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**Tools and  
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**The Building Blocks of  
Low Cost Drilling and  
Tapping Automation**

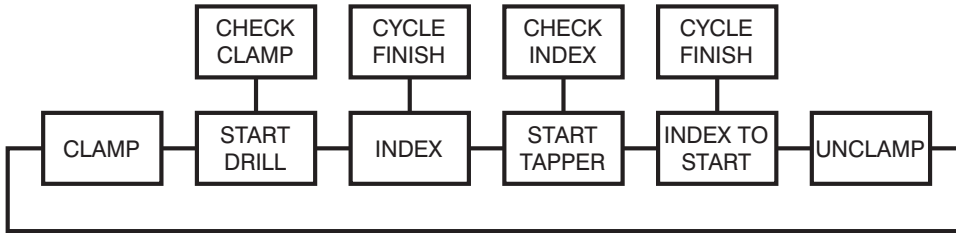
**Self Feed Units & Air Motors**



## PAGE

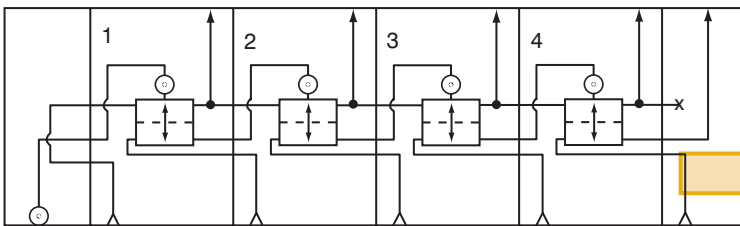
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# Systems For All Your Automated Drilling And Tapping Requirements

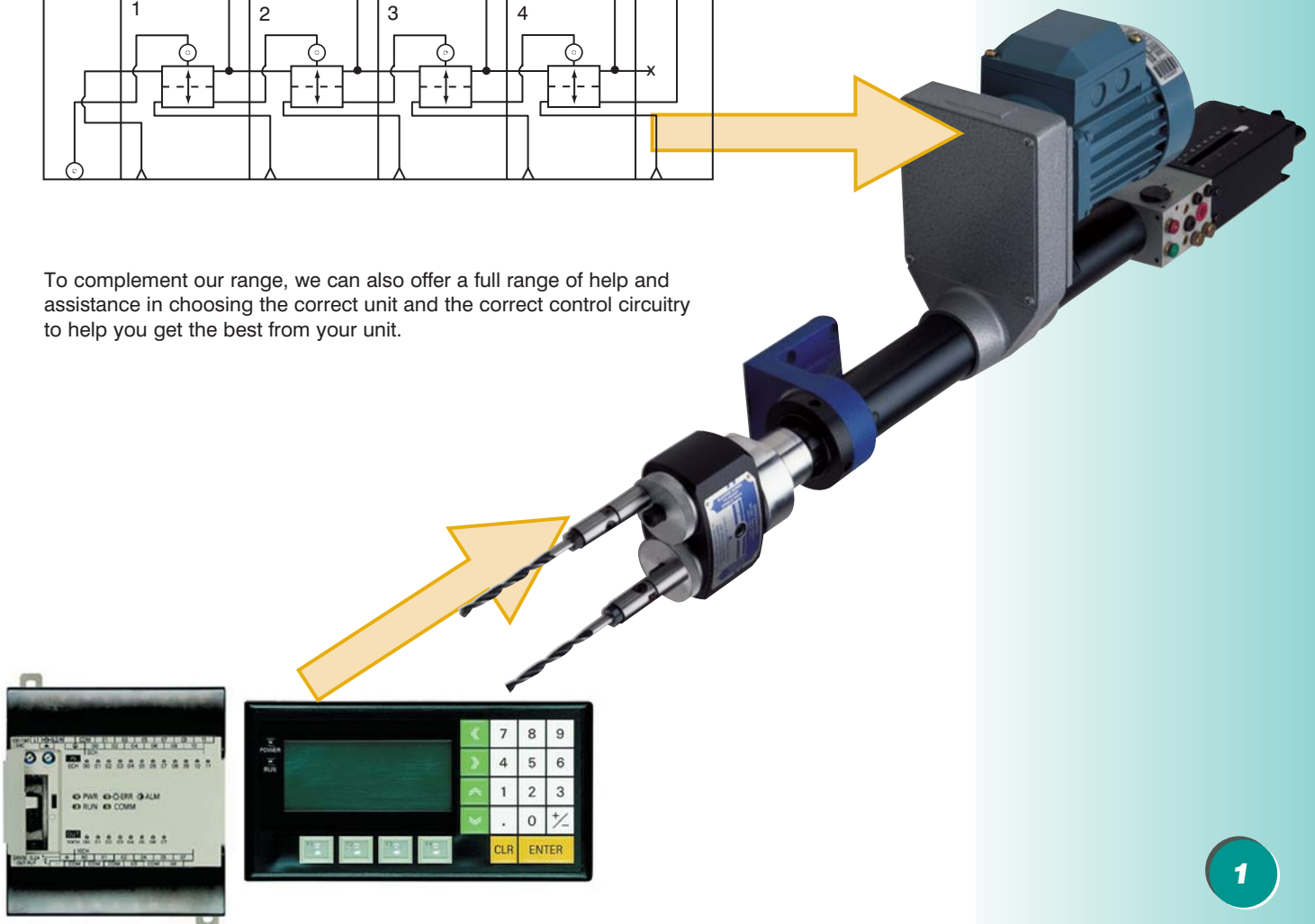


## Systems From Airmachines.com

Through our associations with leading industrial control manufacturers, we are now in a position to offer a full systems approach to buying a new self feed unit. By offering PLC's, pneumatic to PLC interfaces, inverters, pneumatic logic components and rotary index tables, to complement our already strong range of self feed units, we can now become a one stop shop for all your application's needs.



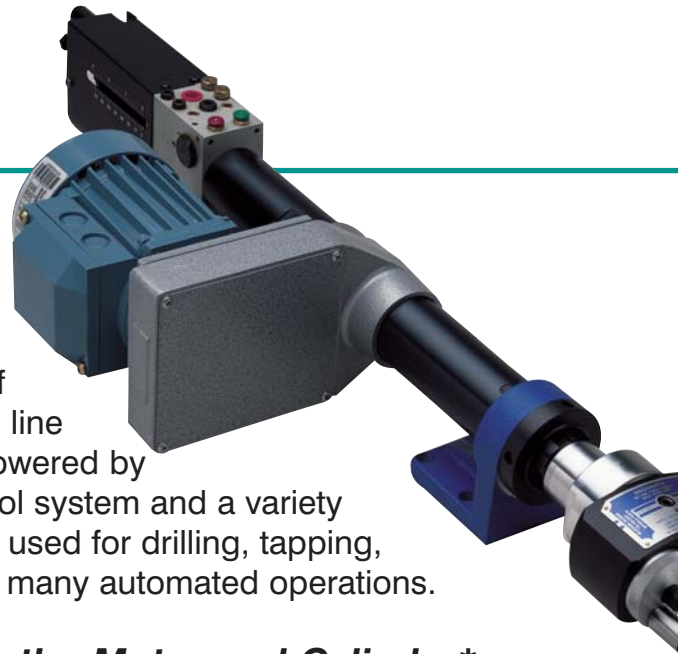
To complement our range, we can also offer a full range of help and assistance in choosing the correct unit and the correct control circuitry to help you get the best from your unit.



## Self Feed Units

### ***A Versatile Unit to Meet a Wide Range of Needs***

The Self Feed Unit combines a motor with a double acting, self lubricating cylinder into a clean line package. The motor can be powered by air or electricity. With the control system and a variety of attachments, the unit can be used for drilling, tapping, screwdriving and nutrunning in many automated operations.



### ***Single or Double Feed to the Motor and Cylinder\****

Incorporated into the design of the tool, this feature enables both the motor and the cylinder to be fed with air through one connection or separately through two connections which can have different air pressures – an advantage when drilling or tapping small holes.

\*Applies to pneumatic units only.

### ***Adjustable Stroke Length***

The unit can be set for any stroke from 8mm to 75mm ( $\frac{5}{16}$ " to 3") to provide for deep hole drilling applications, while providing a greater clearance for fixtures and indexing tables etc. The stroke is adjusted by means of an adjustment screw. An indicator on the upper guard makes set up quick and easy.

### ***Double Acting Air Cylinder to Maintain Set Thrust***

The main advantage delivered by this method of applying thrust is that the set thrust can be maintained throughout the full 75mm (3") stroke. This provides greatly improved cycle times as the drill bit will cut more efficiently. It will also enable the feed rate to be accurately controlled, thus prolonging drill life and preventing tap breakage. The control head incorporates valves that control the rate of feed and retraction of the cylinder, as well as porting for dwell control. For manual control, start and stop push buttons are provided, while for partial or fully automatic control, check valves are supplied.



## Cycle Signals

The cycle completion signal can be obtained as a negative signal from the connection on the back of the feed tube. The pressure is removed when the unit has fully retracted. The cycle signal port on the feed tube provides a positive signal as soon as the unit moves forward.

## Flexible Mounting Options

The different mounting brackets available make it possible to permanently mount the unit into a dedicated machine for long run production. Alternatively it can be quickly and easily changed for various set ups for short run production.

## Generously Supplied with Many Attachments and Accessories as Standard

The self feed units come with many attachments as standard features. These include a chuck of up to 10mm ( $\frac{3}{8}$ " capacity for drills,  $\frac{3}{8}$ " or  $\frac{1}{2}$ " square drives for nutrunners, a ball clutch for screwdrivers, and a 3.5mm-6.5mm ( $\frac{1}{8}$ "- $\frac{1}{4}$ " flexible collet for tappers. The units also include a number of standard accessories, such as isolation fittings for remote advance and retract, upper guard with depth indicator, chuck key with drill unit, and collet spanners with tapping unit.

## Optional Accessories for Special Needs

In addition to the standard accessories, you can take advantage of a number of optional accessories for the self feed units. These include several kits - hydraulic feed control, peck feed control, bottom limit sensing, dwell control and return limit sensing. Other optional accessories are an exhaust collector, bushing mount nose housing, swarf exclusion kit, skip control units, and mounting brackets and clamps. A positive signal valve that mounts on the guard can also be supplied. It will give a positive signal when the unit is fully retracted and can still be used when a hydraulic breakthrough unit is fitted to the drill. Air flow restrictors of 5 l/s and 7 l/s (10 scfm and 15 scfm) can also be supplied as optional extras if the application involved does not require the utilisation of the full motor power. This means a saving in compressed air consumption.

## FEATURES — NEW —

As a new feature, we can now offer a P.L.C. Interface, Frequency Inverters for speed and directional control and pneumatic control circuitry.



## Self Feed Units – Model Number Designation

### Example

**DD5AE52**

**ELECTRIC**  
(Does not appear when pneumatic)

**POWER**  
(5) 0.33 HP

**rpm**  
(in Hundreds)  
**Pneumatic**

**TYPE**  
(B) Ball Clutch  
(for Screwdriver)  
(D) Direct Drive  
(for Drill, Tap and  
Nutsetter)

(06)	600 rpm
(09)	900 rpm
(15)	1500 rpm
(25)	2500 rpm
(33)	3300 rpm
(50)	5000 rpm
(170)	17000 rpm

Therefore, unit above is a 0.33 HP electric drill with direct drive operating at 5200 rpm.

	<b>Electric</b>	
	<b>50 Hz</b>	<b>60 Hz</b>
(03)	300 rpm	360 rpm
(05)	500 rpm	600 rpm
(08)	800 rpm	960 rpm
(11)	1100 rpm	1320 rpm
(15)	1500 rpm	1800 rpm
(19)	1900 rpm	2280 rpm
(28)	2800 rpm	3360 rpm
(38)	3800 rpm	4560 rpm
(52)	5200 rpm	6240 rpm
(65)	6500 rpm	7800 rpm

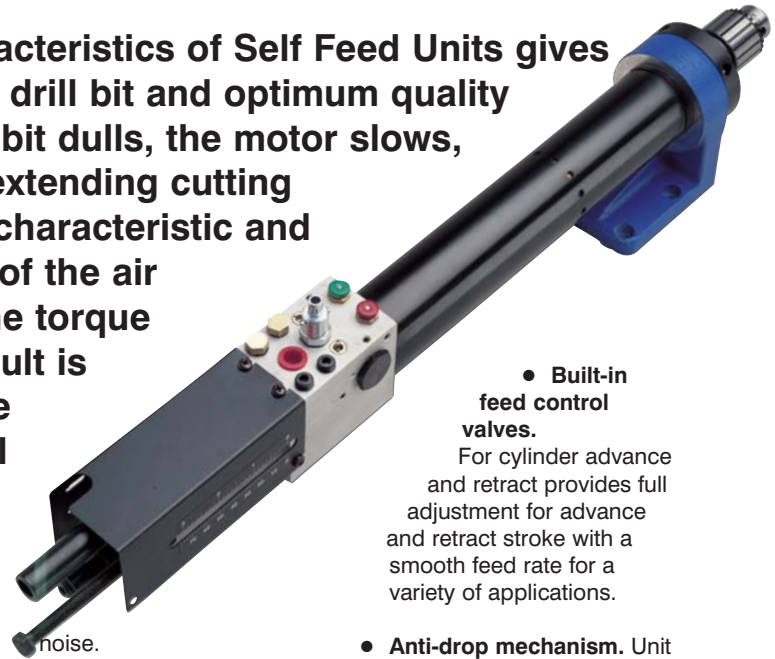
**UNIT**  
(D) Drill  
(S) Screwdriver  
(T) Tapper  
(N) Nutsetter

# Self Feed Units – The Selection Process

ITEMS	NOTES
<b>1. Select Base Unit</b> <span style="float: right;"><b>See page 4</b></span>	
a) Pneumatic or Electric	
b) Correct rpm	b) Metric $R = \frac{318.5 \times \text{Surface Metres Per Minute}}{\text{Drill dia. (mm)}}$ b) Imperial $R = \frac{3.82 \times \text{Surface Feet Per Minute}}{\text{Drill dia. (inches)}}$
<b>2. Select Front End Attachment</b> <span style="float: right;"><b>See page 18-20</b></span>	
a) Chuck	<ul style="list-style-type: none"> <li>Base drill standard with 10 mm (<math>\frac{3}{8}</math>" ) chuck.</li> </ul>
b) Collet Holder & Collet	<ul style="list-style-type: none"> <li>For Tappers the tapping head is included (single spindle only)</li> </ul>
c) Multiple Spindle Head	<ul style="list-style-type: none"> <li>Multiple spindle head collets need to be ordered separately</li> </ul>
d) Offset Head	<ul style="list-style-type: none"> <li>For drilling applications</li> </ul>
e) Spindle Positioners	<ul style="list-style-type: none"> <li>To facilitate rapid changeover where alternative settings are required on Multi-Spindle heads</li> </ul>
<b>3. Selecting Mounting Bracket</b> <span style="float: right;"><b>See page 21-23</b></span>	
a) Nose angle bracket	
b) Nose flange	
c) Column and clamp options	
<b>4. Select Control Options</b> <span style="float: right;"><b>See page 24-27</b></span>	
a) Return limit kit	<ul style="list-style-type: none"> <li>Sends out a positive signal at the retract end of self feed cycle</li> </ul>
b) Dwell Control	<ul style="list-style-type: none"> <li>Used to dwell for a set period of time in the extended position</li> </ul>
c) Hydraulic feed control	<ul style="list-style-type: none"> <li>Sets a constant feed rate through the material</li> </ul>
d) Peck feed kit	<ul style="list-style-type: none"> <li>Allows pecking of unit for drilling deep holes</li> </ul>
e) Swarf exclusion kit	<ul style="list-style-type: none"> <li>Protects drill unit from swarf</li> </ul>
f) Exhaust collector	<ul style="list-style-type: none"> <li>Reduces noise and protects drill unit from swarf. Allows piping off exhaust</li> </ul>
g) Bottom limit kit	<ul style="list-style-type: none"> <li>Sends a signal when drill unit is fully extended</li> </ul>
h) PLC interface module	<ul style="list-style-type: none"> <li>Permits Programmable Logic Controller to communicate with Self Feed Units</li> </ul>
i) Skipcheck Unit	<ul style="list-style-type: none"> <li>Enables drill units to economically transit tubular sections</li> </ul>

## Pneumatic Self Feed Drill

The air motor characteristics of Self Feed Units gives optimum life to the drill bit and optimum quality of the hole. As the bit dulls, the motor slows, torque increases, extending cutting ability. This motor characteristic and the variable thrust of the air cylinder balance the torque and thrust. The result is optimum cycle time for a given material and drill bit, limited only by the maximum capacity of the unit.



