



P33N PRECISION DRILLS

*Ergonomics, Power
and Flexibility
for Multi-Task Work
Environments*

REAL TOOLS FOR REAL WORK.™

P33N Series The New Generation of Modular Drills

When Engineering know-how, state of the art design and ergonomics meet along with quality and new requirements of flexible production: Ingersoll Rand provides you with its latest P33N generation of precision drills.

The Ingersoll Rand P33N drill range, originates as an evolution from successful P33 drill range, providing the same ideal flexibility, power and durability but with a better tool identification as well as an outstanding new ergonomics.

30° Attachment

90° Attachment

180° Attachment

Threaded collet
1.0 - 5 mm

Plain Collet
1.6 - 6.4 mm

Drill chuck
0.1 - 8 mm

Straight Attachment

90° Attachment

Straight Motor Modules

6 Speeds Available
660 RPM
1100 RPM
1600 RPM
2200 RPM
3200 RPM
5400 RPM

Pistol Grip Motor Modules

6 Speeds Available
660 RPM
1100 RPM
1600 RPM
2200 RPM
3200 RPM
5400 RPM

Non-Modular

Straight Drills

8 Speeds Available
660 RPM
1100 RPM
1600 RPM
2200 RPM
3200 RPM
5400 RPM
11000 RPM
18000 RPM

Pistol and Angle Drills

6 Speeds Available
660 RPM
1100 RPM
1600 RPM
2200 RPM
3200 RPM
5400 RPM

Flexibility and Interchangeability

- One motor 330W (0.44 hp).
- Pistol, straight or Angle version
- Wide range of speeds available, from 660 to 18000 rpms.
- 30°, 90°, 180° angle heads
- R33 attachments are fully compatible with P33N Modular drills.
- P33N is the ideal tool for the multi-task drilling environment, it matches operator needs for accuracy and precise drilling operations according to material and application requirements.

Operator Comfort and Ergonomics

- Lube free motor for a clean working environment.
- Soft touch housing for a more ergonomic grip.
- Quick change motor and attachment to provide end user with fast changeover.

Economic Effectiveness

- Thanks to its flexibility, P33N modular air drills remain your best choice to reduce investment in motor units and attachments
- P33N range share same motor and gears to reduce inventory cost.

Adaptable to Your Application.

From aircraft manufacturing to aerospace maintenance, P33N is designed to offer flexibility and to answer for requirements of precise drilling and reaming of high technology materials for the aerospace industry.

Aircraft assembly

Wings, Cockpit, Fuselage

Helicopter assembly

Tail boom, Cabin door, Cockpit flooring

Aerospace maintenance

Fuselage replacement, Wings repair, Nacelle servicing

Drilling Selection Guide

Material	Velocity m/min	Hole Diameter							
		1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	
		1.5mm	3mm	5mm	6mm	8mm	9.5mm	11mm	
Steel Alloy (300-400 Brinell)	5-10 Tool recommended	1250-1800 011-016	600-900 006	400-600 006	300-450 //	250-350 //	200-300 //	175-250 //	
Cast Iron (med.-hard)	20-30 Tool recommended	4300-6000 054	2100-3000 022-032	1400-2000 016-022	1000-1500 011-016	850-1200 011	700-1000 006-011	600-900 006	
Mild Steel (0,2-0,3 Carbon)	25-35 Tool recommended	5000-6700 054	2500-3400 032	1600-2300 016-022	1200-1700 016	950-1350 011	800-1150 011	700-1000 011	
Cast Iron (soft) / Plastic	30-45 Tool recommended	6000-9000 054	3000-4500 032	2000-3000 022	1500-2300 016-022	1200-1800 016	1000-1530 011	900-1300 011	
Aluminum / Brass / Bronze	60-100 Tool recommended	12000-18000 110	6000-9000 054	4000-6000 054	3000-4500 032	2400-3700 032	2000-3000 022-032	1700-2600 022	
Composite	50-100 Tool recommended	6500-26000 110-180	5400-6500 054	3000-6500 032	2500-4500 032	2000-3700 022-032	1700-3700 022-032	1600-2200 016-022	
Fiberglass / Wood	90-150 Tool recommended	18000-25000 180	9000-12000 110	6000-8200 054	4600-6100 054	3700-4900 032	3000-4000 032	2600-3500 032	

