

ErgoPro and Pro Series Grinders



Ingersoll-Rand has leveraged over 60 years of finishing industry experience and the innovation of today's state-of-the-art technologies to create ErgoPro Series grinders and sanders. By uniting the classic features of the flagship Pro Series line with world-class vibration dampening technologies, the ErgoPro Series offers the highest level of operator comfort in the industry. The most established, time-tested line of grinders and sanders in the industry is now the most comfortable to operate too!

Lowest Vibration Levels in the Industry

Through the ErgoPro Series, Ingersoll-Rand now offers grinders and sanders with vibration levels 40% below those of the nearest competitor! Technological improvements made in the areas of "dead" handle design and grinding wheel autobalancing work in concert to decrease vibration levels and increase operator comfort.

ErgoPro and Pro Series Grinders



The unique motor controller design of the ErgoPro and Pro Series increases productivity while enhancing operator safety.

Motor Controller

Ingersoll-Rand's ErgoPro and Pro Series finishing tools incorporate a patented motor controller which is designed to increase productivity while enhancing operator safety. The controller regulates air flow through the end plate and into the motor to control the speed and power of the tool. There is no need for an additional over-speed shut-off device.



Additional Features

The Ingersoll-Rand ErgoPro and Pro Series grinders also incorporate additional ergonomic features that can help reduce operator fatigue. The adjustable side handles can be easily adjusted for better handling and control. For increased operator comfort, the ergonomic handle design makes it easy for the operator to hold and use the tool – even with gloved hands. Both grip and lever handles are equipped with the self-locking throttle lever feature.



Locking Throttle Lever

Ingersoll-Rand's locking throttle lever is a spring-loaded latch that resets each time the lever is released. This unique system prevents accidental throttle operation — even if the tool is dropped.



Integral Guards

Both ErgoPro and Pro Series grinders are equipped with patented integral guards that prevent the tool from operating if they are removed. When removed, the tool's motor is not properly supported, and the tool will not operate. Cup-type grinding tools have the exclusive Ingersoll-Rand 180° integral guard for better visibility and greater wheel usage. All guards are made of steel for extra protection.



ErgoPro and Pro Series Finishing Tool Features

ErgoPro and Pro Series 88 and 99

- Powerful 2 hp and 3 hp motors for high, efficient performance.
- Patented stainless steel motor controller with industry's only lifetime guarantee.
- Self-locking throttle lever prevents accidental operation.
- Integral steel guard provides extra strength for added operator protection.
- Four-position exhaust adds to operator comfort on horizontal models.
- Adjustable ergonomic side handles increase operator control on vertical models.
- Built-in mist lubricator automatically oils motor each time tool is used.



ErgoPro and Pro Series 77

- Powerful 1½ hp motor produces high, efficient performance.
- Patented stainless steel motor controller with industry's only lifetime guarantee.
- Self-locking throttle lever prevents accidental operation.
- Integral steel guard provides extra strength for added operator protection.
- Low-profile angle head improves close-quarter applications.
- Built-in mist lubricator automatically oils motor when tool is started.



Pro Series 61

- Solid steel motor and arbor housing provide maximum durability.
- Powerful 1½ hp motor produces high, efficient performance.
- Patented stainless steel motor controller is maintenance- and adjustment-free.
- Heavy-duty, double-row ball bearings assure long life and smooth operation.
- Exclusive grit-rejection system keeps motor and bearings clean for extended life.
- Built-in mist lubricator automatically oils motor when throttle is activated.



Product Identification Guide

TYPICAL MODEL 88HL60H106

Series	Type	Throttle	Free Speed (rpm)	Type of Wheel	Diameter and Thread of Arbor	Diameter of Wheel or Collet
61	A = Angle	L = Lever	45 = 4,500	G = Collet		
77					6 = 3/8" - 24 Thread	4 = 1/4" Collet
88	H = Horizontal	G = Grip	60 = 6,000	H = Type 1 Wheel	8 = 1/2" - 13 Thread	3 = 3" Wheel
99	V = Vertical		77 = 7,700	L = Cone Wheel	10 = 5/8" - 11 Thread	4 = 4" Wheel
			90 = 9,000	P = Type 27 Wheel		6 = 6" Wheel
			120 = 12,000	S = Type 11 Wheel		7 = 7" Wheel
			150 = 15,000			8 = 8" Wheel
						9 = 9" Wheel