### FEATURES

- Supplied with a standard  $\frac{3}{8}$ " - 24UNF output spindle thread and a standard chuck
- Supplied with a common supply setup which is appropriate for most applications
- **Note** For multiple spindle applications, the heads shown on page 19 will thread directly onto the

### BENEFITS

- **High efficiency air motor.** Provides maximum power in a minimum size with minimal air consumption.
- **Changeable motor restrictors.** Ensures optimum performance and minimum air consumption for a wide variety of applications.
- **Hardened alloy steel components.** Ensures maximum operating life expectancy.
- **Full bearing support.** Precision gears provide excellent power transmission without gear

- **Internal noise reduction.** Noise levels of 83 dB(A) can be reduced by using an exhaust collector ring.
- **Chrome plated feed tube and chemically treated steel components.** Help extend life of the tool by reducing the possibility of rust in moist conditions.
- **Self lubricating double acting cylinder with U Cup seals.** Cylinder provides low breakaway and smooth feed even under poor air supply conditions. Full thrust is supplied to the

- **Built-in feed control valves.**

For cylinder advance and retract provides full adjustment for advance and retract stroke with a smooth feed rate for a variety of applications.

- **Anti-drop mechanism.** Unit will automatically retract or stay retracted in the event of an air supply failure.
- **Independent or combined air supply ports for the air motor and cylinder.** The independent supply ensures that full pressure is applied to the cylinder. (A combined supply means the cylinder only sees the back pressure of the air motor). For general purposes the tool can be used with a single supply.
- **Remote advance and retract porting.** Used for partial or fully automatic control of units.
- **Automatic return valve with isolation capability.** The valve provides an automatic retract signal when the preset depth is reached. By inserting a plug, the signal can be used to signal external controls that the unit has reached full depth.

- **Built-in Soft Start.** Gives acceleration to full speed over first 6 mm of stroke to protect gearboxes.
- **Corrosion resistant cylinder wall.** Will not rust with moist air.

### Technical Data

Model No.	Free rpm	Std. Chuck Size (mm)	Gear Reductions	Weight (kg)
DD5A06C	600	10	Double	5.1
DD5A09C	900	10	Double	5.1
DD5A15C	1500	10	Double	5.1
DD5A25C	2500	10	Single	4.9
DD5A33C	3300	10	Single	4.9
DD5A50C	5000	10	Single	4.9
DD5A170C	17000	6.5	Single	4.9

1mm = 0.03937 inches

1 kg = 2.204 pounds



# Pneumatic Drill Units

## Unit Selection Guide

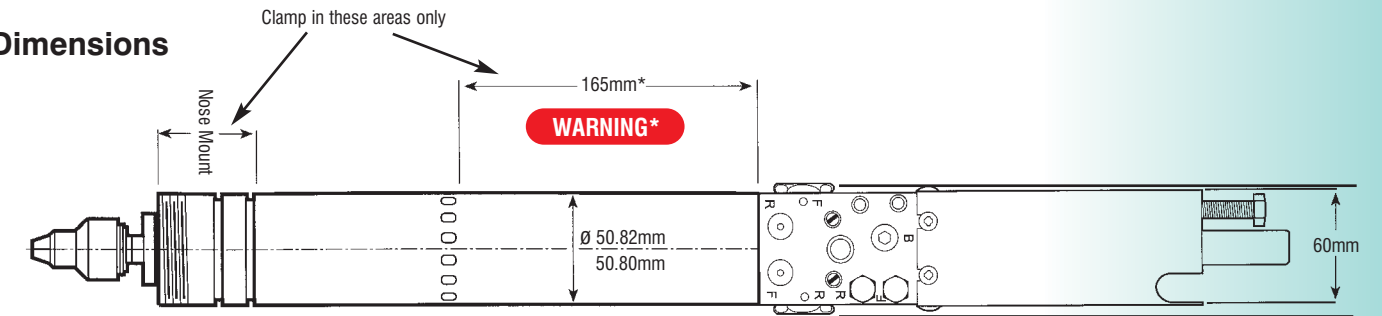
The following chart is intended as a guide only for tool selection. It is important to remember that speed and horsepower requirements vary due to drill type and material.

## To use this chart:

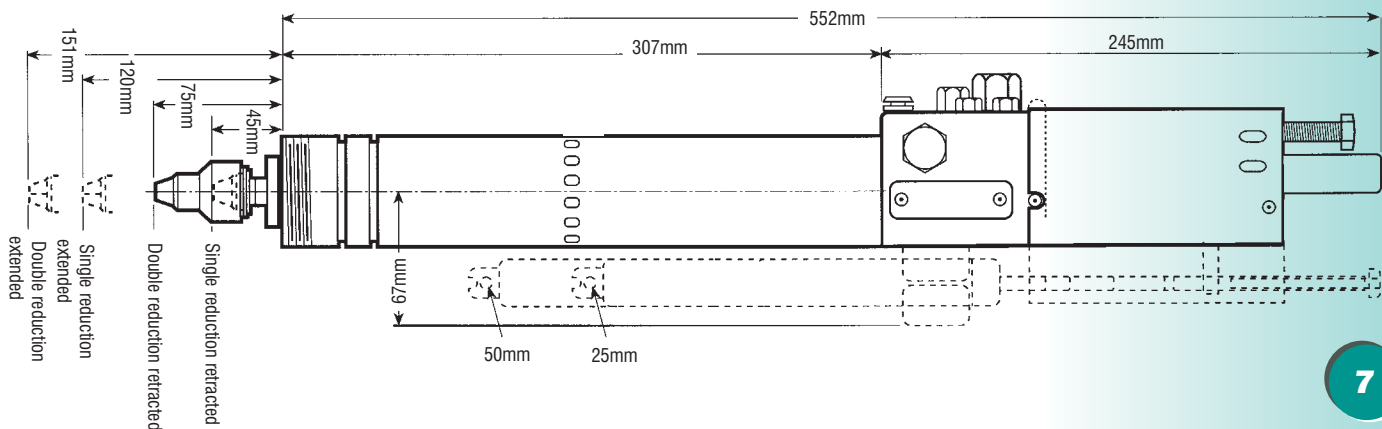
Select the type of material being drilled. Then, look at the "Drill Dia" column for that desired hole size. The matrix will show the drill model number that should meet the drilling requirements.

Drill Diameter mm	In	Aluminium 150/200 ft/min 45-60 m/min.	Brass 100/200 ft/min 30-45 m/min.	Mild Steel 100/120 ft/min 30-36 m/min.	Cast Iron 100-150 ft/min 30-45 m/min.	Alloy Steel 50 ton 30-50 ft/min 9-15 m/min.	Alloy Steel 80 ton 10-20 ft/min 3-6 m/min.	Wood 300 ft/min 90 m/min.
1.5	1/16	DD5A170C	DD5A170C	DD5A170C	DD5A50C	DD5A33C	DD5A15C	DD5A170C
2.0	3/32	DD5A170C	DD5A170C	DD5A50C	DD5A33C	DD5A25C	DD5A15C	DD5A170C
3.0	1/8	DD5A50C	DD5A50C	DD5A33C	DD5A25C	DD5A15C	DD5A09C	DD5A170C
4.0	5/32	DD5A50C	DD5A50C	DD5A33C	DD5A25C	DD5A15C	DD5A09C	DD5A50C
4.5	3/16	DD5A50C	DD5A50C	DD5A25C	DD5A15C	DD5A15C	DD5A09C	DD5A50C
5.5	7/32	DD5A50C	DD5A50C	DD5A15C	DD5A15C	DD5A09C	DD5A06C	DD5A50C
6.5	1/4	DD5A33C	DD5A33C	DD5A15C	DD5A15C	DD5A09C	DD5A06C	DD5A50C
7.0	9/32	DD5A33C	DD5A33C	DD5A09C	DD5A09C	DD5A06C	DD5A06C	DD5A33C
8.0	5/16	DD5A25C	DD5A25C	DD5A09C	DD5A09C	DD5A06C	DD5A06C	DD5A33C
9.0	11/32	DD5A25C	DD5A25C	DD5A09C	DD5A09C	DD5A06C	DD5A06C	DD5A33C
10.0	3/8	DD5A15C	DD5A15C	DD5A06C	DD5A06C	-	-	DD5A25C
12.5	1/2	DD5A15C	DD5A15C	DD5A06C	DD5A06C	-	-	DD5A25C

## Dimensions



**\*Do not exceed 4Nm (3 lbf-ft) clamping torque here.**



1mm = 0.03937 inches

## Pneumatic Tapping Units

The ability to vary torque and feed rate independently on Self Feed Units provides the unit with a unique characteristic. It can function as a lead screw tapper, using the tap itself as the lead screw.

### Technical Data

Model No.	Free rpm	Standard Collet Size (mm)	Weight (kg)
TD5A06D	600	6.5-10.0	5.09
TD5A09D	900	6.5-10.0	5.09

### Flexible Collets

Collet Range (mm)	Collet Range (in)	Part No.
3.5 - 6.5	1/8" - 1/4"	PT7995/570*
6.5 - 10.0	1/4" - 3/8"	PT7995/570A (standard)

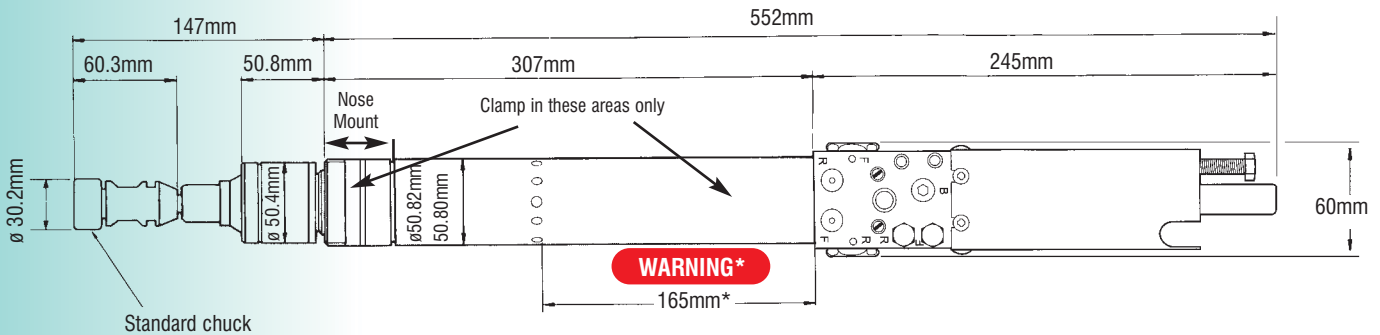
\*Specify if required

### FEATURES

- Heavy duty head on units. Higher speed options available on request.
- Both units are standard with a positive drive chuck with a flexible collet and tang drive to ensure against tap slippage.

**Note** For optional collet see Flexible Collet chart.

### BENEFITS



**\*Do not exceed 4Nm (3 lbf-ft) clamping torque here.**

### Unit Selection Guide

Tap Size (mm)	Tap Size (in)	Aluminium	Brass	Mild Steel	Cast Iron	Steel 50 ton	Steel 80 ton
2.0	8BA #2	TD5A09D	TD5A09D	TD5A09D	TD5A09D	TD5A09D	TD5A06D
2.5	6BA #3	TD5A09D	TD5A09D	TD5A09D	TD5A09D	TD5A09D	TD5A06D
3.0	1/8" #4	TD5A09D	TD5A09D	TD5A09D	TD5A09D	TD5A09D	TD5A06D
3.5	4BA #6	TD5A09D	TD5A09D	TD5A09D	TD5A09D	TD5A06D	TD5A06D
4.5	2BA #10	TD5A09D	TD5A09D	TD5A09D	TD5A09D	TD5A06D	TD5A06D
5.0	3/16" #12	TD5A09D	TD5A09D	TD5A09D	TD5A09D	TD5A06D	TD5A06D
6.5	1/4"	TD5A09D	TD5A09D	TD5A06D	TD5A06D	TD5A06D	TD5A06D
8.0	5/16"	TD5A06D	TD5A06D	TD5A06D	TD5A06D	TD5A06D	TD5A06D
10.0	3/8"	TD5A06D	TD5A06D	TD5A06D	TD5A06D	TD5A06D	TD5A06D

Note: For small tap sizes the pressure to the air motors must be reduced and a smaller restrictor used to reduce torque

1mm = 0.03937 inches  
1 kg = 2.204 pounds

# Pneumatic Screwdrivers & Nutrunners

## FEATURES

### Nutrunners

- Standard with a 3/8" square drive or a 1/2" square drive depending on torque range.
- Will drive to stall torque, which can be changed with a motor supply regulator.

**Note:** Air supply to motor must be zero before head is retracted.

## BENEFITS

The independent motor supply combined with the unique control head on Self Feed Unit allows the motor to be turned on in either the advance or retract position.

For screwdriving, the unit can be used with a ball clutch and the torque adjusted externally by a key.

For nutrunning or direct drive screwdriving, the stall torque can be set by adjusting the pressure supplied to the air motor.

## FEATURES

### Screwdrivers

- Uses a standard unit with the output drive changed to a ball clutch screwdriver.
- Torque range of the clutch can be changed by adjusting the clutch spring height via a window in the housing.
- Supplied with the heaviest clutch spring recommended.
- For lighter torque ranges, the clutch spring must be changed.

**Note:** For spring selection, see the chart

## BENEFITS

### Technical Data

Model No.	Free rpm	Gear Reduction	Final Spindle	Maximum Torque (Nm)	Torque Control	Length (mm)	Weight (kg)
SB5A15C	1500	Double	1/4" Female Hex	10.17	Clutch	616	4.55
SB5A25C	2500	Single	1/4" Female Hex	4.52	Clutch	586.5	4.45
ND5A06C	600	Double	1/2" Sq. Drive	21.69	Stall	570	4.23
ND5A09C	900	Double	1/2" Sq. Drive	16.27	Stall	570	4.23
ND5A15C	1500	Double	3/8" Sq. Drive	9.49	Stall	570	4.23
ND5A25C	2500	Single	3/8" Sq. Drive	5.42	Stall	540.6	4.13

### Stall Torque (Nm)

Model No.	ND5A06C				ND5A09C				ND5A15C				ND5A25C				
	Restrictor (l/s)	5	7	12	None	5	7	12	None	5	7	12	None	5	7	12	None
Pressure bar	4.2	8	15	19	19	2.95	5.16	6.64	6.64	1.84	3.31	4.06	4.28	1.03	1.84	2.21	2.36
	4.8	5.53	9.59	11.06	11.8	3.69	5.90	7.33	7.37	2.21	3.83	4.42	4.80	1.33	2.06	2.58	2.65
	5.5	6.64	11.06	12.54	13.27	4.13	6.64	7.74	8.11	2.58	4.28	4.79	5.16	1.47	2.36	2.95	3.02
	6.2	7.37	11.80	14.01	15.49	4.65	7.37	8.85	9.22	2.95	4.65	5.53	5.90	1.62	2.58	3.32	3.39

\* Supplied with 12 l/s restrictor as standard



Torque Range (Nm)	0.23-1.69	1.13-2.82	1.69-5.08	2.82-10.73
Colour	Blue	Green	Natural	Red
Part No.	PT6015/406	36512	36315	37872

1mm = 0.03937 inches  
 1 kg = 2.204 pounds  
 1Nm = 0.7375 lbf-ft  
 1 bar = 14.5038 psi  
 1 l/s = 2.1189 cfm

### Nut Drivers (Pin type)

Description	Part No.
3/8" Sq. Drive	SF4600
1/2" Sq. Drive	SF4601



## Electric Self Feed Drill Units

Technical Data – Drill Units

Model	50 Hz Speed rpm	60 Hz Speed rpm	Chuck Capacity mm	Weight Standard kg
DD5AE03B	300	360	10	11.1
DD5AE05B	500	600	10	11.2
DD5AE08B	800	960	10	11.2
DD5AE11B	1100	1320	10	11.6
DD5AE15B	1500	1800	10	11.4
DD5AE19B	1900	2280	10	11.1
DD5AE28B	2800	3360	10	11.2
DD5AE38B	3800	4560	10	11.3
DD5AE52B	5000	6240	10	11.4
DD5AE65B	6500	7800	10	11.6

### Unit Selection Guide

The following chart is intended as a guide only for tool selection. It's important to remember that speed and horsepower requirements vary due to drill type and material.