Product description

MODULAR P33N006-DMSL-B 1 2 3 4 5	NON MODULAR P33N006-PSL 1 2 3	NON MODULAR ANGLE P33N032-DASL090P45 1 2 3 4 5	ATTACHMENT R33M090D17P45 1 2 3 4
1 New generation of precision drills P33N	1 New generation of precision drills P33N	1 New generation of precision drills P33N	1 Attachment for Modular drills R33
2 Speed 006, 011, 016, 022, 032, 054	2 Speed 006, 011, 016, 022, 032, 054, 110**, 180**	2 Speed 006, 011, 016, 022, 032, 054	2 Head orientation M000 : straight M030 : 30° M090 : 90° M180 : 180°
3 Tool shape P : Pistol D : Straight	3 Tool shape PSL : Pistol DSL : Straight	3 Tool shape DASL : Angle	3 Angle head diameter blank : straight head D17 : 17mm D25 : 25mm
4 Modular motor MSL		4 Head configurations 030 : 30° 090 : 90° 180 : 180°	4 Collet thread size P45 : 9/32" x 40 P64 : for plain collet F1/4 : 1/4"- 28 UNF F5/16 : 5/16"- 24 UNF F80 : M11x1 P80 : 8mm drill chuck M80 : for plain collet
5 Tool start blank : lever start B : button start*		5 Collet thread size P45 : 9/32" x 40 P64 : for plain collet	

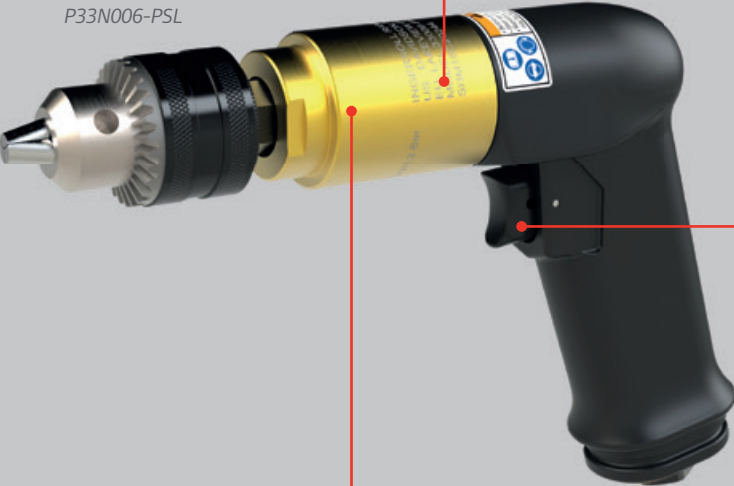
* only available for 3,200 rpm and 5,400 rpm tools
** only available on straight shape

2 Ingersoll Rand. download.irtools.eu

download.irtools.eu Ingersoll Rand.

3

KEY FEATURES



High efficiency gearing

The precision gearing is mounted on precision ball bearings and high resistance bushing in composite material which ensure low vibration and smooth running.

NEW

Speed color coding

All tools have a speed color identification. This provides quick identification and then avoid mistakes when comes select the tool in user toolbox.

Black	18000 rpm
Brown	11000 rpm
Orange	5400 rpm
Blue	3200 rpm
Grey	2200 rpm
White	1600 rpm
Green	1100 rpm
Yellow	660 rpm

NEW

Variable speed control with safety lever

All straight motor modules have a sensitive and progressive throttle for precise control (control by lever as standard). The 3200 and 5400 rpm motor modules are also available with button throttle control.