Pro Series Straight Grinders

Carbide Bur and Mounted Wheel



61H120G4

Standard Equipment

- G160HD-700-1/4
1/4" Erickson collet
- DG10-69
Collet body wrench
- DG120-69
Collet nut wrench

Accessories

- DG120-700-G6
3/8" Collet

G4 = 1/4" Erickson Collet

Model (Side Exhaust)	Rated Power hp	Free Speed rpm	Weight lb.	Length in.	Spindle Housing Diameter in.	CFM
61H120G4	1.25	12,000	4 1/4	15 1/2	1 7/16	37
61H150G4	1.33	15,000	4 1/4	15 1/2	1 7/16	40

Air Inlet: Both Models 3/8"

Size Hose Recommended: Both Models 1/2"

Performance figures are at 90 psi air pressure.

Cone and Plug Wheel



61H120L6



88HL90L10

L6 = 3/8" - 24 Spindle

L10 = 5/8" - 11 Spindle

Model (Side Exhaust)	Rated Power hp	Free Speed rpm	Weight lb.	Length in.	Spindle Housing Diameter in.	CFM
61H120L6	1.25	12,000	4 1/4	14 3/4	1 7/16	37
61H150L6	1.33	15,000	4 1/4	14 3/4	1 7/16	40
77H90L10	1.50	9,000	6	16 7/16	1 7/8	37
77H120L10	1.50	12,000	6	16 7/16	1 7/8	39
88HL90L10	2.20	9,000	8 3/8	18 1/4	2 1/4	66

Air Inlet: Series 88H, 1/2" NPT. All others 3/8" NPT.

Size Hose Recommended: Series 88H, 3/4". All others 1/2".

* Maximum wheel diameter 3".

Performance figures are at 90 psi air pressure.

Type 1 Wheel



Standard Equipment

- Wheel Guard, Flanges and Nut

77H120H84

88HG60H106

99HL60H108

H63 = 3/8" - 24 Spindle, 3" Guard
 H64 = 3/8" - 24 Spindle, 4" Guard
 H84 = 1/2" - 13 Spindle, 4" Guard

H106 = 5/8" - 11 Spindle, 6" Guard
 H108 = 5/8" - 11 Spindle, 8" Guard

Model	Handle	Rated Power hp	Free Speed rpm	Weight with Guard & Flanges lb.	Length in.	Spindle Housing Diameter in.	Wheel Size in.	CFM
61H120H63	Lever	1.25	12,000	4 ³ / ₄	15 ³ / ₄	1 ⁷ / ₁₆	3 x 1/2	37
61H120H64	Lever	1.25	12,000	4 ³ / ₄	15 ³ / ₄	1 ⁷ / ₁₆	4 x 1/2	37
61H150H63	Lever	1.33	15,000	4 ³ / ₄	15 ³ / ₄	1 ⁷ / ₁₆	3 x 1/2	40
77H120H63	Lever	1.50	12,000	6 ¹ / ₈	16 ⁵ / ₈	2 ⁵ / ₈	3 x 1/2	39
77H90H84	Lever	1.50	9000	6 ¹ / ₂	17 ¹ / ₄	2 ⁵ / ₈	4 x 1	37
77H120H84	Lever	1.50	12,000	6 ¹ / ₂	17 ¹ / ₄	2 ⁵ / ₈	4 x 1	39
88HL60H106*	Lever	2.00	6,000	11 ⁵ / ₁₆	20	3 ³ / ₈	6 x 1	61
88HG60H106*	Grip	2.00	6,000	11 ¹¹ / ₁₆	19 ³ / ₄	3 ³ / ₈	6 x 1	61
99HL60H106*	Lever	3.00	6,000	13 ¹ / ₂	20 ¹ / ₂	3 ⁷ / ₈	6 x 1	84
99HG60H106*	Grip	3.00	6,000	14 ⁵ / ₁₆	20 ³ / ₈	3 ⁷ / ₈	6 x 1	84
99HL45H108**	Lever	2.35	4,500	14 ¹³ / ₁₆	20 ¹ / ₄	3 ⁷ / ₈	8 x 1	70
99HG45H108**	Grip	2.35	4,500	15 ⁵ / ₈	20 ¹ / ₈	3 ⁷ / ₈	8 x 1	70
99HL60H108**	Lever	3.00	6,000	14 ¹³ / ₁₆	20 ¹ / ₄	3 ⁷ / ₈	8 x 1	84

*Net weight of Guard and Flanges is 3.2 lbs.