### To use this chart:

Select the type of material being drilled. Then, look at the "Drill Dia" column for that desired hole size. The matrix will show the drill model number that should meet the drilling requirements.

Drill Speed Selection Chart – Material and Recommended Cutting Speeds

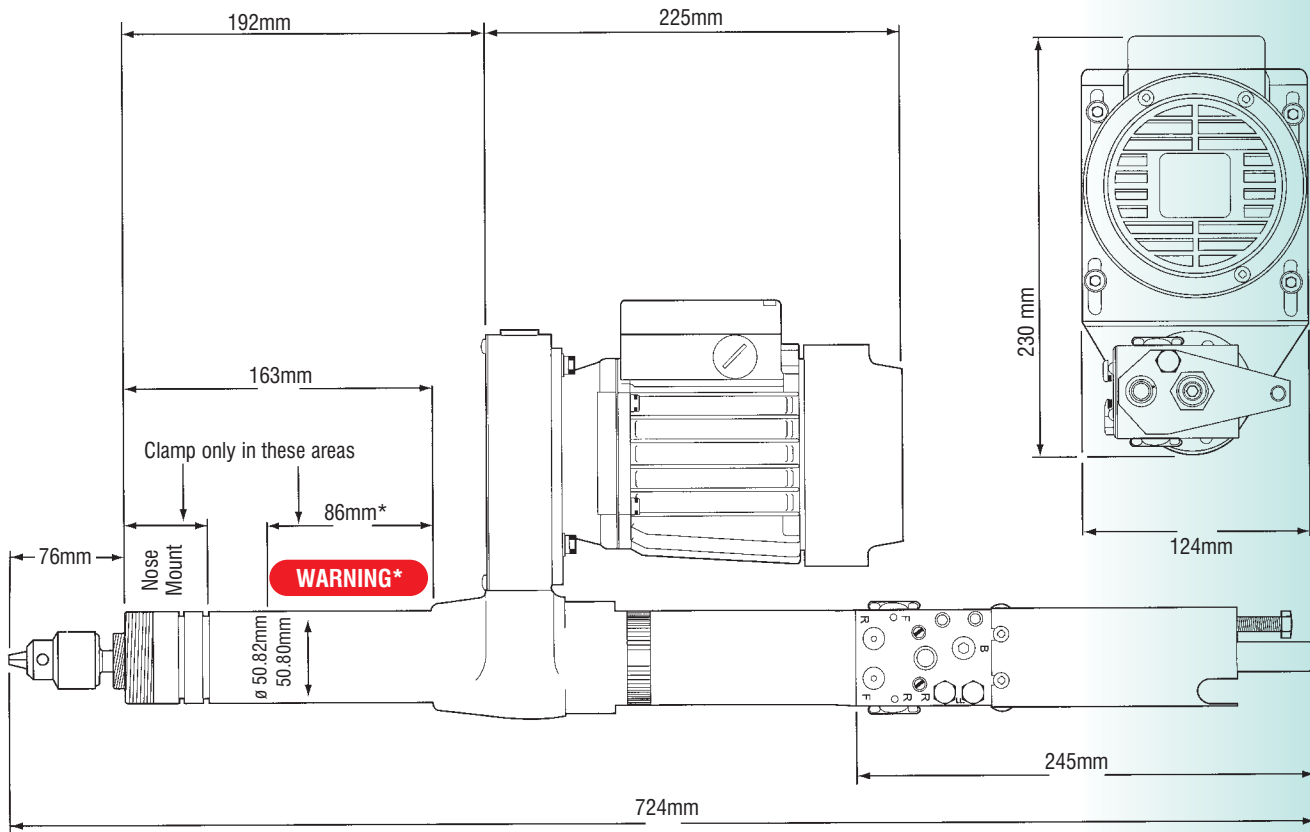
Drill Dia.		Aluminium	Brass	Mild Steel	Cast Iron	Alloy Steel 50 ton	Alloy Steel 80 ton	Wood
mm	in	150/200 ft/min 45-60 m/min	100/200 ft/min 30-45 m/min	100/120 ft/min 30-36 m/min	100-150 ft/min 30-45 m/min	30-50 ft/min 9-15 m/min	10-20 ft/min 3-6 m/min	300 ft/min 90 m/min
1.5	1/16	DD5AE65B	DD5AE65B	DD5AE52B	DD5AE52B	DD5AE38B	DD5AE28B	DD5AE65B
2.0	3/32	DD5AE65B	DD5AE65B	DD5AE38B	DD5AE38B	DD5AE28B	DD5AE19B	DD5AE65B
3.0	1/8	DD5AE52B	DD5AE52B	DD5AE28B	DD5AE28B	DD5AE19B	DD5AE15B	DD5AE65B
4.0	5/32	DD5AE38B	DD5AE38B	DD5AE28B	DD5AE28B	DD5AE15B	DD5AE11B	DD5AE65B
4.5	3/16	DD5AE38B	DD5AE38B	DD5AE19B	DD5AE19B	DD5AE11B	DD5AE08B	DD5AE65B
5.5	7/32	DD5AE28B	DD5AE28B	DD5AE15B	DD5AE15B	DD5AE11B	DD5AE08B	DD5AE52B
6.5	1/4	DD5AE28B	DD5AE28B	DD5AE15B	DD5AE15B	DD5AE08B	DD5AE05B	DD5AE52B
7.0	9/32	DD5AE19B	DD5AE19B	DD5AE11B	DD5AE11B	DD5AE05B	DD5AE03B	DD5AE52B
8.0	5/16	DD5AE19B	DD5AE19B	DD5AE11B	DD5AE11B	DD5AE05B	DD5AE03B	DD5AE52B
9.0	11/32	DD5AE15B	DD5AE15B	DD5AE08B	DD5AE08B	DD5AE05B	-	DD5AE38B
10.0	3/8	DD5AE15B	DD5AE15B	DD5AE05B	DD5AE05B	DD5AE03B	-	DD5AE38B

1mm = 0.03937 inches  
1 kg = 2.204 pounds

Technical Data					
<b>Stroke Length</b>		75 mm (3")			
<b>Air Connections (for Cylinder)</b>		1/4 BSP (female)			
<b>Motor - 3 phase supply voltage</b>					
Output kw	Supply Voltage	Frequency Hz	Amps	Hz	Amps
0.25	220 - 240 Δ	50	1.3		
0.25	380 - 420 Y	50	0.75		
0.30	220 - 280 Δ			60	1.2
0.30	440 - 480 Y			60	0.75
<b>Minimum Working Pressure</b>		3 bar (40 psi)			
<b>Maximum Working Pressure</b>		7 bar (100 psi)			
<b>Normal Working Pressure</b>		6 bar (85 psi)			
<b>Max. Air Con. at 6 bar (85 psi)</b>		0.472 l/s 1 scfm per 25 strokes or 0.0188 l/s 0.04 scfm per stroke			
<b>Noise Level</b>		70 dB(A)			
<b>Min. Thrust at 6 bar 85 (psi)</b>		63.5kg (140 lbf.)			
<b>Feed Rates</b>		Advance - 305mm/sec (12 in/sec max.) Retract - 305mm/sec (12 in/sec max.)			

# Electric Single Spindle Drill

## Dimensions – Single Spindle Drill



\*Do not exceed 4Nm (3 lbf-ft) clamping torque here.

Note: The minimum center distance is 75 mm



# The Control Head

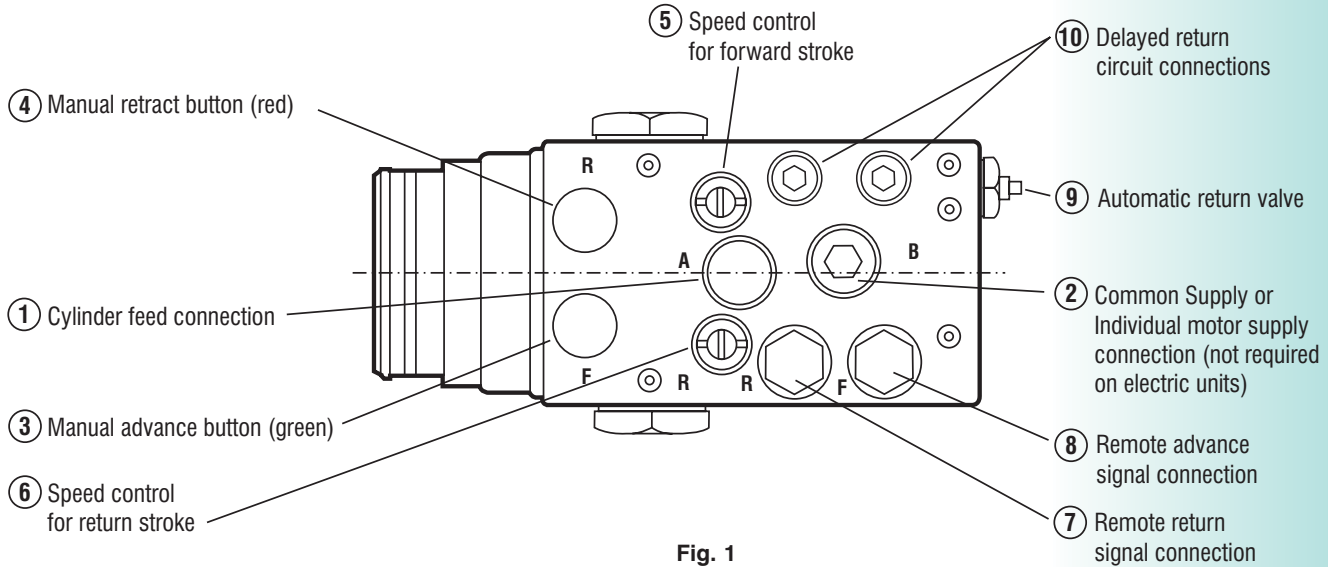


Fig. 1

## Remote Advance

- A signal 2.7 bar (40 psi) minimum needs to be applied to the remote advance port 8 (Fig. 1).
- The signal must only be of a short duration.
- It is essential that the signal is removed before the unit reaches the bottom of its stroke.
- A pulse signal is ideal.

## Remote Retraction (Emergency Return)

- A signal of 2.7 bar (40 psi) minimum needs to be applied to the remote retraction port 7 (Fig. 1).
- The signal should be maintained.
- The signal must be cut off before the unit will advance again.

**Note:** The remote advance and retraction signals will exhaust to atmosphere via their respective manual feed buttons (3 and 4, Fig. 1) all the time the signal is

- It is essential that the two non-return valves supplied with every unit are fitted into the remote advance and retraction ports in the control head.

This:

- Allows the quick exhausting of the applied signal.

A signal from the supply pressure will be available, if required, from the rear end of the feed tube after the unit has advanced approximately 6.5 mm and remains until the unit retracts to within 6.5 mm of its rest position.

This signal can be used to:

- Initiate a control sequence
- Control other functions
- Start up and stop the electric motor (by using a suitable pressure switch compatible with 3-phase supply).

A positive signal valve can be mounted on the guard assembly to give a positive signal when the unit has fully

retracted. The signal disappears as soon as the unit begins to advance.

This unit is useful if:

- The signal from the feed tube is already being used.
- A positive rather than a negative signal is required.

The signal can be used to:

- Initiate other units.
- Start up and stop the electric motor using a suitable pressure switch compatible with 3-phase supply (refer to sales literature for details).

How to set the feed rate on a unit:

- $PN = F \times R$   
(Adjust 5, forward speed control, Fig. 1 to achieve) where:  
F = Advance for Revs  
R = rpm,  
PN = Penetration (mm/min or in/min)

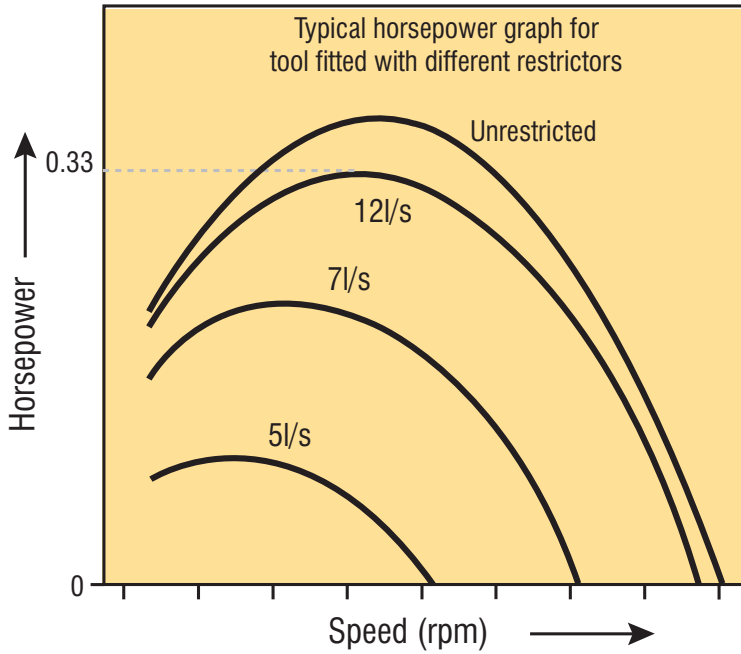
## Technical Data – Pneumatic & Electric

Self Feed Technical Data	
<b>Air Motor Specifications</b> <b>Electric Motor</b> <b>Temperature Range</b>	Standard unit 300w & 11.6 l/s (25 CFM) consumption. 0.25kw (0.33 HP) -10°C to 65°C
<b>Filtration</b>	40 Micron Max
<b>Lubrication</b>	Air Line Lubrication / Gear train grease Note: It is important to ensure that the tool is properly lubricated. We recommend a lubricator as close to each tool as is practical.
<b>Normal Working Pressure</b>	6 bar (85 psi)
<b>Pressure Range</b>	3 – 7 bar (40-100 psi) for air motor 3 – 7 bar (40-100 psi) for cylinder
<b>Cylinder Air Consumption</b>	0.47 l/s (1 CFM) per 25 strokes
<b>Noise Level</b>	70 dB(A) for electric unit 83 dB(A) for pneumatic unit
<b>Thrust at 6 bar (85 psi)</b>	63.5 kg (140 lbs)
<b>Feed Rate</b>	305mm/sec (12 in/sec) max advance 305mm/sec (12 in/sec) max retract
<b>Stroke Range</b>	8 - 75 mm ( $\frac{5}{16}$ " - 3")
<b>Air Connection</b>	1/4 ports on all, except dwell control circuit is 1/8. Head is tapped with BSP threads (Rp). Common line to air motor and cylinder – minimum of 9.5mm I.D. tube. Individual line to air motor – minimum of 8.0mm I.D. tube. Individual line to cylinder – minimum of 8.0mm I.D. tube.

