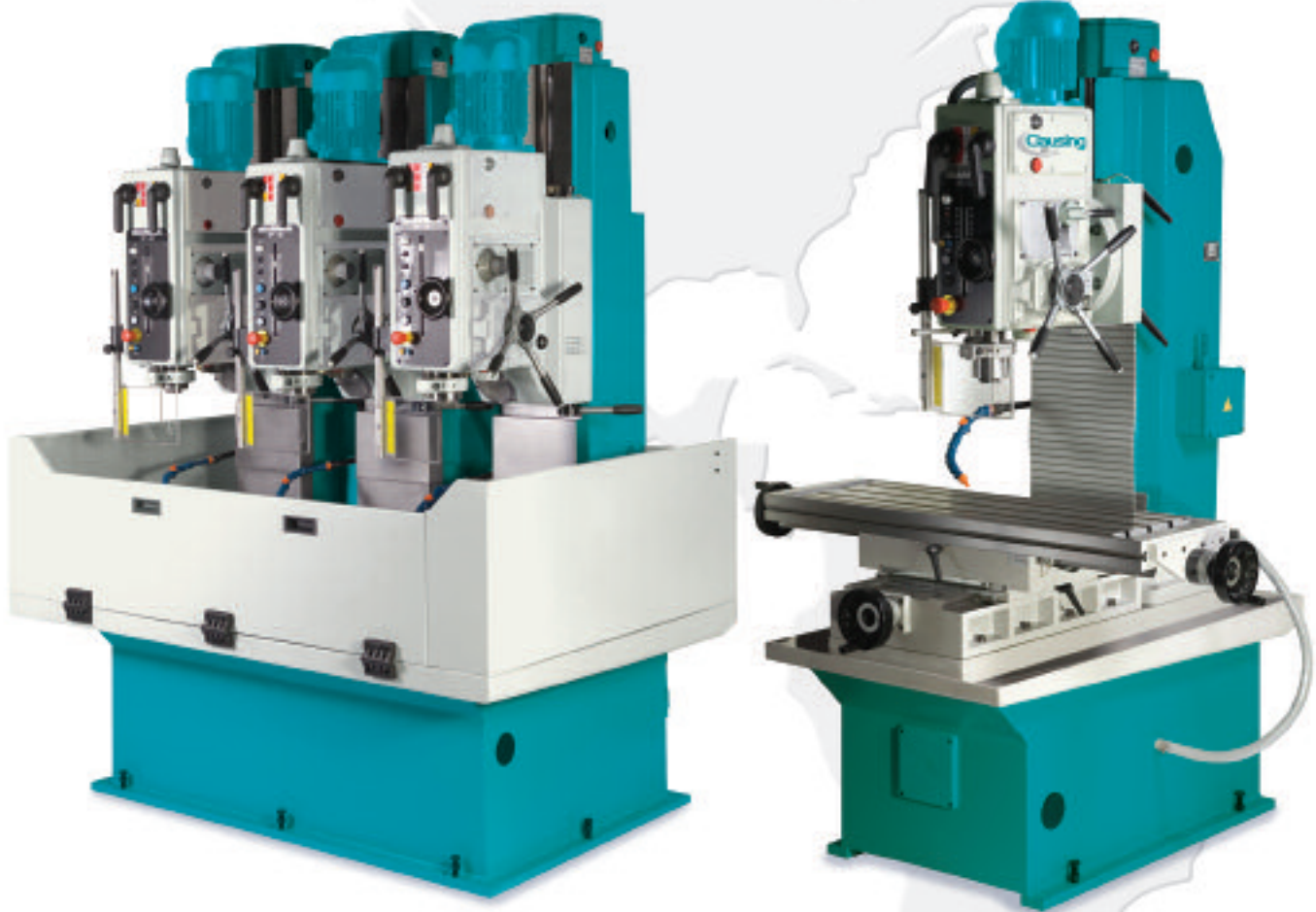




**IBARMIA**

*A Line of Precision, High Performance  
Geared-drive Prismatic-column Drills*



**Models with Autofeed Reversing Systems  
for Tapping Standard**

# Series F Geared-drive Prismatic-column Drills

*With Electromagnetic Clutch  
Automatic Feed Control*

The F series Industrial Drilling Machine is equipped with standard features that allow a wide range of drilling/milling applications. The rotating head, rotates 45° left or right, gives even more machining flexibility.