Air Inlet: Series 61H and 77H, 3/8" NPT.
 Series 88H and 99H, 1/2" NPT.

Size Hose Recommended: Series 61H and 77H, 1/2".
 Series 88H and 99H, 3/4"

**Net weight of Guard and Flanges is 4.5 lbs.

Performance figures are at 90 psi air pressure.

Accessories

Description	Series 61H Part Number	Series 77H Part Number	Series 88H Part Number
1/4" Erickson Collet	G160-HD-700-1/4	-	-
1/4" Erickson Collet Assembly	DG220-A290-G4	-	-
3/8" Erickson Collet	DG120-700-G6	-	-
3/8" Erickson Collet Assembly	DG220-A290-G6	-	-
Collet Body Wrench	DG10-69	-	-
Collet Nut Wrench	DG120-69	-	-
3/8"-24 Cone Wheel Spindle	DG220-104-L6	-	-
Cone Wheel Spindle Wrench	DG20-69	7RAQT4-254	7RAQT4-254
Controller Wrench	61H-69	77H-950	88V60-950

Pro Series Angle Grinders

Depressed Center Wheel Type 27 and 28 Wheel



77A60P107



88V60P107

Standard Equipment

- Wheel guard, flanges and nut for threaded and plain depressed center wheels

Accessories

- For vertical grinder
88V60-K184 (for 88V)
- Piped away exhaust kit
99V60-K184 (for 99V)

P107 = 5/8" - 11 Spindle, 7" Guard

P109 = 5/8" - 11 Spindle, 9" Guard

Model	Vibration m/s ²	For Type 27 & 28 Wheels Size in.	Rated Power hp	Free Speed rpm	Weight lb.	Length in.	Height Over End of Spindle in.	Side to Center Distance at Spindle in.	CFM
Angle Grinders*									
77A60P107	1.9	7	1.5	6,000	9	17 ⁹ / ₁₆	3 ⁷ / ₈	1 ⁵ / ₁₆	39
77A60P109	1.8	9	1.5	6,000	9 ³ / ₁₆	17 ⁹ / ₁₆	3 ⁷ / ₈	1 ⁵ / ₁₆	39
77A75P107	2.0	7	1.5	7,500	9 ³ / ₁₆	17 ⁹ / ₁₆	3 ⁷ / ₈	1 ⁵ / ₁₆	39
Vertical Grinders **									
88V60P107	1.5	7	2.1	6,000	8 ³ / ₄	–	6 ³ / ₃₂	2 ¹ / ₈	61
88V60P109	1.0	9	2.1	6,000	9 ¹ / ₁₆	–	6 ³ / ₃₂	2 ¹ / ₈	61
88V77P107	1.2	7	2.2	7,700	8 ³ / ₄	–	6 ³ / ₃₂	2 ¹ / ₈	68
88V85P107	1.5	7	2.2	8,500	8 ³ / ₄	–	6 ³ / ₃₂	2 ¹ / ₈	66
99V60P107	1.5	7	3.0	6,000	11 ¹ / ₄	–	6 ⁷ / ₈	2 ⁵ / ₁₆	84
99V60P109	0.9	9	3.0	6,000	11 ⁵ / ₁₆	–	6 ⁷ / ₈	2 ⁵ / ₁₆	84
99V77P107	0.9	7	3.0	7,700	11 ¹ / ₄	–	6 ⁷ / ₈	2 ⁵ / ₁₆	84
99V85P107	1.4	7	3.0	8,500	11 ¹ / ₄	–	6 ⁷ / ₈	2 ⁵ / ₁₆	88

*Air Inlet: All Models 3/8" NPT.

Size Hose Recommended: All Models 1/2".

Performance Figures are at 90 psi air pressure.

**Air Inlet: All Models 1/2" NPT.

Size Hose Recommended: All Models 3/4".

