

Industrial Tools

for Bolting, Surface Preparation & Construction Applications 2014



Ingersoll Rand (NYSE:IR) advances the quality of life by creating and sustaining safe, comfortable and efficient environments. Our people and our family of brands—including Club Car®, Ingersoll Rand®, Thermo King® and Trane®—work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; secure homes and commercial properties; and increase industrial productivity and efficiency. We are a \$12 billion global business committed to a world of sustainable progress and enduring results.



Distributed by:





Performance Classifications

Super-duty tools are designed to tackle the most extreme jobs. Advanced technology gives these tools superior strength and durability across the widest range of applications.

Heavy-duty tools are top-quality models that exceed the requirements of highly demanding applications and environments. They are engineered with special features for top power, speed control, accuracy, and comfort.

Maintenance-duty tools are durable, high-quality, impressively powerful, and have added features for frequent or rigorous applications.

Air Impact Mechanisms

Twin Hammer design delivers more power per pound and is less sensitive to air pressure fluctuations than any other type of impact mechanism. This Ingersoll Rand technology has become the industry standard and is suitable for hard or soft-draw applications.

Jumbo Hammer performs similarly to the Twin Hammer, but employs a single hammer.

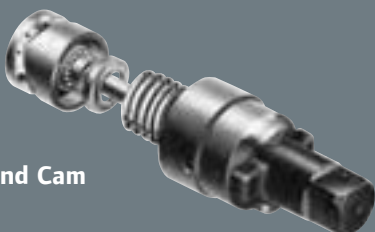
Ball and Cam mechanisms are ideal for soft-draw applications, and are commonly used in larger Impacttools.



Twin Hammer



Jumbo Hammer



Ball and Cam



Contents

Air Impacttools™

Ingersoll Rand has the right air Impacttool for virtually any job — covering anything from light production to heavy duty maintenance and repair.

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Cordless Impacttools

Power. Durability. Reliability. With Ingersoll Rand cordless tools you get the perfect combination of world-class engineering and durability, unsurpassed battery capabilities, and the portability that you'd expect from cordless.

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Accessories

Our selection of impact sockets and job-specific accessories reflect the same high standard of performance you expect from Ingersoll Rand.

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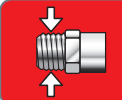

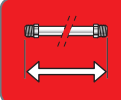




Technical Symbols

For ease of use, specification tables frequently use symbols in column headings. Please reference the chart below for exact descriptions.

Impacttools

 Free speed	 Blows per minute	 Max. torque	 Torque range
 Tool weight	 Tool length	 Side-to-center distance	 Minimum hose size
 Max. air consumption	 Voltage	 Sound level	 Vibration level
 Head diameter	 Max. aggregate size	 Rated power	 Collet capacity
 Side to centre distance	 Spindle thread size	 Height above spindle	 Piston stroke
 Bore	 Pad diameter	 Backing pad thread size	 Voltage
 Working torque range	 Maximum torque	 Nozzle size OR Shank diameter	 Retainer type
 Tool air inlet connection	 Hose min. internal diameter	 Claw coupling	 Angle head height
 Wheel type	 Disc diameter		

Accessories

 NPT size	 Hose inner diameter	 Hose length	 Hose outer diameter
 Max. working pressure	 Lift	 Capacity	