## Standard Features and Equipment:

- Drilling capacity in steel: 1.38" (35mm) maximum
- Drilling capacity in cast iron: 1.57" (40mm) maximum
- Milling capacity in steel: 1.80" (45mm) maximum
- Milling capacity in cast iron: 3.20" (80mm) maximum
- Tapping capacity in steel: 1.18" (30mm) maximum
- Tapping capacity in cast iron: 1.30" (33mm) maximum
- 18 spindle speeds
- Automatic feed reversing system for tapping on "RS" models
- Adjustable vertical position of head by geared-motor
- Head rotates 45° left or right of center
- Large worktable with 3 T-slots
- Hardened and ground high quality steel gears
- Gear box lubrication by automatic pump
- Guide ways lubricated by manual pump
- Speed plate and selecting levers on front of head
- High/low speed range selector
- Coolant tank and pump in machine base
- Co-ordinate cross slide table
- Automatic feed and cut-off by electromagnetic clutch
- Work light
- Front hand wheel for fine feed work
- Depth scale and adjustable depth stop
- Built-in low voltage electrical equipment in column rear
- Emergency STOP
- Spindle turn selection switch
- Drill guard with microswitch

## Optional Equipment:

- 50% lower feed range
- Digital read-out system for table
- Electronic SERVO feed unit X/Y axes
- Quick tool change nut for ISO-30
- Cross slide table
- Cycle start foot pedal • Foot pedal for reversing
- Worklight with magnetic base
- Coolant system with independent container



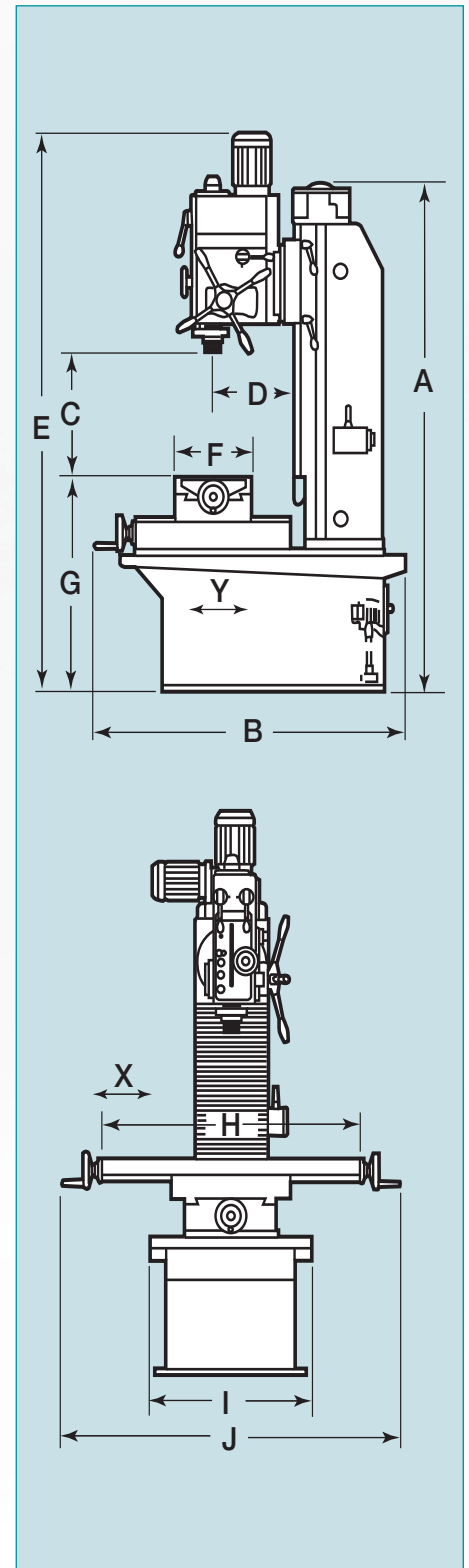
**BF-35**



*Rotating machine head, rotates 45° left or right, for a wide range of machining applications.*