Performance figures are at 90 psi air pressure.

Accessories

Description	Series 77A Part Number	Series 88V Part Number	Series 99V Part Number
6" Type 6 or 11 Cup Wheel Guard	–	88V60-A216	99V60-A216A
Piped-Away Exhaust Kit	–	88V60-K184	99V60-K184
Wheel Retaining Screw Wrench	88V-562	88V-562	88V-562
Controller Wrench	77H-950	88V60-950	99V60-950
Comfort Grips	–	CG-88V	CG-99V

*For use with Type 27 "Plain Hole" Depressed Center Wheels

ErgoPro Series Vertical Grinders

Cup Wheel Type 6 and 11 Wheel



88V60S106



99V60S106

Standard Equipment

- Wheel guard, flanges and nut

Accessories

- For vertical grinder
 - 88V60-K184 (for 88V)
 - Piped away exhaust kit
 - 99V60-K184 (for 99V)
 - Piped away exhaust kit

S106 = 5/8"-11 Spindle, 6" Guard

Model	Vibration m/s ²	For Type 6 & 11 Wheels Size in.	Rated Power hp	Free Speed rpm	Weight lb.	Height Over End of Spindle in.	Side to Center Distance at Spindle in.	CFM
88V60S106	0.8	5 or 6	2.1	6,000	8 ³ / ₈	6 ³ / ₃₂	2 ¹ / ₈	61
99V45S106	1.1	5 or 6	2.5	4,500	10 ³ / ₄	6 ⁷ / ₈	2 ¹⁵ / ₁₆	70
99V60S106	0.6	5 or 6	3.0	6,000	10 ³ / ₄	6 ⁷ / ₈	2 ¹⁵ / ₁₆	84

Air Inlet : All Models 1/2" NPT.

Size Hose Recommended: All Models 3/4".

Performance figures are at 90 psi air pressure.

Accessories

Description	Series 88V Part Number	Series 99V Part Number
7" Type 27 Wheel Guard	88V60-106-7	99V77-106-7
9" Type 27 Wheel Guard	88V60-106-9	99V60-106-9
7" and 9" Type 27 Wheel Adapter Kit*	R3F-AS337	R3F-AS337
Piped-Away Exhaust Kit	88V60-K184	99V60-K184
Wheel Retaining Screw Wrench	88V-562	88V-562
Controller Wrench	88V60-950	99V60-950
Comfort Grips	CG-88V	CG-99V

*For use with Type 27 "Plain Hole" Depressed Center Wheels

Finishing Tools General Accessories

Type 1 Wheel Grinder Equipment



Description	Series TX and HX Part Number	Series 61H Part Number	Series 77H Part Number	Series 88H Part Number	Series 99H Part Number
1/4" Erickson Collet	G160HD-700-1/4	RO-A390-1/4*			
3/8" Erickson Collet	DG120-700-G6	-			
Collet Body Wrench	DG10-69	DG120-69			
Collet Nut Wrench	DG120-69	DG20-69A			
3/8"-24 Cone Wheel Adapter	LE2-104-L6 (3/8"-24 F x 3/8"-24 Male)				
Type 1 Wheel Flange Nut Wrench	-	DG10-69			
Inlet Hose Assembly	R1A-130	-			
Wire Brush Adapter	LS2-A4-B10 (3/8"-24 F x 5/8"-11 Male)				
Controller Wrench		61H-69	77H-950	88V60-950	99V60-950

*When ordering this two-piece Collet Assembly, Wheel End Bearing Cap No. 61H-K-19 and Dust Washer No. 61H-35 must also be ordered.

Finishing Tools General Accessories



Carbide Grinding Burs

Ingersoll-Rand now offers a perfect complement to its innovative grinders and finishing tools – a complete range of versatile, durable, high-precision burs. IRAX carbide burs reflect unrivaled quality of manufacture, as well as superior quality of service...in types, styles, and sizes; easy and quick ordering and delivery, and extended product life.

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Consider the cutting edge differences:

Hand-ground construction eliminates the harmonic frequencies that cause "bur bounce". This means less operator effort to hold the bur on the work piece, resulting in longer grinder and bur life and less operator fatigue.