Air Impacttools



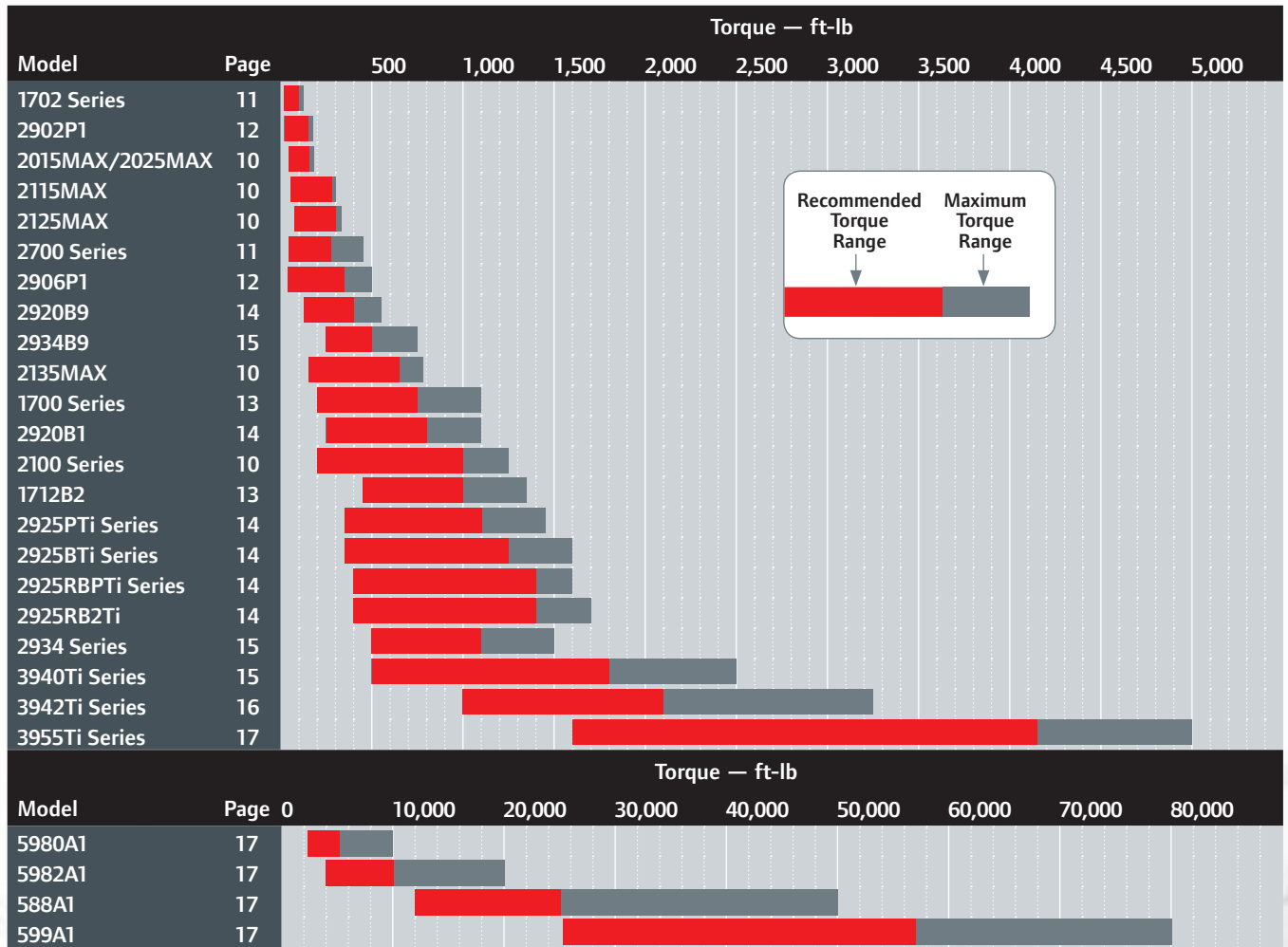
The hardest hitting Impacttools in the business

We offer a wide range of pneumatic Impacttools that deliver the flexibility you need to fit even the most unique and demanding applications. Whether it's light routine repair work, or heavy-duty maintenance, Ingersoll Rand has the right tool for the job.

Our Impacttools are designed with durability in mind, from the vanes turning the motor to the hammer frames and anvils. Proprietary hardening and treatment processes, innovative ergonomic designs, and excellence in manufacturing all add up to the longest lasting, hardest hitting Impacttools in the business.

Torque Ranges

Ingersoll Rand Impacttools range in torque from 45 to 5,288 ft-lb. See the chart below to find the series that fits your torque requirements.



Air Impactool Selection Guide

This chart will assist you in selecting a particular Impactool for a specific application. The figures used are based on 70 percent of the tension proof load of a given size and bolt grade.