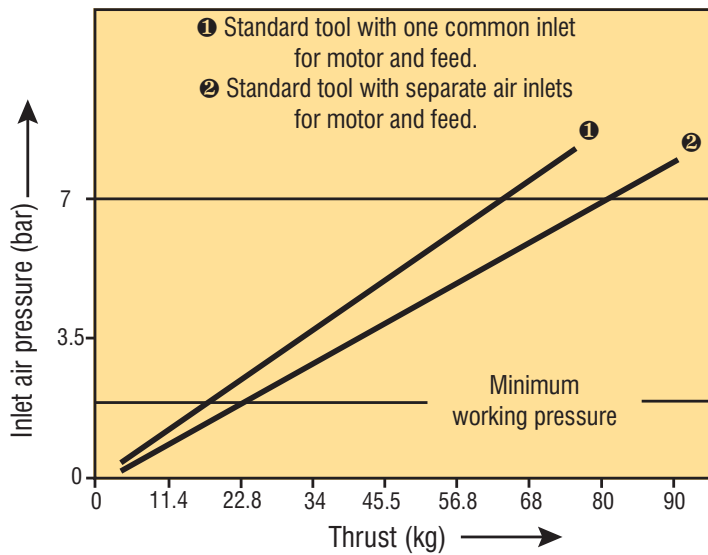


## Technical Data – Pneumatic

Power (typical)



Thrust



## Technical Data – Electric

Electric Motor Specifications

Supply Voltage (3 Phase)		Output kw		Amps		rpm	
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
220-240 $\Delta$	220-280 $\Delta$	0.25	0.30	1.3	1.2	2820	3370
380-420 Y	440-480 Y	0.25	0.30	0.75	0.75	2820	3370

l/s = 2.1189 CFM  
 1 bar = 14.5038 psi  
 1 Kg = 2.204 pounds

## Servicing – Pneumatic Self-feed Units



Pneumatic Drill Model Number	Free rpm	Output Gearbox	Intermediate Gearbox	Air Motor
DD5A06C	600	033836	033837	PT7995/62
DD5A09C	900	033835	033837	PT7995/62
DD5A15C	1500	033835	033853	PT7995/62
DD5A25C	2500	034009	--	PT7995/61
DD5A33C	3300	033836	--	PT7995/62
DD5A50C	5000	033835	--	PT7995/62
DD5A170C	17000	033808	--	PT7995/62

### Repair Kits

#### 1. For Gearboxes

Gearbox No.	Repair Kit No.
033835	C11158/5724
033836	C11158/5725
033837	C11158/5727
033853	C11158/5726
034009	C11158/5725
033808	C11158/5724

Contains: All applicable needle and roller bearings.

#### 2. For Motors

Motor Part No.	Repair Kit No.
PT 7995/61	C11158/5720
PT 7995/62	

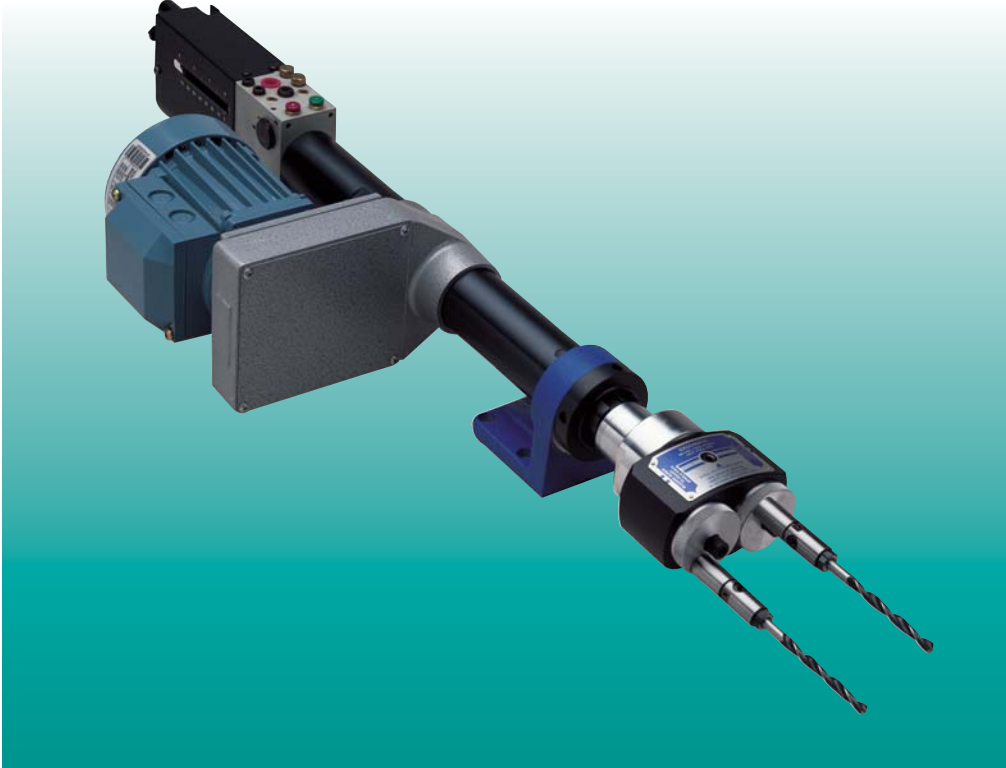
Contains: Motor blades (5)  
Bearings (2)

#### 3. Seal Kit

Repair Kit No.
C11158/5700

Contains: Complete set of 'O' rings and piston seals

## Servicing – Electric Self-feed Units



Electric Drill Model Number	Free rpm	Gearbox	Belt	Pulley
DD5AE03B	300	033836	98080/2	PT8558/10D
DD5AE05B	500	033836	98080/2	PT8558/10
DD5AE08B	800	033835	98080/2	PT8558/10
DD5AE11B	1100	033836	98080/3	PT8558/10C
DD5AE15B	1500	033835	98080/3	PT8558/10B
DD5AE19B	1900	033808	98080/2	PT8558/10D
DD5AE28B	2800	033808	98080/2	PT8558/10
DD5AE38B	3800	033808	98080/2	PT8558/10A
DD5AE52B	5200	033808	98080/3	PT8558/10B
DD5AE65B	6500	033808	98080/3	PT8558/10C

### Repair Kits

#### 1. For Gearboxes

Gearbox No.	Repair Kit No.
033835	C11158/5724
033836	C11158/5725
033837	C11158/5727
033853	C11158/5726
034009	C11158/5725
033808	C11158/5724

Contains: All applicable needle and roller bearings.

#### 2. Seal Kit

Repair Kit No.
C11158/5700

Contains: Complete set of 'O' rings and piston seals

Please quote Model Number and/or Serial Number of self-feed unit when ordering parts

# Front End Attachments

## 1. Drill Chucks

Drills come as standard with 10mm chuck for all models other the 17000 rpm version, which is supplied with a 6.5mm chuck. Refer to table for other options.

### Technical Data

Chuck Capacity		Type	Part Number
mm	in		
2 - 13 mm	5/64" - 1/2"	Keyed	A6415/21
0 - 6.5 mm	0 - 1/4"	Keyed	A6415/16
2 - 13 mm	5/64" - 1/2"	Keyless	A6415/29
1.5 - 10 mm	1/16" - 3/8"	Keyless	A6415/28

**Note:** 13mm chucks fit only on units with speeds up to 1500 rpm

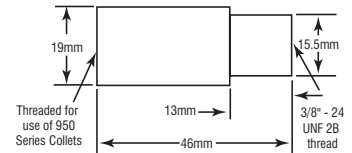
## 2. Collet Holder and Collets

Part no. of Collet Holder  
PT8558/36

Used to give collet gripping capacity to the single spindle drill. The holder threads onto the 3/8"-24 UNF output shaft of the drill. Collets then screw into the opposite end, in order to grip the drill bit.



### Dimensions

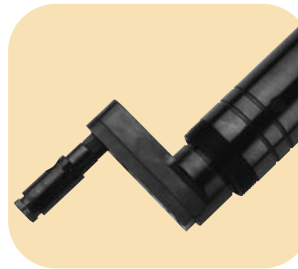


**Uses only the 950 series collets— see chart opposite**

## 3. Offset Heads

### Application

Ideally suited for off center drilling and obstructed hole access. Offset heads can also be used to drill holes with extremely close center line distances.



**SF5225** - shown fitted with collet holder

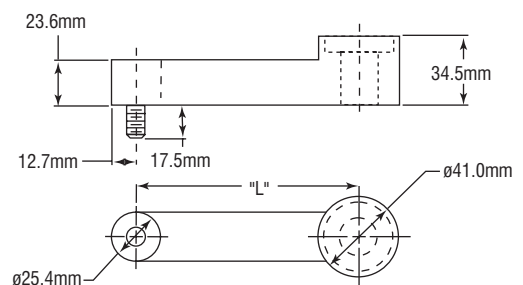
**SF5450** - shown fitted with chuck

**Note:** Heads are not supplied with either collet holders or chucks. If required please select output options from above.

### Technical Data

Part no.	SF5225	SF5450
Offset L (mm)	58	114
Max. Speed (rpm)	5000	5000
Max. Torque (Nm)	69	69

### Dimensions



1mm = 0.03937 inches  
1 Nm = 0.7375 lbf-ft

# Front End Attachments – Multiple Spindle Heads

The heads mount directly onto the Self Feed Units and the 5 Series reversible air motors. The Adjustable Spindle Units can be used for any pattern that falls within the min. / max. spindle centre dimensions.

Fixed Head Units are available for hole patterns which do not fall within the adjustment range of the heads above. To order them, submit a dimensional layout showing the hole pattern and a part drawing. Fixed spindle heads are made to order.

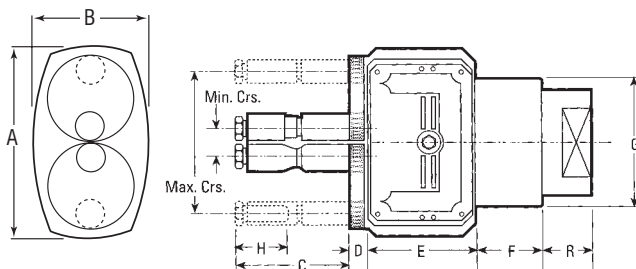


Below are details for standard stock items.  
For other requirements consult [Airmachines.com](http://Airmachines.com).  
Data shown refers to twin spindle units.

Head Type & Part Number	Maximum Collet Size mm	Maximum Centers mm	Minimum Centers mm	Maximum rpm	Maximum Drill Size			Collet Part Numbers
					Maximum Tap Size			
					Aluminium & Brass	Mild Steel	Alloy Steel	
Series 650	6.5	63.5	12.7	7000	8.0 5/16"	6.5 1/4"	5.5 7/32"	PT7432 / 108/**M PT7432 / 108/**M See below note
					5.0 x 0.8 10 - 24	5.0 x 0.8 10 - 24	4.5 x 0.75 8 - 32	
Series 950	9.5	95.0	19.0	5000	11.0 7/16"	9.5 3/8"	9.0 11/32"	PT7432 / 208/**M PT7432 / 208/**M See below note
					8.0 x 1.25 5/16" - 18	7.0 x 1.0 1/4" - 20	5.0 x 1.25 12 - 24	

**NOTE:** Collet part numbers where designated \*\* – add size required in **millimeters**.  
e.g. PT7432/108/32M is a 3.2mm collet for a 650 series head. Order 1 off for each output spindle.  
Collet part numbers where designated \*\*\* – add size required in **decimals**.  
e.g. PT7432/208/250 is a 1/4" collet for a 950 series head. Order 1 off for each output spindle.

## Dimensions – Drilling Heads



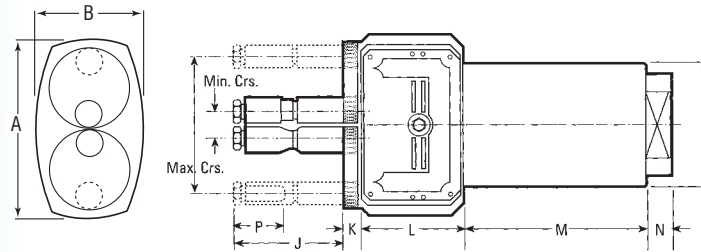
Dimension	Series 650 (mm)	Series 950 (mm)
A	83	124
B	52	77
C	51	68
D	9	13
E	46	60
F	32.8	36.8 / 43.7
R	31.75	33.3
G	ø55.5	ø82
H	24	35

\*NOTE: S – Single reduction tool  
D – Double reduction tool

1mm = 0.03937 inches

## Front End Attachments – Multiple Spindle Heads

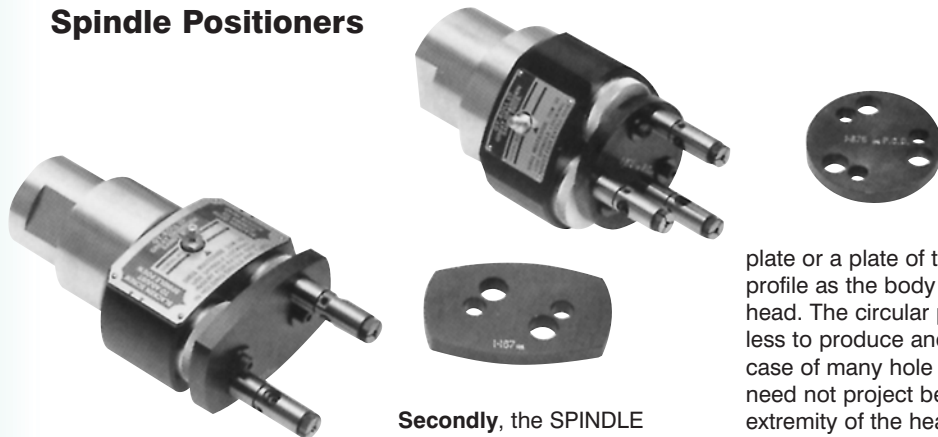
### Dimensions Tapping Heads



Dimension	Series 650	Series 950
J	51	68
K	9	13
L	46	60
M	88	106
N	11.7	16
O	ø 57	ø 82
P	24	35
S	83	124
T	52	77

All dimensions in mm

### Spindle Positioners



The SPINDLE POSITIONER is used in conjunction with the adjustable Multi-Spindle Heads and serves three purposes.

**Firstly**, it provides a quick and simple method for positioning the spindles of the twin, three, four and five spindle heads. It is particularly useful in the case of the three spindle head when the spindle positions are not equally spaced on a common P.C.D.

**Secondly**, the SPINDLE POSITIONER prevents any possibility of the spindles moving when the head is in operation since it is firmly bolted and located on to the head.

**Thirdly**, where alternative positions are required the spindles can be rapidly switched from one position to another to considerably reduce set-up time.

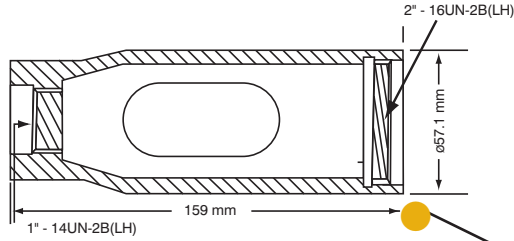
The SPINDLE POSITIONER may consist of either a circular

plate or a plate of the same profile as the body of the head. The circular plate costs less to produce and in the case of many hole patterns it need not project beyond the extremity of the head. Where the spindle positions are approaching their maximum centre distances the circular plate may then be of a diameter that would project beyond the extremity of the head. This would occur more often in the case of the Twin Spindle Head and therefore if for some reason this projection is inconvenient to the work set-up, a profile plate can then be provided which conforms to the shape of the head and therefore does not project beyond the outline of the head.