Flexible shanks for hard-to-reach places are an integral part of our product offering. You can choose from diameters of 1/8", 3/16", 1/4" and 3/8" ...in lengths up to 50", with any shape bur.

Extended length shanks provide still more versatility, whether you need a 10" long steel shank, a 9" flexible shank, or a 6" long solid carbide bur.

Quick turnaround for all of our bur products means improved efficiency for your operation. Our manufacturing flexibility makes possible a five day order-to-shipment cycle, in most cases.

The Ingersoll-Rand Carbide Bur Refurbishing Program offers another option, extending the life of used burs. Our refurbishing center will sharpen, recondition or salvage your used carbide grinding burs as appropriate, at a fraction of new replacement cost.

For complete details on the IRAX carbide bur line, refer to the IRAX Accessories catalog, Form 52225F.

Filters, Regulators and Lubricators

Increase tool performance, extend tool life, and reduce repair costs by installing IRAX Filters, Regulators and Lubricators.

Refer to the IRAX Accessories catalog (Form 52225F) for complete features and specifications information.



Safety Information for Finishing Tools

In General...

- Always operate, inspect and maintain tools in accordance with American National Standards Institute Safety Code for Portable Air Tools (ANSI B186.1).
- For safety, top performance, and maximum durability of parts, operate tools at 90 psi (6.2 bar/620 kPa) maximum air pressure at the inlet.
- Air powered tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions may be harmful to your hands and arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.
- Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on a tool, or before performing any maintenance on a tool.
- Keep hands, loose clothing and long hair away from rotating end of tools.
- Anticipate and be alert for sudden changes in motion during start up and operation of any power tool.
- Check for excessive speed and vibration before operating.
- Tool shafts may continue to rotate briefly after throttle is released.
- Do not lubricate tools with flammable or volatile liquids such as kerosene, diesel, or jet fuel.
- Do not remove any labels. Replace any damaged label.
- Use accessories recommended by Ingersoll-Rand.

Note: Always read the operators' manual before using any air tool.

When Using Grinders...

- Do not use tools if actual free speed exceeds the nameplate rpm.
- Before mounting a wheel, after all tool repairs and whenever a grinder is issued for use, check the free speed of the grinder with a tachometer to make certain its actual speed at 90 psig (6.2 bar/620 kPa) does not exceed the rpm stamped or printed on the nameplate. Grinders in use on the job must be similarly checked at least once each shift.
- Always use the Ingersoll-Rand wheel guard furnished with the grinder. Failure to do so could result in injury.
- Do not use a grinder without the recommended wheel guard. Do not use any wheel for which the operating speed listed on the blotter is lower than the actual free speed of the grinder.
- Inspect all grinding wheels for chips or cracks prior to mounting. Do not use a wheel that is chipped or cracked or otherwise damaged. Do not use a wheel that has been soaked in water or any other liquid.
- Make certain the grinding wheel properly fits the arbor. The wheel should not fit too snugly or too loosely. Plain hole wheels should have about 0.007" (0.17mm) maximum diametral clearance. Do not use reducing bushings to adapt a wheel to any arbor unless such bushings are supplied by or recommended by the wheel manufacturer.
- After mounting a new wheel, hold the grinder under a steel workbench or inside a casting and run it for at least 60 seconds. Make certain no one is within the operating plane of the grinding wheel. If the wheel is defective, improperly mounted or the wrong size and speed, this is the time it will usually fail.
- When starting a cold wheel, apply it to the work slowly until the wheel gradually warms up. Make smooth contact with the work, and avoid any bumping action or excessive pressure.
- Always replace a damaged, bent or severely worn wheel guard. Do not use a wheel guard that has been subjected to a wheel failure.
- Make certain the wheel flanges are at least 1/3 the diameter of the grinding wheel, free of nicks and burrs and sharp edges. Always use the wheel flanges furnished by the manufacturer; never use a makeshift flange or a plain washer.
- Guard opening must face away from operator. Bottom of wheel must not project beyond guard.
- Always use a wheel blotter between each wheel flange and the wheel. The blotters must be at least as large in diameter as the wheel flanges.
- Do not attempt to disassemble the controller. The controller is available only as a unit and is guaranteed for the life of the tool if it is not abused.

Warning Label Identification

Failure to observe the following warnings could result in injury.