For example, a Grade 5 bolt has a proof load of 94,200 psi. A 1/2" Grade 5 bolt has a tensile stress area — the cross-section at the root of the thread — of 0.1282 sq in, and an actual proof load of 12,076 lb. Seventy percent of this proof load is 8,453 lb. By looking at the chart, we find that in order to put 8,450 lb of tension on the 1/2" UNC Grade 5 bolt, we must apply 70 ft-lb of torque. To do this, we recommend the 2906 Series Impactool. Remember that 70 percent of the proof load is normally the amount of tension needed to ensure a properly tightened joint.

Bolt Grade	Bolt Diam – in (mm)	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	3/4"	7/8"	1"	1-1/8"	1-1/4"		
		(6)	(8)	(10)	(11)	(13)	(14)	(16)	(19)	(22)	(25)	(29)	(32)		
	Hex Size – in Max Min	1/2" 3/8"	19/32" 15/32"	11/16" 9/16"	25/32" 21/32"	7/8" 3/4"	31/32" 27/32"	1-1/16" 15/16"	1-1/4" 1-1/8"	1-7/16" 1-5/16"	1-5/8" 1-1/2"	1-13/16" 1-11/16"	2" 1-7/8"		
Grade 1	Torque	ft-lb (Nm)	3 (4.07)	6 (8.14)	11 (14.9)	18 (24.4)	28 (38)	43 (58.3)	55 (74.6)	97 (132)	155 (210)	230 (312)	340 (461)	480 (651)	
	Impactool Recommended		2902	2902	2902	2906	2906	2906	2906	1720	1720	2925	2925	2934	
	Tension	lb (kN)	730 (3.24)	1,210 (5.38)	1,800 (8.01)	2,460 (10.9)	3,280 (14.6)	4,200 (18.7)	5,200 (23.1)	7,000 (31.1)	10,600 (47.1)	14,000 (62.3)	18,200 (80.9)	23,000 (102)	
Grade 5	Torque	ft-lb (Nm)	8 (10.8)	16 (21.7)	28 (38)	46 (62.4)	70 (95)	110 (149)	140 (190)	250 (339)	405 (549)	600 (814)	770 (1044)	1,080 (1464)	
	Impactool Recommended		2902	2902	2902	2906	2906	2906	1720	2925	2925	2934	2934	3940	
	Tension	lb (kN)	1,900 (8.4)	3,100 (13.8)	4,600 (20.4)	6,350 (28.2)	8,450 (37.6)	10,900 (48.5)	13,500 (60)	20,000 (89)	27,400 (122)	36,000 (160)	41,000 (182)	52,000 (231)	
ASTM-A325	Torque	ft-lb (Nm)	–	–	–	–	–	–	200 (271)	355 (481)	570 (773)	850 (1153)	1,060 (1437)	1,495 (2027)	
	Impactool Recommended		–	–	–	–	–	–	2925	2934	2934	2934	3940	3942	
	Tension	lb (kN)	–	–	–	–	–	–	19,000 (44.5)	28,000 (124)	39,000 (173)	51,000 (227)	56,000 (249)	71,000 (319)	
Grade BB ASTM-A354	Torque	ft-lb (Nm)	8 (10.8)	15 (20.3)	27 (36.6)	43 (58.3)	66 (89.5)	106 (144)	131 (178)	234 (317)	376 (510)	565 (766)	830 (1125)	1,170 (1586)	
	Impactool Recommended		2902	2902	2902	2906	2906	2906	1720	2925	2929	2934	2934	3940	
	Tension	lb (kN)	1,780 (7.9)	2,930 (13)	4,340 (19.3)	5,950 (26.5)	7,950 (35.4)	10,190 (45.3)	12,660 (56.3)	18,700 (83.1)	25,870 (115)	33,940 (151)	44,240 (196)	56,000 (249)	
Grade BC ASTM-A354	Torque	ft-lb (Nm)	10 (13.6)	20 (27.1)	35 (47.5)	56 (75.9)	86 (117)	138 (187)	173 (234)	306 (415)	495 (671)	742 (1006)	1,090 (1478)	1,530 (2075)	
	Impactool Recommended		2902	2902	2906	2906	2906	2906	1720	2925	2934	2934	3940	3942	
	Tension	lb (kN)	2,340 (10.4)	3,850 (17.1)	5,700 (25.3)	7,815 (34.8)	10,430 (46.4)	13,380 (59.5)	16,610 (74)	24,550 (109)	33,960 (151)	44,550 (198)	58,070 (258)	73,500 (327)	
Grade 8 ASTM-A354 Grade BD	Torque	ft-lb (Nm)	11 (14.9)	23 (31.2)	40 (54.2)	65 (88.1)	99 (134)	159 (216)	198 (268)	350 (475)	566 (767)	848 (1150)	1,245 (1688)	1,750 (2373)	
	Impactool Recommended		2902	2902	2906	2906	2906	2906	1720	2925	2934	2934	3940	3955	
	Tension	lb (kN)	2,740 (12.2)	4,400 (19.6)	6,510 (28.9)	8,930 (39.7)	11,920 (53)	15,290 (68)	18,980 (84.4)	28,050 (125)	38,800 (172)	50,900 (226)	66,360 (295)	84,000 (374)	
ASTM-A490	Torque	ft-lb (Nm)	–	–	–	–	–	–	–	250 (339)	435 (590)	715 (970)	1,070 (1451)	1,580 (2142)	2,125 (2882)
	Impactool Recommended		–	–	–	–	–	–	–	2925	2934	2934	3940	3942	3955
	Tension	lb (kN)	–	–	–	–	–	–	–	24,000 (107)	35,000 (156)	49,000 (218)	64,000 (285)	80,000 (356)	102,000 (454)