Modular bevel gear construction

All gearing in the angle head is mounted on ball bearings to ensure perfect alignment and low noise level. One bevel gear is common throughout all heads to reduce spares inventory and to simplify repair.



Lightweight lube-free motor and vanes

High power, high torque air motor. Identical to all models for reduced spares inventory and easy maintenance.

Ergonomics housing NEW

Softtouch PU Paint prevent from cold metal housing and reduces vibrations while securing grip with minimal grip force. Straight tool has an average diameter of 36mm which provides optimized size for cylindrical grip.

Easy maintenance

Spare part tune up kits is available for simple and efficient maintenance of each tool. For a cost-effective management of a large number of tools, both modular and non-modular P33N drills share 95% of their spare parts.



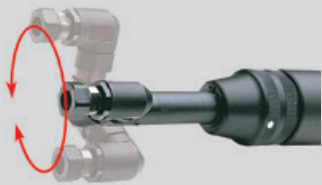
Chuck guard on DSL & PSL model*

Prevent injuries on user's fingers and offer better support.

**Not provided on 006 and 011 model*

Quick change mechanism

The patented mechanism for attaching and orienting the drill heads is very safe and convenient to use. Attachment change is done in 3 seconds. All new modular drills are compatible with R33 attachments.



Angle head with 360° rotating head mechanism

Modular drills, PMSL and DMSL allows the head to be located at any of 18 positions, at 20° intervals. Non modular drills DASL, are available in 3 angle configurations : 30°, 90° and 180°. Each angle head can be easily oriented through 360°



Drilling Attachment Spindles

The drilling attachments are available with plain collet, threaded collet or chuck*.

**Only on R33 attachments. Not available on DASL models.*

Air Drills
Precision Drills | Pistol

	Ref.							
		rpm	rpm	kg	mm	mm	mm	l/s
	TRIGGER START							
	P33N006-PSL	660	16.0	0.95	209	10.0	20	10.0
	P33N011-PSL	1100	9.5	0.95	209	10.0	20	10.0
	P33N016-PSL	1600	6.8	0.95	209	8.0	20	10.0
	P33N022-PSL	2200	4.5	0.80	194	8.0	20	10.0
	P33N032-PSL	3200	3.2	0.80	194	6.0	20	10.0
	P33N054-PSL	5400	1.9	0.80	194	6.0	20	10.0

Precision Drills | Inline

	Ref.							
		rpm	rpm	kg	mm	mm	mm	l/s
	LEVER TO START							
	P33N006-DSL	660	16.0	0.78	235	10.0	20	10.0
	P33N011-DSL	1100	9.5	0.78	235	10.0	20	10.0
	P33N016-DSL	1600	6.8	0.78	227	8.0	20	10.0
	P33N022-DSL	2200	4.5	0.65	212	8.0	20	10.0
	P33N032-DSL	3200	3.2	0.64	212	6.0	20	10.0
	P33N054-DSL	5400	1.9	0.65	212	6.0	20	10.0
	P33N110-DSL	11000	0.9	0.72	227	6.0	20	10.0
	P33N180-DSL	18000	0.6	0.63	212	6.0	20	10.0