# Capacities, Specifications and Dimensions

Standard Models Auto feed reversing for tapping Models	BF-35 BF-35RS
<b>Capacities:</b>	
Maximum drilling capacity in steel	1.38" (35mm)
Maximum drilling capacity in cast iron	1.57" (40mm)
Maximum milling capacity in steel	1.80" (45mm)
Maximum milling capacity in cast iron	3.20" (80mm)
Maximum tapping capacity in steel	1.18" (30mm)
Maximum tapping capacity in cast iron	1.3" (33mm)
<b>Specifications:</b>	
Spindle taper	ISO-30
Optional spindle taper (on request)	4MT
Quill diameter	2.95" (75mm)
Spindle travel (drilling depth)	7.87" (200mm)
Main motor power	1.5/2 Hp (1.1/1.5Kw)
Coolant pump motor power	.12 Hp (.09Kw)
Head geared-motor power	.1 Hp (.07Kw)
Number of speed (see speed charts)	18
Number of automatic feeds	3
Auto feed range in./rev. (mm/rev.)	.0039/.0079/.118 (.1/.2/.3)
<b>Dimensions and Weights</b>	
Height (A)	81.9" (2130mm)
Overall length (B)	57.1" (1450mm)
Spindle to table (C)	
Minimum	0"
Maximum	23.23" (590mm)
Spindle center to column (D)	15.08" (383mm)
Maximum head height (E)	94.5" (2400mm)
Worktable width (F)	14.17" (360mm)
Worktable height (G)	35.43" (900mm)
Worktable length (H)	47.24" (1200mm)
Base width (I)	29.53" (750mm)
Overall width (J)	61.81" (1570mm)
X travel	27.56" (700mm)
Y travel	14.17" (360mm)
Net weight	2,756 lbs (1250Kg)
Shipping weight	3,197 lbs (1450Kg)
Shipping dimension (length x width x height)	67" x 67" x 95" (1.7x1.7x2.4m)



“RS” models are equipped with automatic feed reversing system for tapping.

## Standard motor: 1800/3600 rpm

Model	Spindle speeds (rpm)
BF-35	95-135-190-267-380-534-750-1065-1500 190-270-380-534-760-1070-1500-2130-3000

# Series P Geared-drive Prismatic-column Drills

## *With Electromagnetic Clutch Automatic Feed Control*

The P series Industrial Drilling Machines are built with an extra heavy-duty base and worktable to handle large and heavy work pieces.

### Standard Features and Equipment:

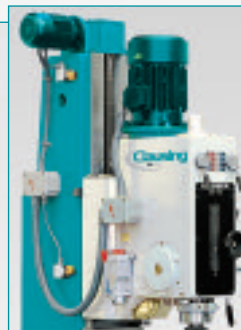
- Drilling capacity in steel: 2.75" (70mm) maximum
- Drilling capacity in cast iron: 3.14" (80mm) maximum
- Tapping capacity in steel: 2.51" (64mm) maximum
- Tapping capacity in cast iron: 2.68" (68mm) maximum
- Automatic feed reversing system for tapping on "RS" models
- Adjustable vertical position of head by geared-motor
- Large worktable with 3 T-slots
- Hardened and ground high quality steel gears
- Gear box lubrication by automatic pump
- Guide ways lubricated by manual pump
- Speed plate and selecting levers on front of head
- Coolant tank and pump in machine base
- Automatic feed and cut-off by electromagnetic clutch
- Work light
- Front hand wheel for fine feed work
- Depth scale and adjustable depth stop
- Built-in low voltage electrical equipment in column rear
- Emergency STOP
- Automatic tool ejector
- Forward and reverse turn push buttons
- Drill guard with microswitch

### Optional Equipment:

- Automatic pitch control tapping with single speed brake motor
- Automatic pitch control tapping with pneumatic rapid approach
- Master guide spindle and nut set for automatic pitch control tapping
- Pneumatic counterbalance with rapid approach and retract
- Pneumatic counterbalance with rapid approach and retract for tube and and profile drilling
- Pneumatic counterbalance with rapid approach and retract with pitch controlled tapping
- 50% lower feed range
- Mechanical spotface device
- Pneumatic counterbalance
- Multi-spindle head guide rod
- Union, dragging cone and assembly for multi-spindle head
- START-STOP and emergency STOP pendent control
- Pendant control panel with all functions
- Cross slide table
- ISO-40 spindle with quick change nut (models BP-40,50,70)
- ISO-50 spindle with quick change nut (models BP-70 only)