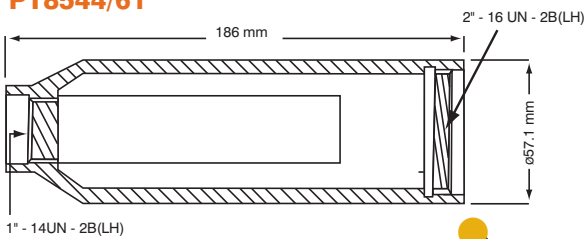
**We will be pleased to quote for your specific requirements on request**

# Mounting Brackets

## Nose Housings for Single Reduction Drills **PT7432/65**



## for Double Reduction Drills **PT8544/61**

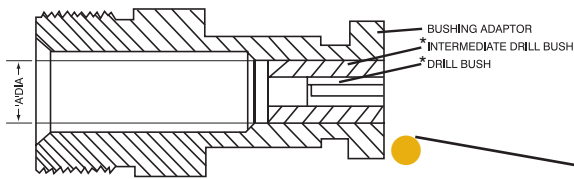


**Note: With longest nose housing PT8544/61 fitted max usable stroke is 54 mm**

## Bushing Adaptors

A range of adaptors is available as detailed below. Used in conjunction with the nose housing they enable the self feed unit to be rapidly positioned to drill accurately a number of holes without the necessity of holding the drill in a stand or clamp. A lock bushing is pressed into position in the drill fixture at each location. A bayonet fitting adaptor attached to the end of the self feed drill locks into the lock bushing, holds the unit, and correctly positions and guides the drill during the drilling operation.

Bushing Adaptor	ø 'A' mm
PT7432/66C	10.33 / 10.32
PT7432/66D	12.71 / 12.70

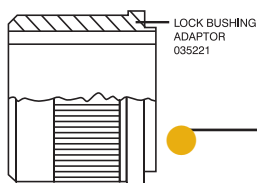


Male thread size of all bushing adaptors in - 1" - 14UN - 2A(LH)

**\* Note: Self Manufacture**

## Lock Bushing Adaptor

**35221**



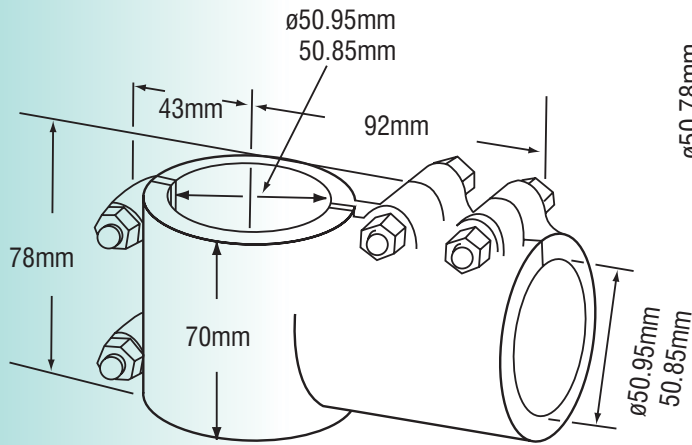
Recommended diameter of hole in mild steel fixture plate 25.4 mm / 25.43 mm to give press fit with lock bushing. For other fixture plate materials, hole diameter will vary.

## Bayonet Mountings

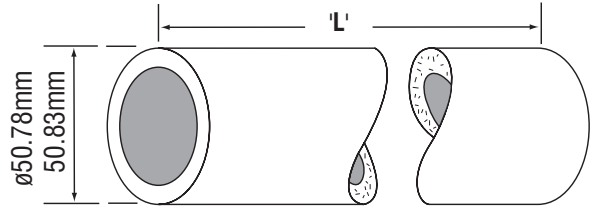
As an alternative to the standard mounting clamp arrangement a series of bayonet mounting adaptors is available. These bayonet adaptors, each carrying a drill guide bush, locate rapidly into lock bushings press fitted into the fixture at points where holes are to be drilled. By this means the tools can be quickly repositioned to cover a series of hole patterns. Details of bayonet mountings and lock bushings are given below. A nose housing carrying the bayonet mounting is screwed to the drill in place of the thread guard. Dimensions of nose housings are given below.



## Mounting Brackets – Rapid Assembly



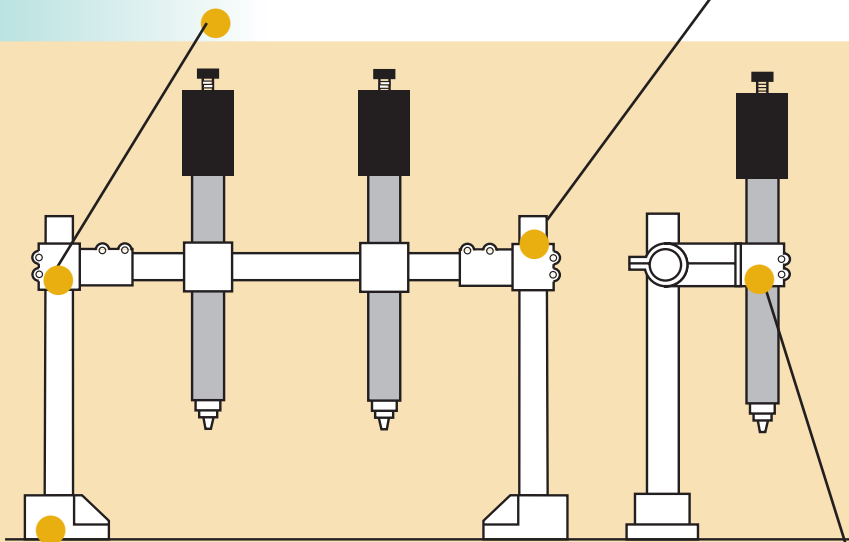
**Female Clamp**  
**PT7432/143**



**Support Column Dimensions**

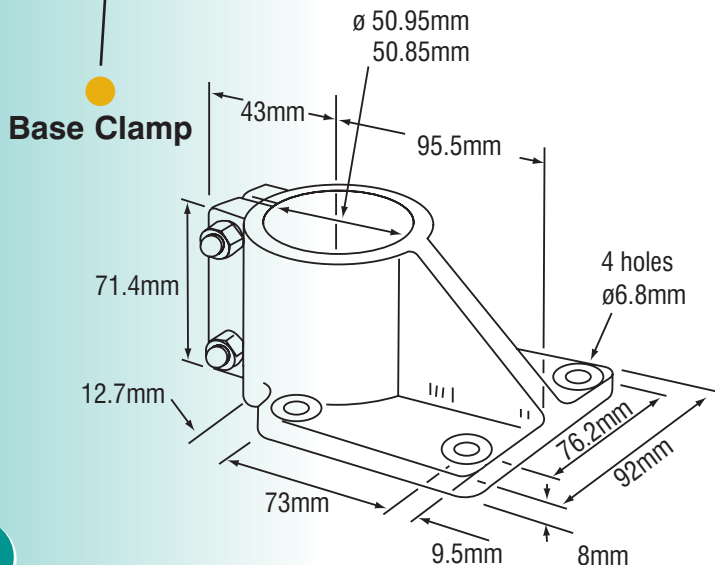
Part Number	Length 'L' Meters
PT7432/40	0.45
PT7432/40A	0.60
PT7432/40B	0.76
PT7432/40C	0.91
PT7432/40D	1.82
PT7432/40E	1.22
PT7432/40F	1.52
PT7432/40G	3.05

**Support Column**



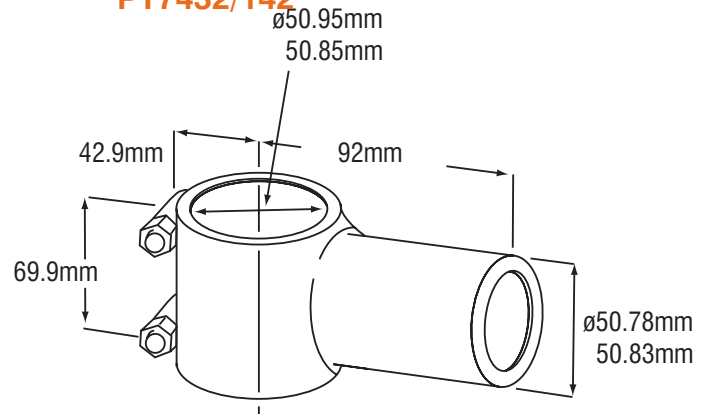
### Rapid Assembly Fixture Construction Components

The range of mounting clamps and column provides an easy and rapid method of producing fixtures for mounting self feed units in vertical, horizontal or angled planes. Dimensional details of these components are illustrated.



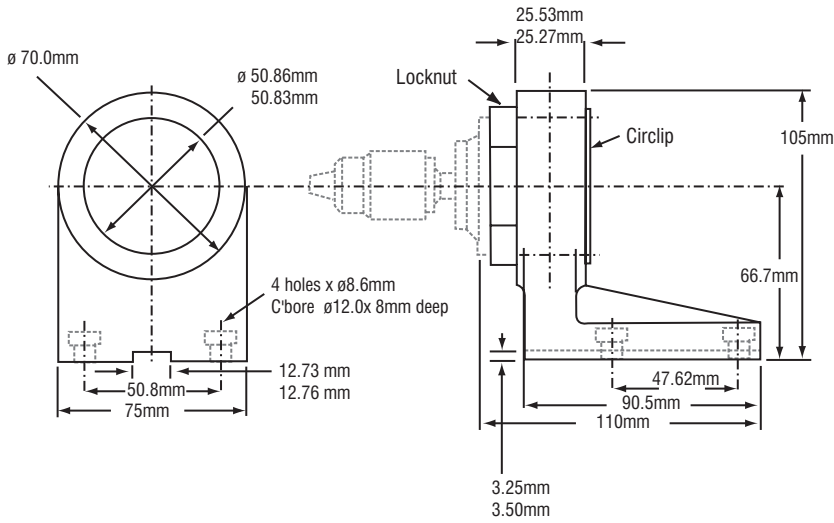
**Base Clamp**

**Male/Female Clamp**  
**PT7432/142**



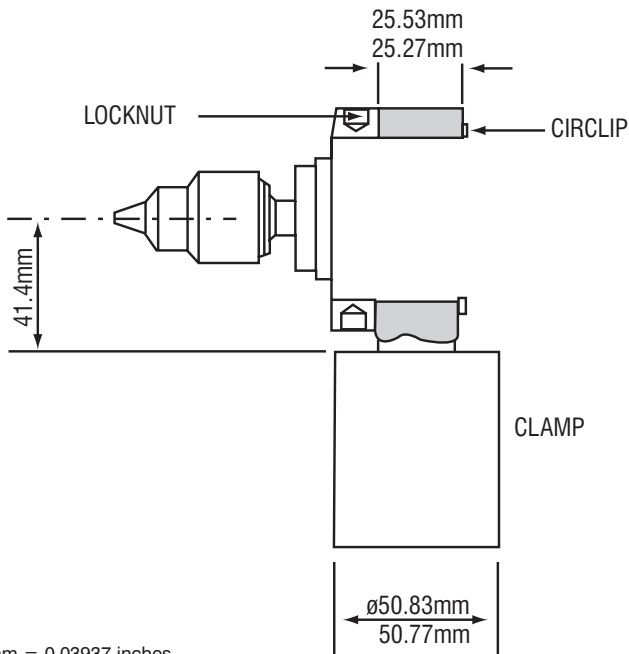
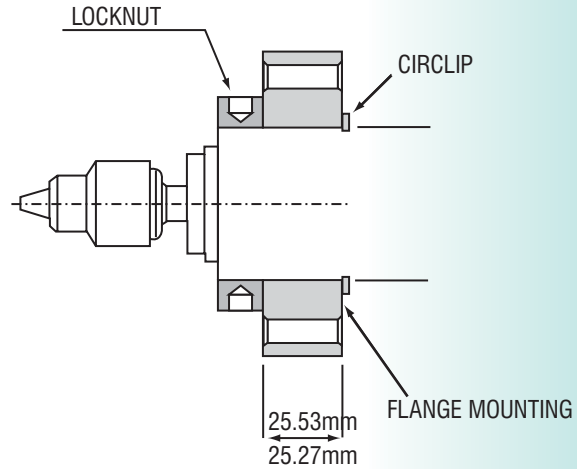
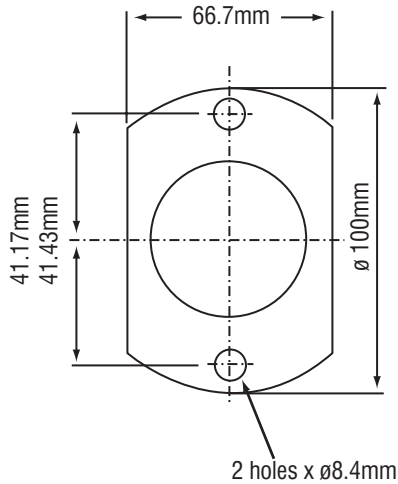


# Nose Mounting Assemblies



**Foot Mounting  
Bracket  
Assembly**  
PT8544/145

**Flange Mounting  
Assembly**  
PT8544/124



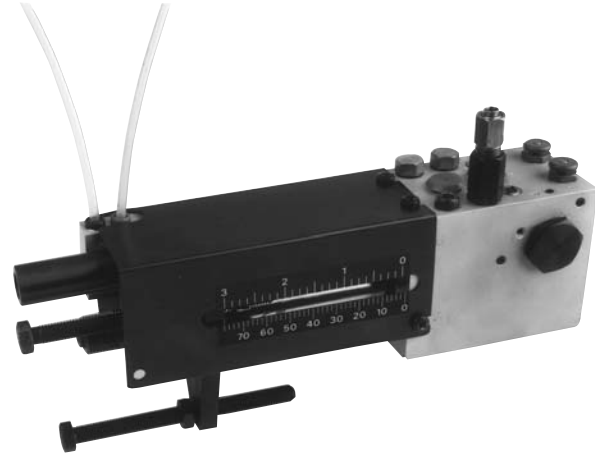
**Nose Mounting  
Bracket  
Assembly**  
PT8544/52

1mm = 0.03937 inches

## Control Options & Accessories

### Return Limit Kit - PT8544/120

- 3 way NC valve that provides a signal when the self feed unit is fully retracted.
- Ideal for sequential circuits in conjunction with the motor tube signal.
- Accepts 4mm O.D. tubing.
- Mounts directly to the upper guard (fittings)



### Dwell Control Kit - PT8544/170

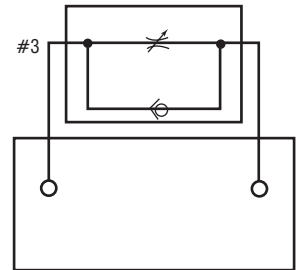
- Used to delay the automatic return signal from retracting the drill head for up to 1 second for depth control within 0.2mm or for counterbore or countersink application.
- Kit consists of a time delay and all necessary fittings and plugs.

**Note:** For a time delay of over 1 second, please specify.

#### To install

1. Install the set screw in the same manner as for bottom limit signal.
2. Connect the 1 port of the timer to the bottom limit port on the control head using the tubing supplied.
3. Connect the 3 port of the timer to the other port on the control head. (10) (Fig. 1, page 13).
4. Set timer for delay required.