Precision Drills | Angle

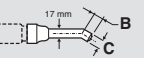
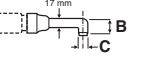
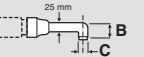
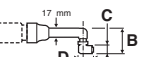
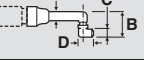
	Ref.							
		rpm	rpm	kg	mm	mm	mm	l/s
	WITH 30° ANGLE HEAD							
	P33N006-DASL030P45	660	16.0	0.80	284	5	20	10.0
	P33N006-DASL030P64	660	16.0	0.81	296	6.4	32	10.0
	P33N011-DASL030P45	1100	9.5	0.80	284	5	20	10.0
	P33N011-DASL030P64	1100	9.5	0.81	296	6.4	32	10.0
	P33N016-DASL030P45	1600	6.8	0.80	284	5	20	10.0
	P33N016-DASL030P64	1600	6.8	0.81	296	6.4	32	10.0
	P33N022-DASL030P45	2200	4.5	0.69	269	5	20	10.0
	P33N022-DASL030P64	2200	4.5	0.70	281	6.4	32	10.0
	P33N032-DASL030P45	3200	3.2	0.69	269	5	20	10.0
	P33N032-DASL030P64	3200	3.2	0.70	281	6.4	32	10.0
	P33N054-DASL030P45	5400	1.9	0.69	269	5	20	10.0
	P33N054-DASL030P64	5400	1.9	0.70	281	6.4	32	10.0
	WITH 90° ANGLE HEAD							
	P33N006-DASL090P45	660	16.0	0.80	277	5	31	10.0
	P33N006-DASL090P64	660	16.0	0.81	277	6.4	43	10.0
	P33N011-DASL090P45	1100	9.5	0.80	277	5	31	10.0
	P33N011-DASL090P64	1100	9.5	0.81	277	6.4	43	10.0
	P33N016-DASL090P45	1600	6.8	0.80	277	5	31	10.0
	P33N016-DASL090P64	1600	6.8	0.81	277	6.4	43	10.0
	P33N022-DASL090P45	2200	4.5	0.70	262	5	31	10.0
	P33N022-DASL090P64	2200	4.5	0.71	262	6.4	43	10.0
	P33N032-DASL090P45	3200	3.2	0.69	262	5	31	10.0
	P33N032-DASL090P64	3200	3.2	0.70	262	6.4	43	10.0
	P33N054-DASL090P45	5400	1.9	0.69	262	5	31	10.0
	P33N054-DASL090P64	5400	1.9	0.70	262	6.4	43	10.0
	WITH 180° ANGLE HEAD							
	P33N006-DASL180P45	660	16.0	0.86	292	5	63	10.0
	P33N006-DASL180P64	660	16.0	0.88	304	6.4	63	10.0
	P33N011-DASL180P45	1100	9.5	0.86	292	5	63	10.0
	P33N011-DASL180P64	1100	9.5	0.88	304	6.4	63	10.0
	P33N016-DASL180P45	1600	6.8	0.86	292	5	63	10.0
	P33N016-DASL180P64	1600	6.8	0.88	304	6.4	63	10.0
	P33N022-DASL180P45	2200	4.5	0.76	277	5	63	10.0
	P33N022-DASL180P64	2200	4.5	0.78	289	6.4	63	10.0
	P33N032-DASL180P45	3200	3.2	0.76	277	5	63	10.0
	P33N032-DASL180P64	3200	3.2	0.78	289	6.4	63	10.0
	P33N054-DASL180P45	5400	1.9	0.76	277	5	63	10.0
	P33N054-DASL180P64	5400	1.9	0.78	289	6.4	63	10.0

Specifications at 6.2 bar (90 psi)

Precision Drills | Motor Modules

	Ref.						
		rpm	rpm	kg	mm	mm	l/s
	BUTTON CONTROL						
	P33N032-DMSL-B	3200	3.2	0.53	164	20	10.0
	P33N054-DMSL-B	5400	1.9	0.53	164	20	10.0
	LEVER CONTROL						
	P33N006-DMSL	660	16	0.63	179	20	10.0
	P33N011-DMSL	1100	9.5	0.63	179	20	10.0
	P33N016-DMSL	1600	6.8	0.63	179	20	10.0
	P33N022-DMSL	2200	4.5	0.53	164	20	10.0
	P33N032-DMSL	3200	3.2	0.53	164	20	10.0
	P33N054-DMSL	5400	1.9	0.53	164	20	10.0
	TRIGGER START						
	P33N006-PMSL	660	16.0	0.82	161	20	10.0
	P33N011-PMSL	1100	9.5	0.82	161	20	10.0
	P33N016-PMSL	1600	6.8	0.82	161	20	10.0
	P33N022-PMSL	2200	4.5	0.71	146	20	10.0
	P33N032-PMSL	3200	3.2	0.70	146	20	10.0
	P33N054-PMSL	5400	1.9	0.70	146	20	10.0