**BP-70L**



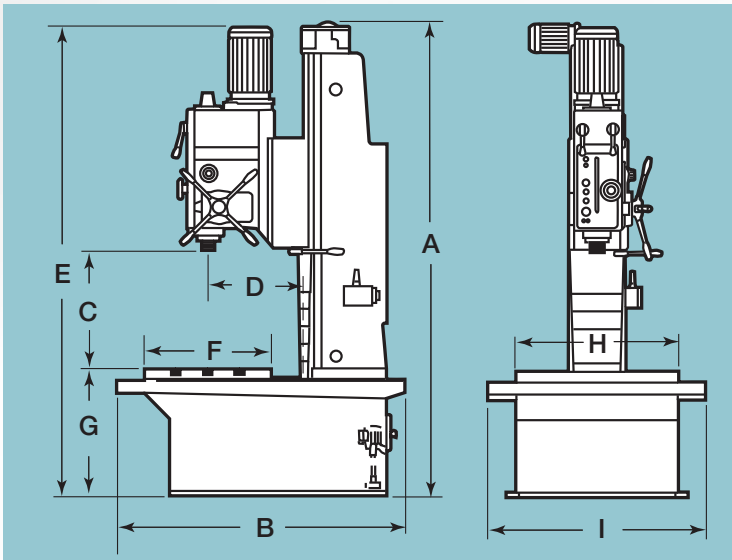
All Series P models are supplied with side protection panels with front doors except those equipped with a cross table.



View of left side of machine head showing lifting equipment, stroke microswitches and automatic lubrication pump for the guides.

# Capacities, Specifications and Dimensions

Standard Models Auto feed reversing for tapping Models	BP-40 BP-40RS	BP-50/50L BP-50RS/50LRS	BP-70/70L BP-70RS/70LRS
<b>Capacities:</b>			
Maximum drilling capacity in steel	1.57" (40mm)	1.97" (50mm)	2.76" (70mm)
Maximum drilling capacity in cast iron	1.97" (50mm)	2.36" (60mm)	3.14" (80mm)
Maximum tapping capacity in steel	1.30" (33mm)	1.65" (42mm)	2.51" (64mm)
Maximum tapping capacity in cast iron	1.57" (40mm)	1.97" (50mm)	2.68" (68mm)
<b>Specifications:</b>			
Spindle taper	4MT	4MT	5MT
Spindle taper (optional upon request)	ISO-30	ISO-40	ISO-40/50
Quill diameter	2.95" (75mm)	3.46" (88mm)	3.54" (90mm)
Spindle travel (drilling depth)	7.87" (200mm)	9.06" (230mm)	10.24" (260mm)
Main motor power	3 Hp (2.2Kw)	5.5 Hp (4Kw)	10 Hp (7.3Kw)
Coolant pump motor power	.12 Hp (.09Kw)	.12 Hp (.09Kw)	.12 Hp (.09Kw)
Head geared-motor power	1 Hp (.7Kw)	1.5 Hp (1.1Kw)	1.5 Hp (1.1Kw)
Number of speed (see speed charts)	9	9	12
Number of automatic feeds	3	6	6
Auto feed range in./rev. (mm/rev)	.0039/.0079/.0118 (1/2/.3)	.0039/.0079/.118/.157/.197/.236 (1/2/.3/.4/.5/.6)	
<b>Dimensions and Weights</b>			
Height (A)	85.8" (2180mm)	97.2"/122.8" (2470/3120mm)	103.1"/122.8" (2620/3120mm)
Base length (B)	52" (1320mm)	55.9"/58.6" (1420/1490mm)	62.6"/64.6" (1590/1640mm)
Spindle to Table (C)			
Minimum	7.09" (180mm)	11.02"/25.6" (280/650mm)	9.06"/23.6" (230/6000mm)
Maximum	33.07" (840mm)	39.4"/64.9" (1000/1650mm)	43.3"/63" (1100/1600mm)
Spindle center to column (D)	15.75" (400mm)	18.7" (475mm)	20.67" (525mm)
Maximum head height (E)	96.5" (2550mm)	108.3"/133.9" (2750/3400mm)	120.1"/139.8" (3050/3550mm)
Worktable width (F)	19.69" (500mm)	23.62" (600mm)	27.56" (700mm)
Table height (G)	27.56" (700mm)	27.56" (700mm)	27.56" (700mm)
Worktable length (H)	23.62" (600mm)	27.56" (700mm)	35.43" (900mm)
Overall width (I)	35.43" (900mm)	39.37" (1000mm)	47.24" (1200mm)
Net weight	2,425 lbs (1100Kg)	3,086/3,527 lbs (1400/1600Kg)	4,078/4,629 lbs (1850/2100Kg)
Shipping weight	2,866 lbs (1300Kg)	3,527/4,078 lbs (1600/1850Kg)	4,630/5,291 lbs (2100/2400Kg)
Shipping dimension (length x width x height)	40" x 55" x 91" (1x1.4x2.3m)	48" x 107"/130" x 79" (1.2x2.7/3.3x2m)	56" x 111"/130" x 79" (1.4x2.8/3.3x2m)



“RS” models are equipped with automatic feed reversing system for tapping.