The appropriate torque required to achieve 70 ft-lb is based on the formula $T = kDL$, where T = torque (ft-lb), k = frictional constant = 0.2; D = fastener diameter (ft), and L = loader tension (lb).

*The frictional constant can vary based on thread condition, lubrication, and surface conditions, and should be established through testing for critical applications.

Only certain tools are shown in this chart. Compare the required torque shown with torque ranges shown in the tool specifications tables to select other suitable tools.

Bolt Grade	Bolt Diam – in (mm)	1-3/8"	1-1/2"	1-5/8"	1-3/4"	2"	2-1/4"	2-1/2"	2-3/4"	3"	3-1/4"	3-1/2"	3-3/4"	4"	
		(35)	(38)	(41)	(44)	(51)	(57)	(64)	(70)	(76)	(83)	(89)	(95)	(102)	
Hex Size – in Max Min		2-3/16" 2-1/8"	2-3/8" 2-1/4"	2-9/16" 2-7/16"	2-3/4" 2-5/8"	3-1/8" 3"	3-3/8" 3-1/2"	3-7/8" 3-3/4"	4-1/4" 4-1/8"	4-5/8" 4-1/2"	5" 4-7/8"	5-3/8" 5-1/4"	5-3/4" 5-5/8"	6-1/8" 6"	
Grade 1	Torque	ft-lb (Nm)	660 (895)	860 (1166)	-	-	-	-	-	-	-	-	-	-	
	Impactool Recommended		2934	3940	-	-	-	-	-	-	-	-	-	-	
	Tension	lb (kN)	28,400 (126)	34,600 (154)	-	-	-	-	-	-	-	-	-	-	
Grade 5	Torque	ft-lb (Nm)	1,470 (1933)	1,950 (2644)	-	-	-	-	-	-	-	-	-	-	
	Impactool Recommended		3942	3955	-	-	-	-	-	-	-	-	-	-	
	Tension	lb (kN)	64,000 (285)	77,000 (342)	-	-	-	-	-	-	-	-	-	-	
ASTM-A325	Torque	ft-lb (Nm)	1,960 (2658)	1,950 (3526)	-	-	-	-	-	-	-	-	-	-	
	Impactool Recommended		3955	5980	-	-	-	-	-	-	-	-	-	-	
	Tension	lb (kN)	85,000 (378)	103,000 (458)	-	-	-	-	-	-	-	-	-	-	
Grade BB ASTM-A354	Torque	ft-lb (Nm)	1,580 (2142))	2,080 (2820)	2,700 (3661)	3,400 (4610)	5,150 (6983)	7,500 (10170)	10,300 (13967)	13,100 (17764)	17,100 (23188)	21,800 (29561)	27,500 (37290)	34,000 (46104)	41,300 (56003)
	Impactool Recommended		3942	3955	5980	5980	155,120	5982	588	588	588	599	599	599	599
	Tension	lb (kN)	69,050 (307)	83,550 (371)	99,680 (443)	116,480 (518)	155,120 (690)	199,360 (887)	248,640 (1106)	285,080 (1268)	314,780 (1520)	403,725 (1796)	470,400 (2092)	542,850 (2414)	620,025 (2758)
Grade BC ASTM-A354	Torque	ft-lb (Nm)	2,075 (2814)	2,440 (3309)	3,545 (4807)	4,465 (6054)	6,785 (9200)	9,815 (13309)	13,600 (18442)	16,550 (22442)	21,645 (29351)	27,000 (37561)	34,760 (47134)	42,980 (58281)	52,360 (710000)
	Impactool Recommended		3955	5980	5980	5980	5982	5982	588	588	588	599	599	599	599
	Tension	lb (kN)	90,360 (403)	109,620 (488)	130,830 (582)	152,880 (680)	203,950 (907)	261,660 (1164)	326,340 (1452)	361,100 (1606)	432,910 (1926)	517,690 (2303)	595,840 (2650)	687,610 (3058)	787,370 (3493)
Grade 8 ASTM-A354 Grade BD	Torque	ft-lb (Nm)	2,375 (3220)	3,135 (4251)	-	-	-	-	-	-	-	-	-	-	
	Impactool Recommended		3955	5980	-	-	-	-	-	-	-	-	-	-	
	Tension	lb (kN)	103,570 (461)	125,330 (557)	-	-	-	-	-	-	-	-	-	-	
ASTM-A490	Torque	ft-lb (Nm)	2,780 (3770)	3,700 (5017)	-	-	-	-	-	-	-	-	-	-	
	Impactool Recommended		5980	5980	-	-	-	-	-	-	-	-	-	-	
	Tension	lb (kN)	121,000 (538)	148,00 (658)	-	-	-	-	-	-	-	-	-	-	