Precision Drills | Modular Drill Attachments

	Orientation	Ref.	CCN			B mm	C mm	D mm	
	straight	R33M000F1/4	53447702	8.0	A + 40	—	—	—	0.16
		R33M000F5/16	53447710	8.0	A + 40	—	—	—	0.16
		R33M000P64	53444592	6.4	A + 42	—	—	—	0.16
		R33M000M80	53444584	8.0	A + 81	—	—	—	0.38
	30°	R33M030D17F1/4	53447579	6.4	A + 118	24.0	18	—	0.24
		R33M030D17P45	53430575	5.0	A + 112	19.5	18	—	0.24
		R33M030D17P64	53430609	6.4	A + 124	31.5	18	—	0.26
	90°	R33M090D17F1/4	53447553	6.4	A + 105	36.0	18	—	0.24
		R33M090D17P45	53430567	5.0	A + 105	36.0	18	—	0.24
		R33M090D17P64	53430591	6.4	A + 105	43.5	18	—	0.26
	90°	R33M090D25F1/4	53447140	8.0	A + 78	44.0	25	—	0.34
		R33M090D25F5/16	53447165	8.0	A + 78	44.0	25	—	0.34
		R33M090D25F80	53430641	8.0	A + 78	50.0	25	—	0.36
		R33M090D25M80	53430633	8.0	A + 81	98.5	30	—	0.54
		R33M090D25P80	53430625	8.0	A + 78	54.0	25	—	0.39
	180°	R33M180D17F1/4	53447496	6.4	A + 124	64.0	18	36	0.30
		R33M180D17P45	53430583	5.0	A + 120	64.0	18	32	0.30
		R33M180D17P64	53430617	6.4	A + 131	64.0	18	44	0.32
	180°	R33M180D25F1/4	53447124	8.0	A + 99	87.5	25	44	0.40
		R33M180D25F5/16	53447157	8.0	A + 99	87.5	25	44	0.40
		R33M180D25P80	53447116	8.0	A + 109	87.5	25	54	0.45

Precision Drills | Accessories

Collets for P33 angle drills and R33 heads

THREADED COLLETS FOR P45 HEADS			PLAIN COLLETS FOR P64 HEADS		
 Ø mm	Ref. No	CCN	 Ø mm	Ref. No	CCN
1.0	120071	04371894	1.6	128250	04372140
1.5	120072	04371902	1.8	128251	04372157
2.0	120073	04371910	2.0	128252	04372165
2.2	120102	04371928	2.2	128253	04372173
2.4	120106	04371936	2.4	128254	04372181
2.5	120074	04371944	2.6	128255	04372199
3.0	120075	04371951	2.8	128256	04372207
3.1	120105	04371969	3.0	128257	04372215
3.2	120109	04374336	3.2	128258	04370573
3.25	120104	04371985	3.4	128259	04372231
3.3	120113	04370540	3.6	128260	04372249
3.5	120076	04372009	3.8	128261	04372256
3.6	123991	04372017	4.0	128262	04372264
3.7	121552	04372025	4.2	128263	04370581
3.8	125783	04372033	4.4	128264	04372280
3.9	120107	04372041	4.6	128265	04372298
4.0	120077	04372058	4.8	128266	04370599
4.1	120103	04362232	5.0	128267	04372314
4.2	120110	04370557	5.2	128268	04372322
4.5	120078	04372082	5.4	128269	04372330
4.6	120111	04372090	5.6	128270	04372348
4.7	125784	04372108	5.8	128271	04372355
4.8	120112	04362281	6.0	128272	04372363
4.9	121553	04370565	6.2	128273	04372371
5.0	120079	04372132	6.4	128274	04372389



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