## Standard motor: 1800 rpm

Model	Spindle speeds (rpm)
BP-40	95-135-190 267-380-534 750-1065-1500
BP-50/50L	66-91-133 206-288-418 617-866-1255
BP-70/70L	62-81-104-133 191-250-321-410 532-683-878-1120

## Optional spindle motors

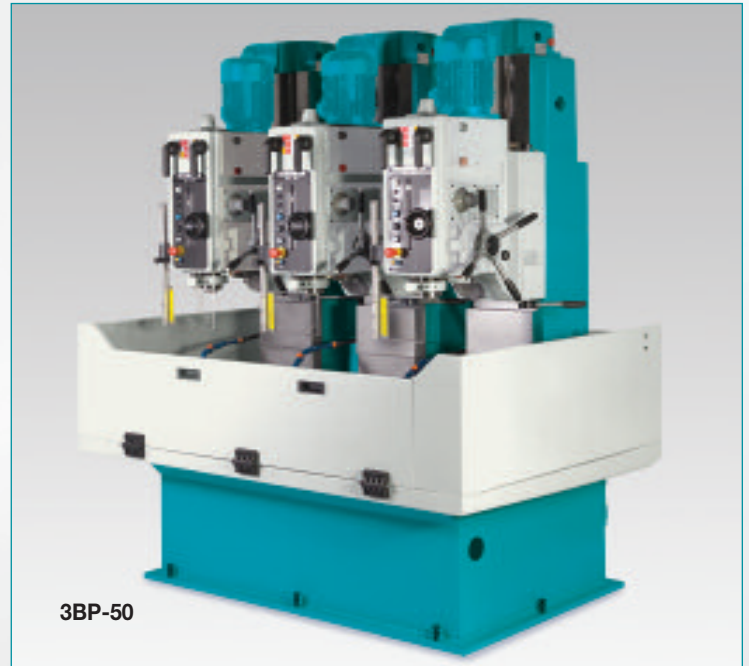
Model	Motor	Speed range
BP-40	1200 rpm	63-1000 rpm
BP-40	3600 rpm	190-3000 rpm
BP-40	900/1800 rpm	47-1500 rpm
BP-40	1800-3600 rpm	95-3000 rpm
BP-50/50L	1200 rpm	46-878 rpm
BP-50/50L	3600 rpm	132-2510 rpm
BP-50/50L	900/1800 rpm	33-1255 rpm
BP-50/50L	1800-3600 rpm	33-2510 rpm
BP-70/70L	1200 rpm	40-748 rpm
BP-70/70L	3600 rpm	124-2440 rpm
BP-70/70L	900/1800 rpm	31-1120 rpm
BP-70/70L	1800-3600 rpm	62-2240 rpm

## Prismatic-column Multiple Head Drills

Clausing IBARMIA Prismatic-column Multiple Head industrial drilling machines are mounted to extra heavy-duty base. The slotted table offers greater ease in positioning and handling bulky and heavy workpieces.

Multiple Head drilling machines are ideal for work where the workpiece requires more than one operation. Each drill head on a multiple head drill can be equipped differently to perform the operation required by that head such as... (automatic drilling cycle, automatic tapping or any of the equipment offered).