#### SCHEMATIC



### Hydraulic Feed Control Units

- Used for applications requiring constant feed rate for varying loads.
- Used to reduce burrs and snatch on breakthrough when drilling through holes.
- Permits rapid advance of the head to the work, then controlled rate during the work cycle.
- Kits are complete with all necessary fittings. Standard tool guard protects against pinch

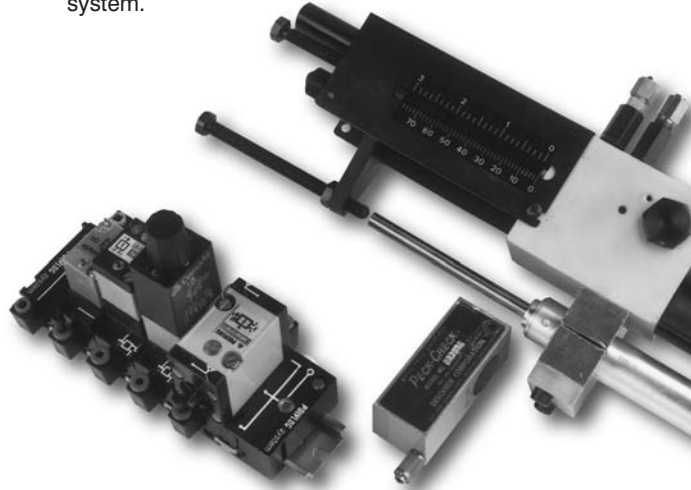


Stroke	25(mm)	50(mm)
Kit Number	PT8544/122B	PT8544/122C

# Control Options & Accessories

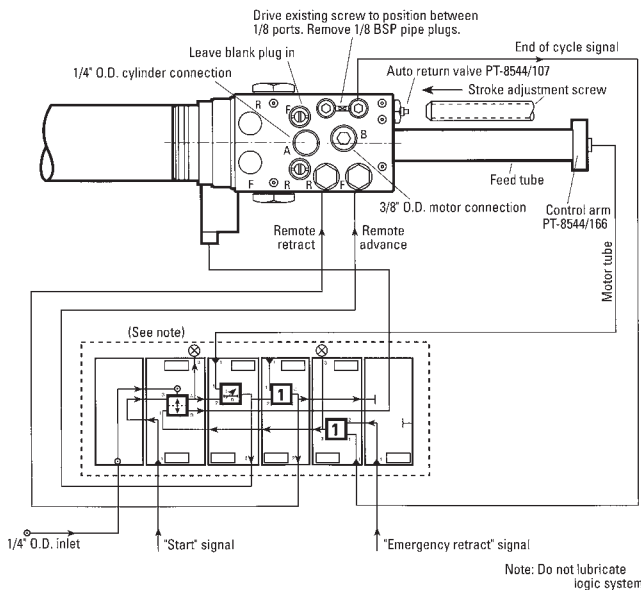
## Peck Feed Kits - PT8544/201 & PT8544/202

- Used when it is necessary to drill a hole in more than one step in order to clear swarf and to provide for coolant penetration.
- Drill will advance to work piece and drill at a constant feed rate for a predetermined time.
- The unit will then rapid retract to the full back position and then rapid advance to within 0.2mm of the point at which drilling was interrupted and will again drill at a controlled rate.
- Cycle repeats until the unit reaches the depth required, at which time it retracts and the peck feed
- The depth of each step is controlled by the time delay in the control module.
- The control circuit used in the module is shown below, for an application that requires the circuits to be included in a main control system.



Peck Feed Kit	Stroke (mm)
PT8544/201	25
PT8544/202	50

### Peck Control Circuit



### To set up Peck Control Unit

1. Select Peck Check that has at least 6mm more stroke than desired hole depth.
2. Set required Feed Rate on Hydraulic Feed Unit. Note: Drill bit must be more than 6mm from the work piece in rest condition.
3. Set Depth Stop to correct depth desired.
4. Set Hydraulic Feed Unit Depth Screw to engage piston approximately 3mm before drill bit engages the work piece.
5. Set Time Adjustment to obtain required number of steps. The rule of thumb is to set the first depth 3 times the drill diameter.
6. Remote retract and advance signals must be connected to control head through valves supplied.

## Control Options & Accessories

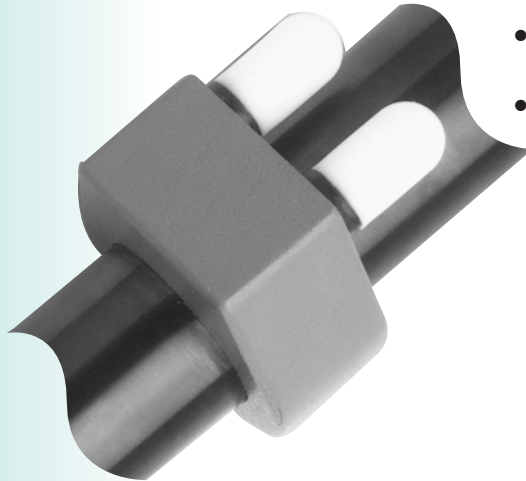


### Swarf Exclusion Kit - PT 8544/180

- Mounts to the front of the unit to prevent foreign matter from causing damage.
- Recommended for applications where flood coolant is used or for inverted applications.

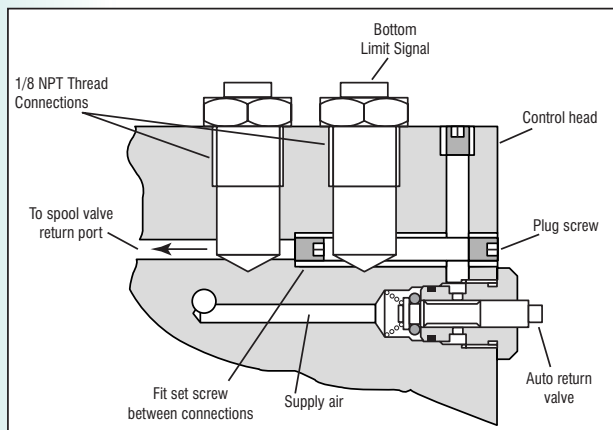
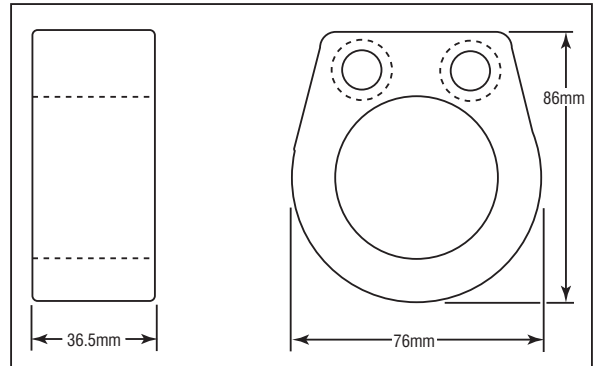
#### To install:

1. Remove chuck.
2. Fit chuck guard.
3. Fit large nut to outer tube.
4. Fit sleeve and secure with ties supplied.
5. Fit chuck.



### Exhaust Collector - PT7995/457C

- Can be used to reduce the noise level to below 83dB(A).
- Used also when it is necessary to pipe the exhaust away from the work area.
- Installed by sliding the collector over the outer tube. Ensure O-rings are properly greased before assembly.



### Bottom Limit Signal - Derivation

- The automatic return signal can be used to indicate when at depth for applications when an automatic return is not required.

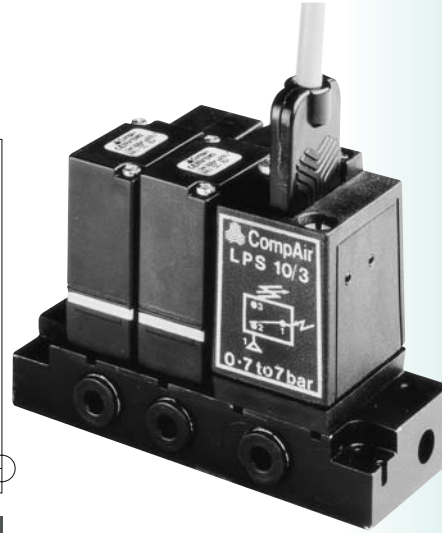
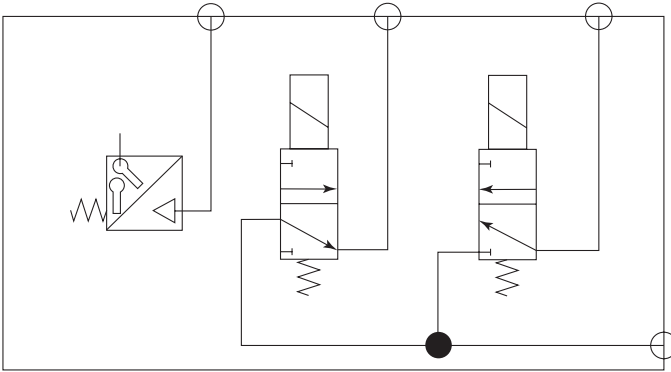
#### To convert the limit:

1. Remove guard.
2. Remove set screw located directly above auto return valve.
3. Install set screw to position shown using thread sealer.
4. Reinstall the set screw.

**Note:** For bottom limit signal, connect a fitting to the port nearest the auto return valve. The other port can then be used as a remote retract signal port.

## Control Options & Accessories

**P.L.C. Interface Manifold – Part No. K065J47620**  
**Allows for the conversion of electrical signals**  
**to pneumatic commands and vice versa.**



### Technical Data

#### PRESSURE SWITCH

Adj. firing pressure	0.7 - 7 bar (10-100 psi)
Max. Pressure	8 Bar (116 psi)
Differential pressure	Less than 25% max.
Electrical connection	2 mtr. long; tamper proof; 3 amp rating.

#### Contacts:

<b>1.</b>	<b>2.</b>	<b>3.</b>
Common	N.C.	N.O.
Red	White	Black
24 volt D.C. 2 watt coils		

Push-in fittings to accept 4mm tubing.

#### Dimensions

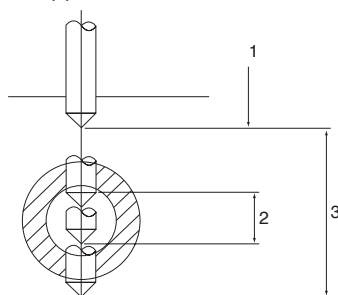
Overall Length:	80 mm (3.15" )
Width:	38 mm (1.50" )
Height:	64 mm (2.52" )

### Skip Control Unit (S.C.U.)

The unit can be provided with a skip feature in 13mm, 25mm, 50mm and 75mm stroke models. The skip function is usually furnished in either of two styles as follows:

- a. (C.F. + F.F. + C.F.):  
 Controlled feed followed by a fast feed and then a return to a controlled feed for the balance of the S.C.U. stroke. This style is usually utilised for drilling tubing, clevis joints or any application requiring 2 holes in line with a space between the holes.

- b. Controlled feed followed by a fast feed for the balance of the S.C.U. stroke. This style has been used for combined drilling and tapping or for special applications.



**IMPORTANT**

#### Need to specify:

1. First controlled feed
2. Fast feed
3. Total stroke
4. Thrust
5. If round tube - inside and outside diameters
6. If not round tube - cross sectional dimensions
7. Drill diameter and point angle
8. Controlled feed rate

Consult factory for price and delivery information

## Electric Drilling Unit – Heavy Duty

0.55/0.75 kw (0.75/1.0 HP)

FEATURES

Drilling capacity up to 18mm (23/32") in steel

BENEFITS



Model	rpm	Drive	Motor (Standard) ③	Drilling Capacity ①			Total Stroke	Slow Feed ②	Thrust @ 6 bar	Weight kg
				Steel	Alum	Brass				
DP18/C/**/1R	130	Gear Speed Reducer	kw 0.55 6 Pole	18	20	22	100	80	3700N	32
DP18/C/**/2R	160									
DP18/C/**/3R	200									
DP18/C/**/4	340									
DP18/C/**/5	530	Chain	kw 0.75 4 Pole							
DP18/C/**/6	700									
DP18/C/**/8	610	Timing Belt	kw 0.75 2 Pole							
DP18/C/**/9	1000									
DP18/C/**/10	1500									
DP18/C/**/11	1200									
DP18/C/**/12	2000									
DP18/C/**/13	3000									

① The drilling capacity is indicated and it is referred to a depth of 1,5 times the diameter and for 500 N/mm<sup>2</sup> steel.

② The unit is usually provided with a 80mm. working slow forward regulator. On request, regulators for greater strokes are available.

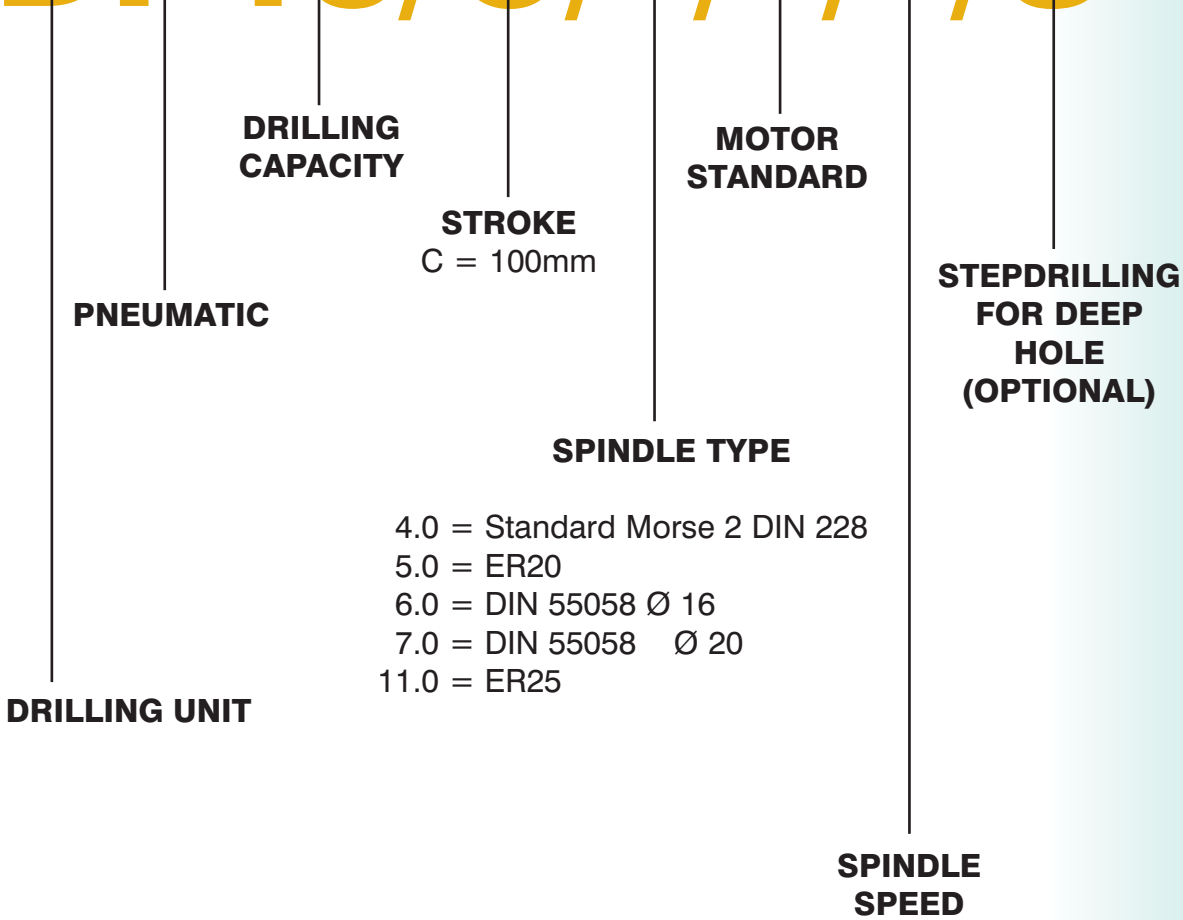
Note: For 60 Hz RPM, multiply 50 Hz RPM by 1.20.