These bolts are used on structural steel applications. Torque and tension values are based on running the nut beyond the proof load of the bolt by the turn of the nut method. For detailed information consult the bolt manufacturer.



2100 MAX Series



MAINTENANCE DUTY

- Titanium hammer case
- Cast aluminum hammer case (2015/25 MAX)
- Composite housing
- Reverse-biased motor
- Twin hammer mechanism
- Jumbo hammer mechanism (2015/25 MAX)
- 1/4" NPT inlet

Model	Description	Details	Handle	rpm	rpm	ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
2015MAX	3/8" Square at 90°	Hog-ring	Straight	7,100	2,100	F: 150 (203) R: 180 (244)	F: 45 – 140 (61 – 190) R: 45 – 160 (61 – 217)	3.4 (1.54)	13.1 (332)	1.1 (28)	3/8 (10)	19 (538)
2025MAX	1/2" Square at 90°	Hog-ring	Straight	7,100	2,100	F: 150 (203) R: 180 (244)	F: 45 – 140 (61 – 190) R: 45 – 160 (61 – 217)	3.4 (1.54)	13.1 (332)	1.1 (28)	3/8 (10)	19 (538)
2115TiMAX-AP	3/8" Square	Hog-ring	Pistol	15,000	1,500	F: 250 (339) R: 300 (407)	F: 25 – 230 (34 – 312) R: 55 – 280 (75 – 300)	2.48 (1.12)	5.95 (151)	1.1 (28)	3/8 (10)	17 (481)
2115QTiMAX-AP	3/8" Square	Hog-ring, Quietool	Pistol	15,000	1,500	F: 250 (339) R: 300 (407)	F: 25 – 230 (34 – 312) R: 55 – 280 (75 – 300)	2.48 (1.12)	5.95 (151)	1.1 (28)	3/8 (10)	17 (481)
2115PTiMAX-AP	3/8" Square	Pin Retainer	Pistol	15,000	1,500	F: 250 (339) R: 300 (407)	F: 25 – 230 (34 – 312) R: 55 – 280 (75 – 300)	2.48 (1.12)	5.95 (151)	1.1 (28)	3/8 (10)	17 (481)
2125QTiMAX-AP	1/2" Square	Hog-ring, Quietool	Pistol	15,000	1,500	F: 277 (375) R: 332 (450)	F: 25 – 251 (34 – 340) R: 76 – 302 (103 – 410)	2.51 (1.14)	6.1 (155)	1.1 (28)	3/8 (10)	17 (481)
2125PTiMAX-AP	1/2" Square	Pin Retainer	Pistol	15,000	1,500	F: 277 (375) R: 332 (450)	F: 25 – 251 (34 – 340) R: 76 – 302 (103 – 410)	2.51 (1.14)	6.1 (155)	1.1 (28)	3/8 (10)	17 (481)
2135TiMAX-AP	1/2" Square	Hog-ring	Pistol	9,800	1,250	F: 600 (813) R: 780 (1054)	F: 50 – 550 (68 – 746) R: 150 – 650 (203 – 880)	3.95 (1.79)	7.35 (186.7)	1- 3/8 (35)	3/8 (10)	24 (680)