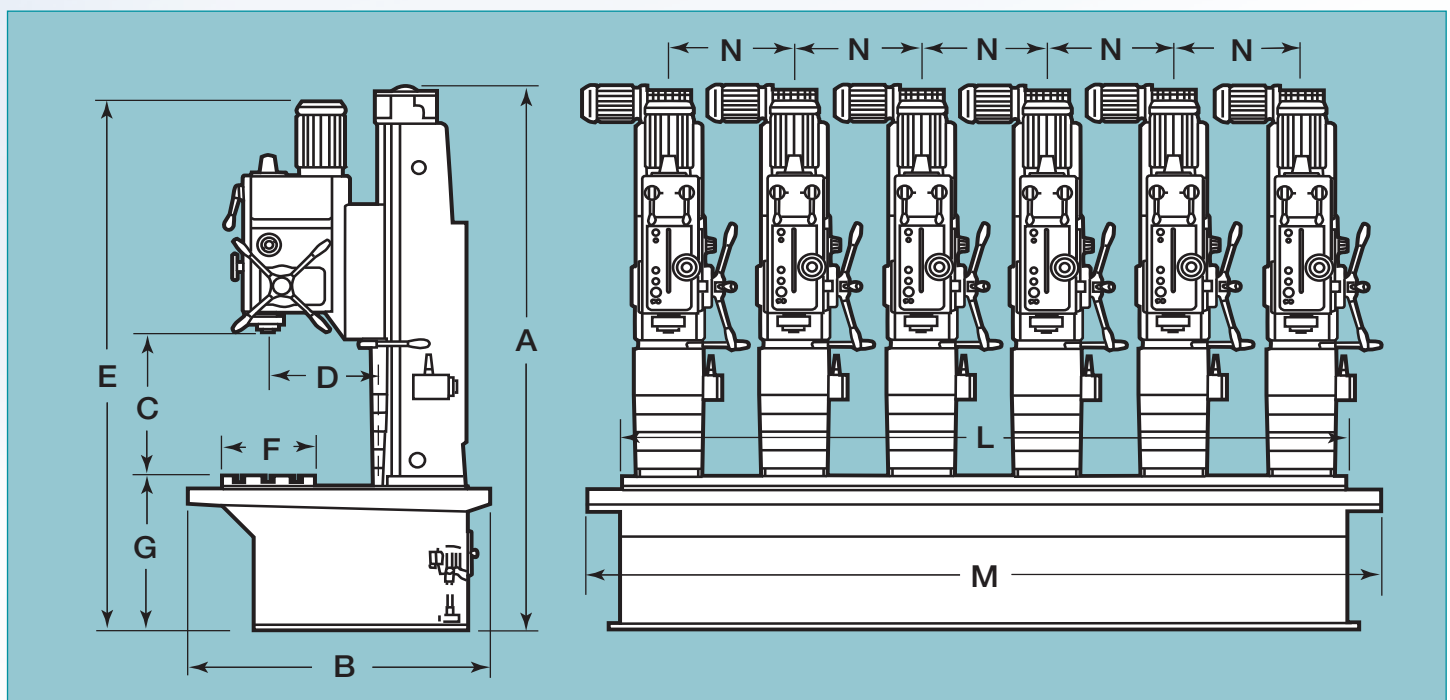
In many cases where production of several pieces are required, the Multiple Head drills are more productive than machining centers at a much lower cost.