1mm = 0.03937 inches  
1N = 0.2248 pounds force  
1Kg = 2.204 pounds

# Electric Drilling Unit – Model Number Designation

Example - Heavy Duty 0.75kw (1HP)

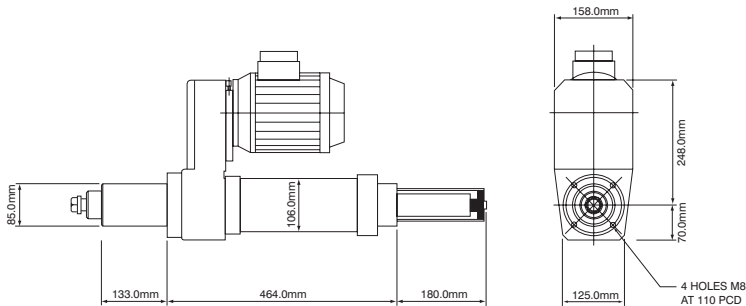
**DP18/C/\*/\*/\*S**



- 4.0 = Standard Morse 2 DIN 228
- 5.0 = ER20
- 6.0 = DIN 55058 Ø 16
- 7.0 = DIN 55058 Ø 20
- 11.0 = ER25

**SPINDLE SPEED**

- 1R = 130
- 2R = 160
- 3R = 200
- 4 = 340
- 5 = 530
- 6 = 700
- 8 = 610
- 9 = 1000
- 10 = 1500
- 11 = 1200
- 12 = 2000
- 13 = 3000



1mm = 0.03937 inches

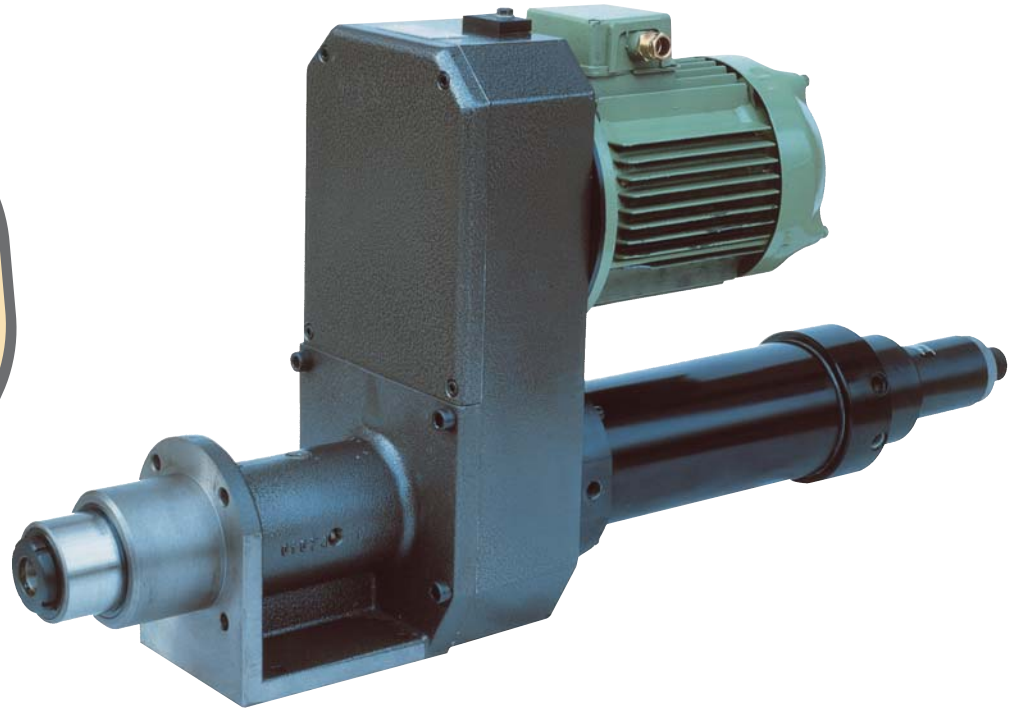
# Electric Drilling Unit – Heavy Duty

## 3 kw (4 HP)

**FEATURES**

**Drilling capacity up to 28mm (1 3/32") in steel**

**BENEFITS**



Model	rpm	Drive	Motor (Standard)	Drilling Capacity <sup>①</sup>			Total Stroke	Slow Feed	Thrust @ 6 bar	Weight kg
				Steel	Alum	Brass				
DP28/D/**/1R	70	Gear Speed Reducer	3 kw 4 Pole	28	32	35	140	100	6000N	120
DP28/D/**/2R	106									
DP28/D/**/3R	155									
DP28/D/**/4R	210									
DP28/D/**/5R	300									
DP28/D/**/6	460	Timing Belt	1.5 kw 6 Pole	28	32	35	140	100	6000N	95
DP28/D/**/7	710		3 kw 4 Pole							
DP28/D/**/8	985		3 kw 2 Pole							
DP28/D/**/9	1420									
DP28/D/**/10	1990									
DP28/D/**/11	2870									

① The drilling capacity is indicated and it is referred to a depth of 1.5 times the diameter and for 500 N/mm<sup>2</sup> steel.

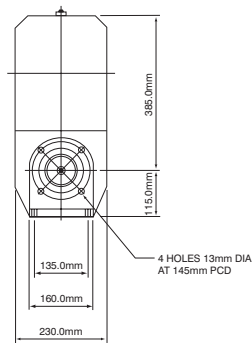
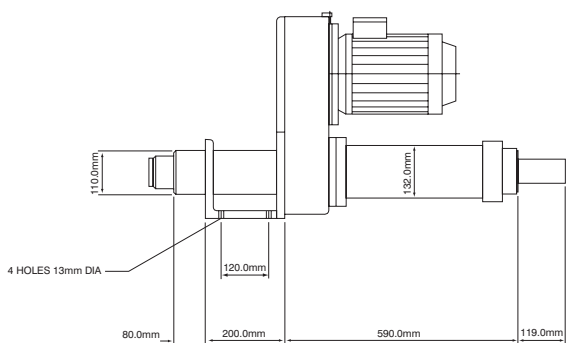
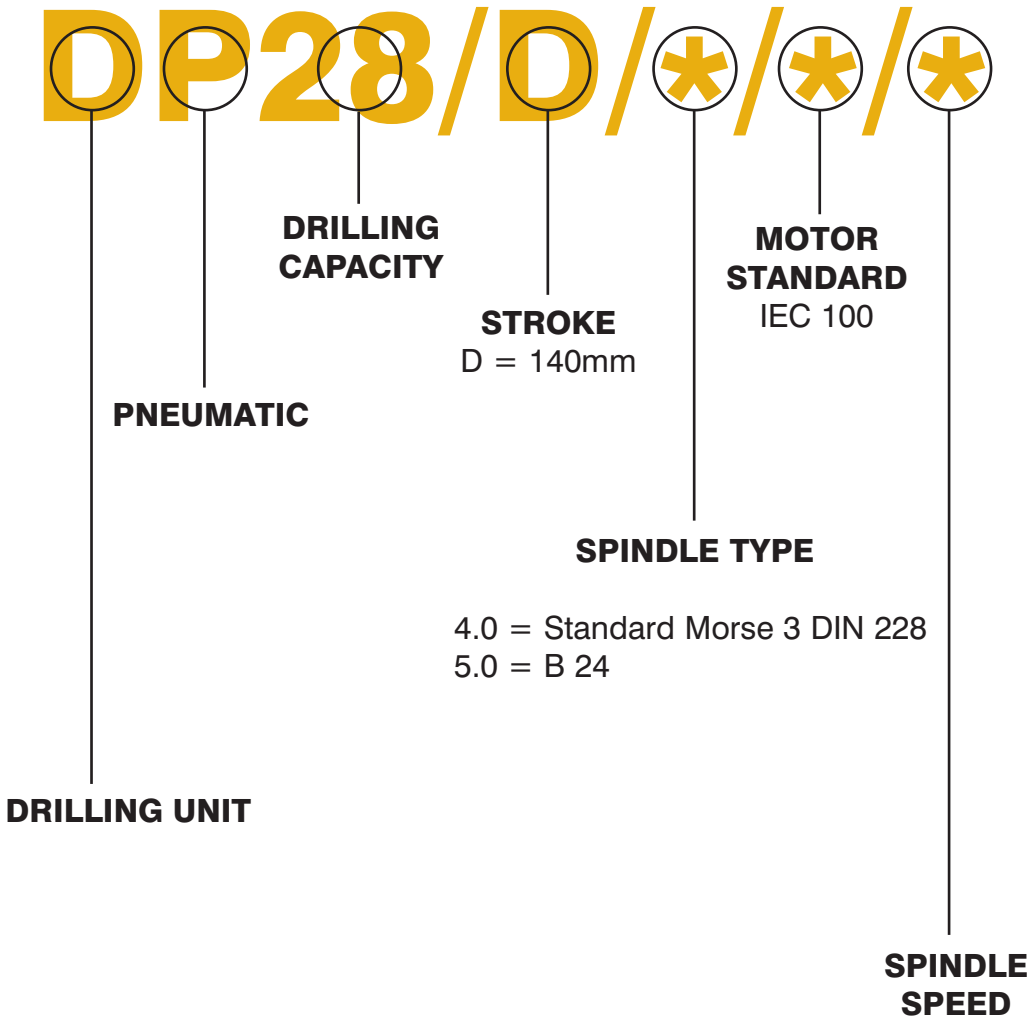
Note: For 60 Hz RPM, multiply 50 Hz RPM by 1.20.

1mm = 0.03937 inches  
 1N = 0.2248 pounds force  
 1 kg = 2.204 pounds



# Electric Drilling Unit – Model Number Designation

Example - Heavy Duty 3kw (4HP)



1R =	70
2R =	106
3R =	155
4R =	210
5R =	300
6 =	460
7 =	710
8 =	985
9 =	1420
10 =	1990
11 =	2870

1mm = 0.03937 inches

# Electric Drilling Unit – Heavy Duty

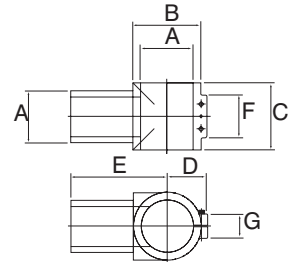
## Mounting Brackets

(All dimensions in mm)

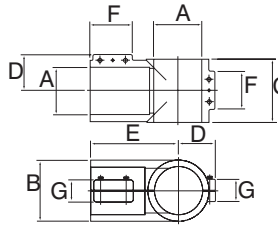
### Male Cross Bracket CM85



	A	B	C	D	E	F	G
CM85	85	110	110	65	155	75	40



### Female Cross Bracket CF85

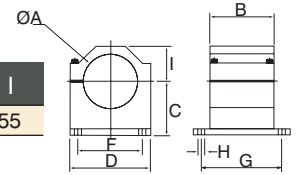


	A	B	C	D	E	F	G
CF85	85	110	112	65	155	75	40

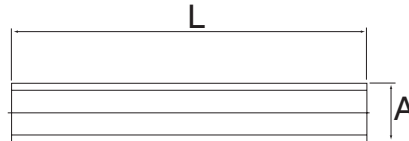
### Base Block F85



	A	B	C	D	E	F	G	H	I
F85	85	100	85	125	150	100	125	11	55

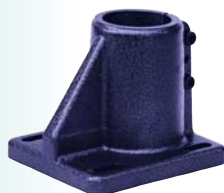


### Column D85. "L" add length required as below

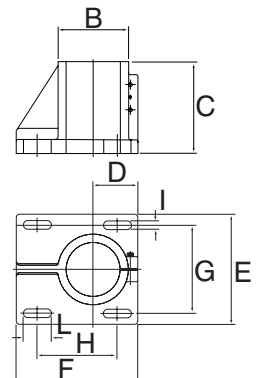


	A	L						
D85	85	500	600	700	800	900	1000	

### Swivel Base A85



	A	B	C	D	E	F	G	H	I
A85	85	110	145	70	175	190	140	125	13



1mm = 0.03937 inches

## Air Motors

These motors are light in weight, compact, powerful, and because they cannot be damaged by continued stalling have a long life with low maintenance costs. Their freedom from sparking and overheating make them particularly useful in atmospheres where fire risks must be minimized. Running speed can be varied by an air pressure regulator or, if an alternative speed range is required, gear clusters can be easily changed. Normal operating pressure is 6.0 bar (85 psi) but the motor will continue to run at pressures down to 0.3 bar (5 psi).

2 Series models are only available as reversible motors with combined threaded and plain key drive shafts.

5 Series 'A' Models are only available as forward rotation motors with combined threaded and plain key drive shafts. 5 Series reversible motors have plain, single key drive shafts.

7 Series models are offered as reversible or forward rotation motors and are fitted with plain shafts with two keys as standard. Forward rotation models can be supplied with drive shafts threaded 1/2" – 20UNF-2A alternative. This requirement should be specified when ordering.

Air connections are 1/4" BSP male (G1/4A) or NPT (optional) and can be arranged for side or rear facing entry except for 5A Series forward rotation motors

which have rear facing entry only. Forward rotation models have single air inlets, reversible models have double air inlets. Forward rotation models run in an anti-clockwise direction looking on the shaft.

NB 5A Series forward rotation motors have air silencers located at the rear of the tool, all other models have silencing within the motor body and exhaust from the side.



## Air Motors – Technical Data

Performance at 6 bar, (85 psi) inlet

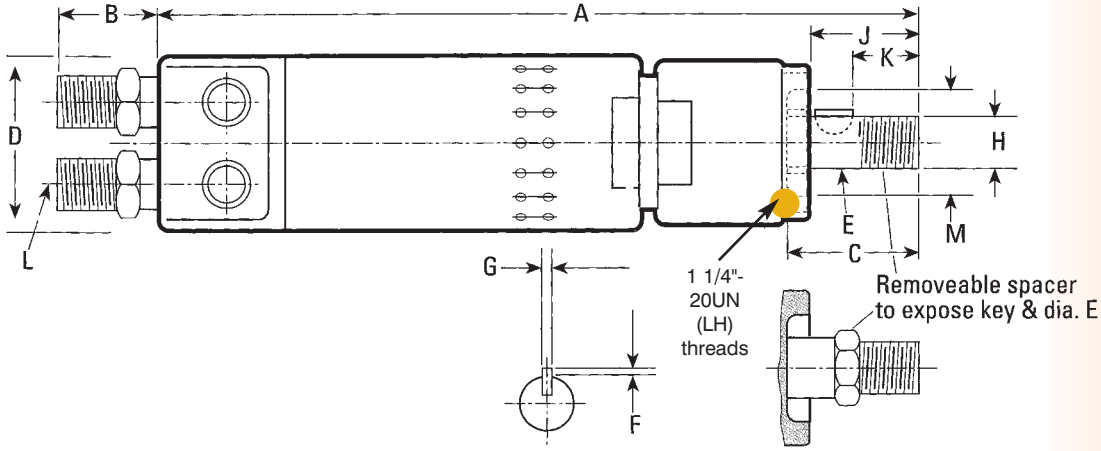
Model	Description	Rated No-load Speed rpm	Weight		Noise Level dB(A)	Air Consumption @ no load speed		Horse Power HP	Speed at rated HP rpm	Torque at rated HP	
			kg	(lb)		l/s	(scfm)			Nm	lb'ft
MD2R06RB		600	0.77	(1.7)				0.2	300	4.74	3.5
MD2R09RB	2 Series	900	0.77	(1.7)				0.2	500	2.84	2.1
MD2R27RB	Reversible	2700	0.57	(1.25)	96.0 (81.0*)	8.5	(18.0)	0.2	1450	0.97	0.72
MD2R45RB		4500	0.57	(1.25)				0.2	2600	0.54	0.4
MD5R04A		400	1.20	(2.64)				0.39	200	13.80	10.20
MD5R07A	5 Series	700	1.20	(2.64)				0.39	350	7.85	5.80
MD5R12A	Forward Rotation	1200	1.20	(2.64)	76	10.8	(23.0)	0.39	600	4.60	3.40
MD5R22A		2200	0.76	(1.67)				0.39	1100	2.50	1.85
MD5R29A		2900	0.76	(1.67)				0.39	1450	1.90	1.41
MD5R45A		4500	0.76	(1.67)				0.39	2200	1.26	0.93
MD5R05R		500	1.04	(2.3)				0.37	250	10.56	7.8
MD5R08R	5 Series	800	1.04	(2.3)				0.37	450	5.82	4.3
MD5R12R	Reversible	1200	1.04	(2.3)	94.0 (79.0*)	11.7	(25.0)	0.37	750	3.52	2.6
MD5R18R		1800	0.81	(1.8)				0.37	1200	2.19	1.62
MD5R28R		2800	0.81	(1.8)				0.37	1450	1.51	1.12
MD5R45R		4500	0.81	(1.8)				0.37	2200	1.13	0.84
MD7R05		500	2.49	(5.5)				0.7	250	19.46	14.5
MD7R08		800	2.49	(5.5)				0.7	400	12.46	9.2
MD7R13	7 Series	1300	2.49	(5.5)				0.7	650	7.58	5.6
MD7R27	Forward Rotation	2700	1.98	(4.37)	86.0 (79.0*)	16.5	(35.0)	0.7	1250	3.92	2.9
MD7R42	Keyed Shaft	4200	1.98	(4.37)				0.7	2200	2.30	1.7
MD7R150		15000	1.98	(4.37)				0.7	7500	0.67	0.5
MSD7R05**		500	2.49	(5.5)				0.7	250	19.46	14.5
MSD7R08**		800	2.49	(5.5)				0.7	400	12.46	9.2
MSD7R13**	7 Series	1300	2.49	(5.5)				0.7	650	7.58	5.6
MSD7R27**	Forward Rotation	2700	1.98	(4.37)	86.0 (79.0*)	16.5	(35.0)	0.7	1250	3.92	2.9
MSD7R42**	Screwed Shaft	4200	1.98	(4.37)				0.7	2200	2.30	1.7
MSD7R150**		15000	1.98	(4.37)				0.7	7500	0.67	0.5
MD7R04R		400	2.49	(5.5)				0.55	170	23.03	17.0
MD7R06R		600	2.49	(5.5)				0.55	300	13.14	9.7
MD7R10R	7 Series	1000	2.49	(5.5)				0.55	500	7.85	5.8
MD7R23R	Reversible	2300	1.98	(4.37)	94.0 (81.0*)	16.5	(35.0)	0.55	1100	3.52	2.6
MD7R35R		3500	1.98	(4.37)				0.55	1750	2.23	1.65
MD7R100R		10000	1.98	(4.37)				0.55	5400	0.71	0.53