# Multiple Spindle Models, Size and Dimensions

Models	Size	A	B	C		D	E	F	G	L	M	N
				min.	max.							
<b>2 Head Drills</b>												
<b>2BP-40</b>	31.5"(800mm)	86"(2180mm)	50"(1270mm)	7.1"(180mm)	33.1"(840mm)	15.7"(400mm)	96"(2450mm)	15.7"(400mm)	27.6"(700mm)	37.4"(950mm)	49.2"(1250mm)	21.7"(550mm)
<b>2BP-50</b>	37.4"(950mm)	97"(2470mm)	51"(1320mm)	11"(280mm)	39.4"(1000mm)	18.7"(475mm)	108"(2750mm)	15.7"(400mm)	27.6"(700mm)	37.4"(950mm)	49.2"(1250mm)	21.7"(550mm)
<b>2BP-70</b>	41.3"(1050mm)	103"(2620mm)	59"(1490mm)	9.1"(230mm)	43.3"(1100mm)	20.6"(525mm)	120"(3050mm)	19.69"(500mm)	27.6"(700mm)	41.3"(1050mm)	53.1"(1350mm)	23.6"(600mm)
<b>3 Head Drills</b>												
<b>3BP-40</b>	31.5"(800mm)	86"(2180mm)	50"(1270mm)	7.1"(180mm)	33.1"(840mm)	15.7"(400mm)	96"(2450mm)	15.7"(400mm)	27.6"(700mm)	59"(1550mm)	70.9"(1800mm)	21.7"(550mm)
<b>3BP-50</b>	37.4"(950mm)	97"(2470mm)	51"(1320mm)	11"(280mm)	39.4"(1000mm)	18.7"(475mm)	108"(2750mm)	15.7"(400mm)	27.6"(700mm)	59"(1550mm)	70.9"(1800mm)	21.7"(550mm)
<b>3BP-70</b>	41.3"(1050mm)	103"(2620mm)	59"(1490mm)	9.1"(230mm)	43.3"(1100mm)	20.6"(525mm)	120"(3050mm)	19.69"(500mm)	27.6"(700mm)	65"(1650mm)	77"(1950mm)	23.6"(600mm)
<b>4 Head Drills</b>												
<b>4BP-40</b>	31.5"(800mm)	86"(2180mm)	50"(1270mm)	7.1"(180mm)	33.1"(840mm)	15.7"(400mm)	96"(2450mm)	15.7"(400mm)	27.6"(700mm)	81"(2050mm)	92.5"(2350mm)	21.7"(550mm)
<b>4BP-50</b>	37.4"(950mm)	97"(2470mm)	51"(1320mm)	11"(280mm)	39.4"(1000mm)	18.7"(475mm)	108"(2750mm)	15.7"(400mm)	27.6"(700mm)	81"(2050mm)	92.5"(2350mm)	21.7"(550mm)
<b>4BP-70</b>	41.3"(1050mm)	103"(2620mm)	59"(1490mm)	9.1"(230mm)	43.3"(1100mm)	20.6"(525mm)	120"(3050mm)	19.69"(500mm)	27.6"(700mm)	88.5"(2250mm)	100.4"(2550mm)	23.6"(600mm)
<b>5 Head Drills</b>												
<b>5BP-40</b>	31.5"(800mm)	86"(2180mm)	50"(1270mm)	7.1"(180mm)	33.1"(840mm)	15.7"(400mm)	96"(2450mm)	15.7"(400mm)	27.6"(700mm)	102.3"(2600mm)	114"(2900mm)	21.7"(550mm)
<b>5BP-50</b>	37.4"(950mm)	97"(2470mm)	51"(1320mm)	11"(280mm)	39.4"(1000mm)	18.7"(475mm)	108"(2750mm)	15.7"(400mm)	27.6"(700mm)	102.3"(2600mm)	114"(2900mm)	21.7"(550mm)
<b>5BP-70</b>	41.3"(1050mm)	103"(2620mm)	59"(1490mm)	9.1"(230mm)	43.3"(1100mm)	20.6"(525mm)	120"(3050mm)	19.69"(500mm)	27.6"(700mm)	112"(2850mm)	124"(3150mm)	23.6"(600mm)
<b>6 Head Drills</b>												
<b>6BP-40</b>	31.5"(800mm)	86"(2180mm)	50"(1270mm)	7.1"(180mm)	33.1"(840mm)	15.7"(400mm)	96"(2450mm)	15.7"(400mm)	27.6"(700mm)	124"(3150mm)	136"(3450mm)	21.7"(550mm)
<b>6BP-50</b>	37.4"(950mm)	97"(2470mm)	51"(1320mm)	11"(280mm)	39.4"(1000mm)	18.7"(475mm)	108"(2750mm)	15.7"(400mm)	27.6"(700mm)	124"(3150mm)	136"(3450mm)	21.7"(550mm)
<b>6BP-70</b>	41.3"(1050mm)	103"(2620mm)	59"(1490mm)	9.1"(230mm)	43.3"(1100mm)	20.6"(525mm)	120"(3050mm)	19.69"(500mm)	27.6"(700mm)	136"(3450mm)	147.6"(3750mm)	23.6"(600mm)

# Multiple Spindle Dimensional Drawings



## Prismatic-column Optional Equipment

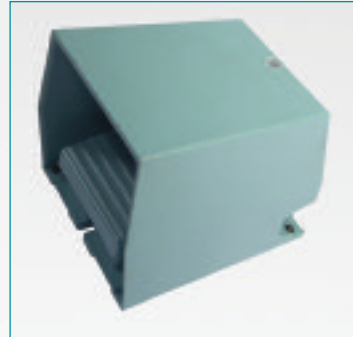
Model	Description:
7044	Coolant System with separate tank (all models)
7022	Worklight with magnetic base (all models)
PST	Cycle or spindle turn START foot pedal
PSR	Spindle reverse foot pedal (for tapping)
MH-4	Cross Slide Table 27.56" x 14.17" (BP-40, BP-50, BP-70)

### Series F

AR-F	50% lower feed rate range
LDG-F	Digital read-out system (2-axis), for MH-4 cross table
SERVOX-F	Servo feed X axis
SERVOY-F	Servo feed Y axis
TCR-F	Quick tool change nut for ISO-30