\* See TSP2002 operating instructions with regard to reducing noise levels on these tools.

\*\* MSD denotes 1/2" – 20UNF 2A threaded output shaft.

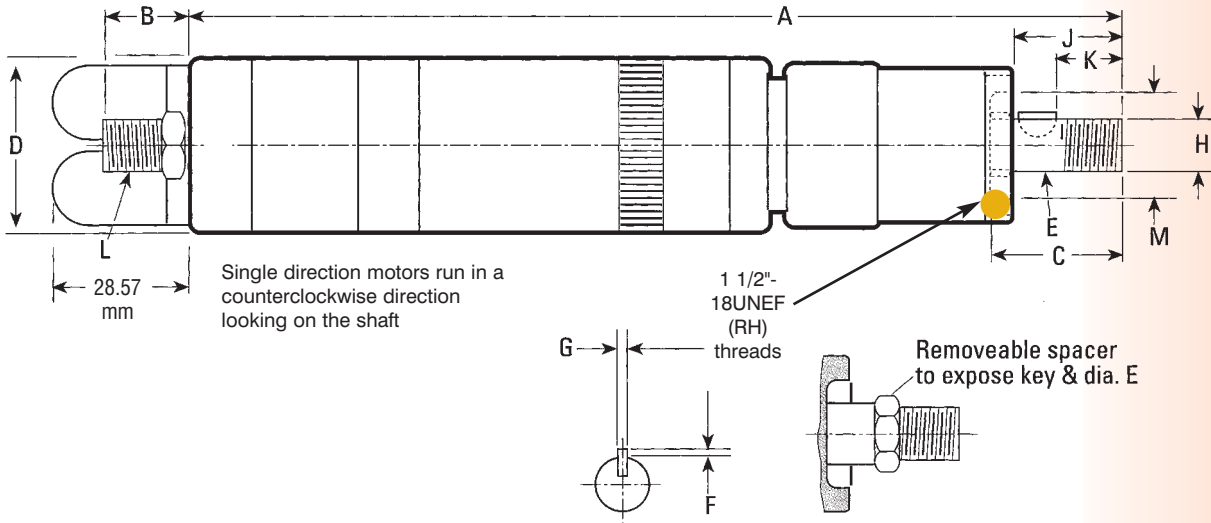
# Dimensions

## 2 Series (reversible)



2 Series	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H	J mm	K mm	L	M mm
MD2R45RB	130	24	24	38.1	$\frac{9.512}{9.499}$	1.19	2.38	3/8"-24 UNF	20	11.1	1/4 BSP	16
MD2R27RB	130	24	24	38.1	$\frac{9.512}{9.499}$	1.19	2.38	3/8"-24 UNF	20	11.1	1/4 BSP	16
MD2R09RB	155	24	24	38.1	$\frac{9.512}{9.499}$	1.19	2.38	3/8"-24 UNF	20	11.1	1/4 BSP	16
MD2R06RB	155	24	24	38.1	$\frac{9.512}{9.499}$	1.19	2.38	3/8"-24 UNF	20	11.1	1/4 BSP	16

## 5A Series (forward)

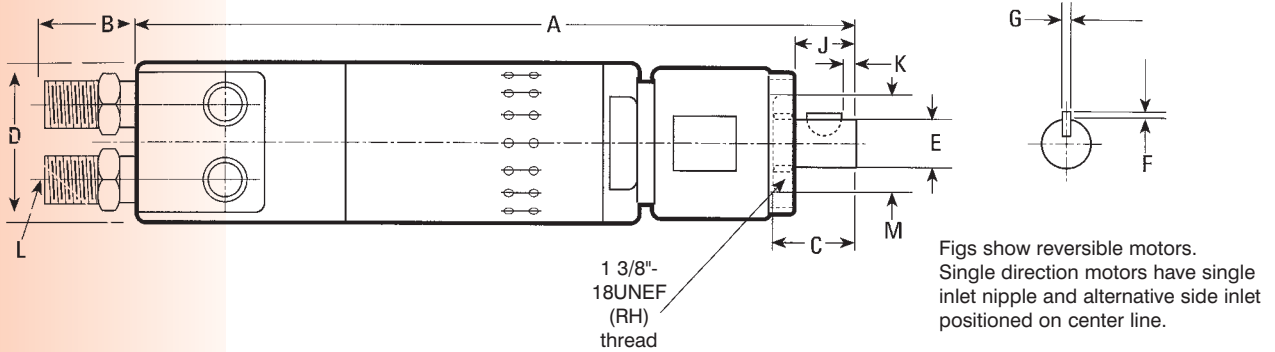


5A Series	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H	J mm	K mm	L	M mm
MD5R45A	162	16	20	42.06	$\frac{9.512}{9.499}$	1.19	2.38	3/8"-24 UNF	18.5	9.5	1/4 BSP	15.87
MD5R29A	162	16	20	42.06	$\frac{9.512}{9.499}$	1.19	2.38	3/8"-24 UNF	18.5	9.5	1/4 BSP	15.87
MD5R22A	162	16	20	42.06	$\frac{9.512}{9.499}$	1.19	2.38	3/8"-24 UNF	18.5	9.5	1/4 BSP	15.87
MD5R12A	195	16	20	42.06	$\frac{9.512}{9.499}$	1.19	2.38	3/8"-24 UNF	18.5	9.5	1/4 BSP	15.87
MD5R07A	195	16	20	42.06	$\frac{9.512}{9.499}$	1.19	2.38	3/8"-24 UNF	18.5	9.5	1/4 BSP	15.87
MD5R04A	195	16	20	42.06	$\frac{9.512}{9.499}$	1.19	2.38	3/8"-24 UNF	18.5	9.5	1/4 BSP	15.87

1mm = 0.03937 inches

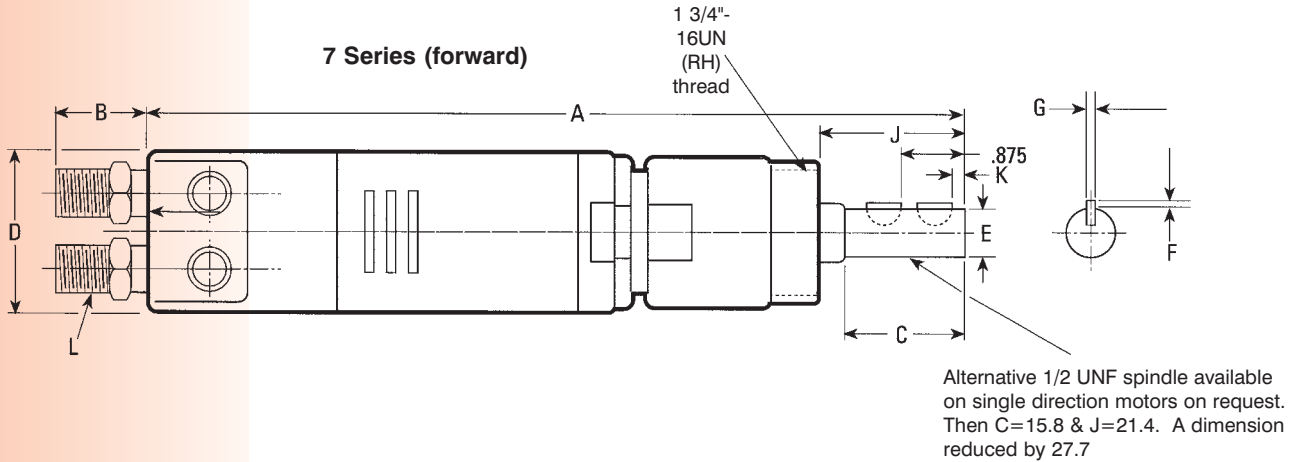
# Dimensions

## 5R Series (reversible)



5R Series	A mm	B mm	C mm	D mm	E mm	F mm	G mm	J mm	K mm	L	M mm
MD5R - 45R	134	24	21	44	9.512 9.499	1.20	2.4	18.5	2.5	1/4 BSP	18
MD5R - 28R	134	24	21	44	9.512 9.499	1.20	2.4	18.5	2.5	1/4 BSP	18
MD5R - 18R	134	24	21	44	9.512 9.499	1.20	2.4	18.5	2.5	1/4 BSP	18
MD5R - 12R	174	24	21	44	9.512 9.499	1.20	2.4	18.5	2.5	1/4 BSP	18
MD5R - 08R	174	24	21	44	9.512 9.499	1.20	2.4	18.5	2.5	1/4 BSP	18
MD5R - 05R	174	24	21	44	9.512 9.499	1.20	2.4	18.5	2.5	1/4 BSP	18

## 7 Series (forward)

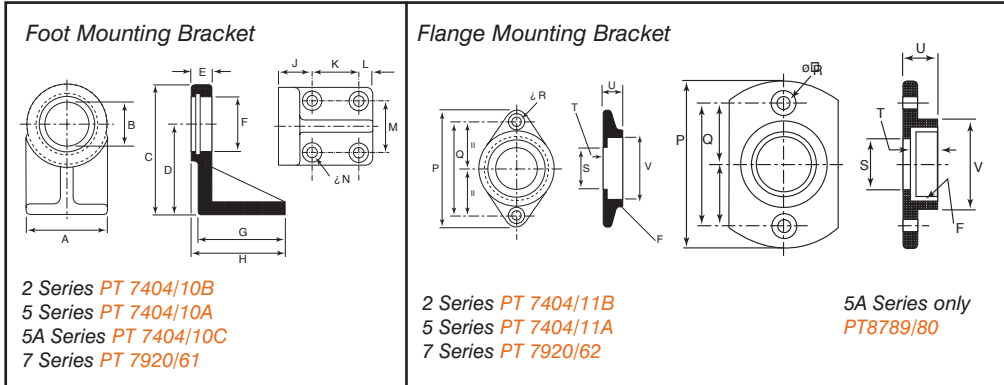


7 Series (forward)	A mm	B mm	C mm	D mm	E mm	F mm	G mm	J mm	K mm	L
MD7R - 150	230	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP
MD7R - 42	230	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP
MD7R - 27	230	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP
MD7R - 13	280	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP
MD7R - 08	280	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP
MD7R - 05	280	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP

Note: If 1/2 x 20 UNF output shaft required order MSD -\*\* series

7 Series (reversible)	A mm	B mm	C mm	D mm	E mm	F mm	G mm	J mm	K mm	L
MD7R - 100R	230	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP
MD7R - 35R	230	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP
MD7R - 23R	230	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP
MD7R - 10R	280	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP
MD7R - 06R	280	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP
MD7R - 04R	280	24	41	55.56	12.687 12.674	1.47	3.2	49.5	5	1/4 BSP

# Accessories



## Foot Mounting Bracket

All dimensions are in mm

	A	B	C	D	E	F	G	H	J	K	L	M	N
<b>2 Series</b>	41.3	22.3	61.3	47.6	8.3	1 1/4 - 20UN	44.5	47.6	10.3	23.8	7.1	27.0	5.2
<b>Part No. PT7404/10B</b>						LH							
<b>5R Series</b>	41.3	22.3	61.3	47.6	8.3	1 3/8 18UN	44.5	47.6	10.3	23.8	7.1	27.0	5.2
<b>Part No. PT7404/10A</b>													
<b>5A Series</b>	41.3	22.3	61.3	47.6	8.3	1 1/2 18 UN	44.5	47.6	10.3	23.8	7.1	27.0	5.2
<b>Part No. PT7404/10C</b>													
<b>7 Series</b>	54.0	-	81.0	54.0	-	1 3/4 16UN	49.2	52.4	17.0	22.3	8.0	38.0	5.2
<b>Part No. PT7920/61</b>													

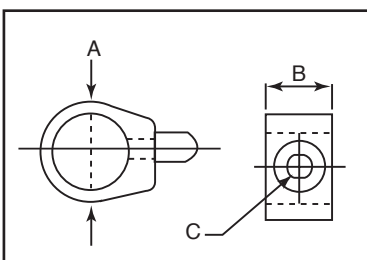
## Flange Mounting Bracket

All dimensions are in mm

	P	Q	R	S	T	U	V
<b>2 Series</b>	65.1	52.4	5.2	22.3	8.3	10.3	41.3
<b>Part No. PT7404/11B</b>							
<b>5R Series</b>	65.1	52.4	5.2	22.3	8.3	10.3	41.3
<b>Part No. PT7404/11A</b>							
<b>5A Series</b>	65.1	52.4	5.2	22.3	9.9	11.9	42.8
<b>Part No. PT8789/80</b>							
<b>7 Series</b>	82.5	66.6	5.2	-	-	16.7	54.0
<b>Part No. PT7920/62</b>							

## Exhaust Adaptors

These fit on the outside diameter of the motors to enclose the peripheral exhaust ports. They are fitted with silencers which may be removed for the piping of the exhaust air.



Part Number	A	B	Silencer Thread
<b>2 Series</b>			
<b>Part No. PT7992/58A</b>	51	27	3/8" NPT
<b>PT7992/58B</b>			3/8" BSP
<b>5 Series</b>			
<b>Part No. PT7400/520A</b>	65	38	1/2" NPT
<b>PT7400/520B</b>			1/2" BSP
<b>7 Series</b>			
<b>Part No. PT7920/64A</b>	77	38	1/2" NPT
<b>PT7920/64B</b>			1/2" BSP

Not applicable to 5A Series Motors  
 All dimensions in mm.

1mm = 0.03937 inches



— AIRMACHINES.COM, INC. —

# THE THRUST BEHIND AUTOMATION

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