### Series P

RPF-P	Automatic pitch controlled tapping with single speed brake-motor
RPF-ANR-P	Automatic pitch controlled tapping with pneumatic rapid approach
HGP-P	Master guide spindle and nut set for automatic pitch controlled tapping
ACNL-P	Pneumatic counterbalance with rapid approach and retreat
ACNL-S-P	Pneumatic counterbalance with rapid approach and retreat for tube and profile drilling
ACNL-RPF-P	Pneumatic counterbalance with rapid approach and retract with pitch control tapping
AR-P	50% lower feed rate range
DLM-P	Mechanical spotface device
CN-P	Pneumatic counterbalance for spindle return
UN-P	Union, dragging cone and assembly for multi-spindle head
GM-P	Multi-spindle head guide rod
PM-P	Start-stop and emergency stop pendant control
PMC-P	Pendant control panel
ISO 40 P	ISO-40 spindle with quick change nut (BP40, BP50, BP70)
ISO 50 P	ISO-50 spindle with quick change nut (BP70)



**PST**  
Cycle or spindle turn START foot pedal

**PSR**  
Spindle reverse foot pedal (for tapping)



**RS**  
Automatic feed reversing system for tapping (standard on Series F/P -RS models)



**RPF**  
Automatic pitch controlled tapping with single speed brake-motor. (for Series P models)



**RPF-ANR**  
Automatic pitch controlled tapping with pneumatic rapid approach. (for Series P models)



**SERVO X**  
**SERVO Y**  
Electronic "SERVO" feed unit for X/Y axes.  
Feed range: .79 to 39.37 in/min  
Rapid feed: 39.37 in/min  
Available for MH-4 cross table



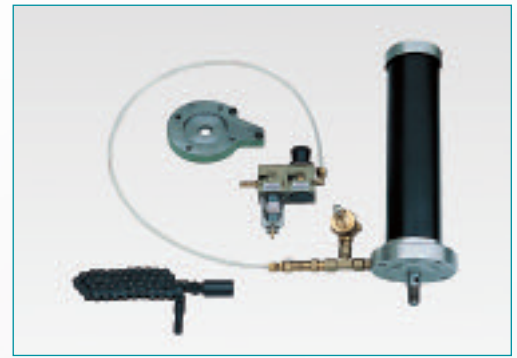


**ACNL**  
Pneumatic counterbalance for automatic drilling cycle with rapid approach, working feed and rapid retreat.  
(for Series **B** models)

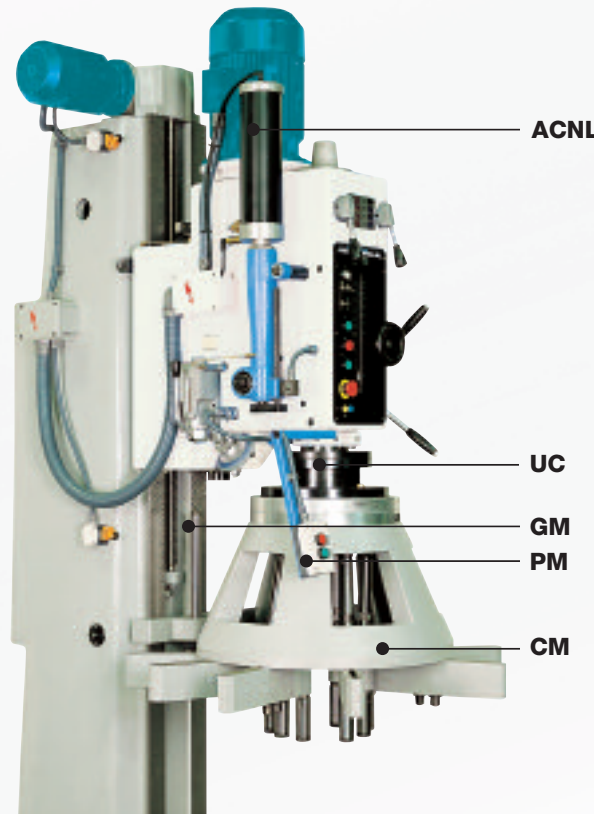


**LDG**  
Digital read-out system.  
Available for MH-3 and MH-4 cross table

**CN**  
Pneumatic counterbalance for spindle return, recommended for multi-spindle head applications.  
(for Series **P** models)



## Assembly for Multi-Spindle Heads



**ACNL**  
Automatic drilling cycle with rapid approach, working feed and rapid retract, with additional pneumatic counterweight function for the multi-spindle head.

**UC**  
Union, dragging cone and assembly of the multi-spindle head.

**CM**  
Multi-spindle head with fixed or adjustable spindle.

**GM**  
Multi-spindle head guide rod.

**PM**  
START/STOP and emergency STOP control extension.

## Cross Slide Tables

**Series P** for models BP-40, BP-50, BP-70



**MH-4 Cross Slide Table**  
X Travel = 27.56"  
Y Travel = 14.17"  
Table net weight 661 lbs.



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