2135QTiMAX-AP	1/2" Square	Hog-ring, Quietool	Pistol	9,800	1,250	F: 600 (813) R: 780 (1054)	F: 50 – 550 (68 – 746) R: 150 – 650 (203 – 880)	3.95 (1.79)	7.35 (186.7)	1- 3/8 (35)	3/8 (10)	24 (680)
2135PTiMAX-AP	1/2" Square	Pin Retainer	Pistol	9,800	1,250	F: 600 (813) R: 780 (1054)	F: 50 – 550 (68 – 746) R: 150 – 650 (203 – 880)	3.95 (1.79)	7.35 (186.7)	1- 3/8 (35)	3/8 (10)	24 (680)
2135OPTiMAX-AP	1/2" Square	Pin Retainer, Quietool	Pistol	9,800	1,250	F: 600 (813) R: 780 (1054)	F: 50 – 550 (68 – 746) R: 150 – 650 (203 – 880)	3.95 (1.79)	7.35 (186.7)	1- 3/8 (35)	3/8 (10)	24 (680)

Note: 2" extended anvil models: 2135Ti-2MAX-AP & 2135QTi-2MAX-AP



1702 Series












1702P1



1702SB1

HEAVY DUTY

- Jumbo hammer mechanism
- Steel hammer case
- Pressure-fed mechanism lubrication
- 1/4" NPT inlet

Model	Description	Details	Handle	 1 min.	 1 min	 Max ft-lbs	 ft-lbs	 lb (kg)	 in (mm)	 in (mm)	 in (mm)	 cfm
				rpm		ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
1702P1	3/8" square	Pin Retainer	Pistol	10,000	1,500	125 (170)	20 - 100 (27 - 136)	2.75 (1.25)	5.5 (140)	1.38 (34)	5/16 (8)	15 (425)
1702P4	1/4" hex	Pin Retainer	Pistol	10,000	1,500	125 (170)	20 - 100 (27 - 136)	2.75 (1.25)	5.5 (140)	1.38 (35)	5/16 (8)	15 (425)
1702SB1	3/8" square	Pin Retainer	Straight	10,000	1,500	105 (142)	13 - 85 (18 - 115)	2.5 (1.12)	5.88 (149)	1 (25)	5/16 (8)	13 (368)

2700 Series












2705P1



2707P1

HEAVY DUTY

- Twin hammer mechanism
- Steel hammer case
- Pressure-fed mechanism lubrication
- 1/4" NPT inlet

Model	Description	Details	Handle	 1 min.	 1 min	 Max ft-lbs	 ft-lbs	 lb (kg)	 in (mm)	 in (mm)	 in (mm)	 cfm
				rpm		ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
2705P1	1/2" square	Pin Retainer	Pistol	8,500	1,200	400 (542)	40 - 250 (54 - 271)	5.63 (2.55)	6.75 (171)	1.38 (34)	3/8 (10)	23 (651)
2707P1	1/2" hex	Pin Retainer	Pistol	7,750	1,300	450 (610)	40 - 275 (54 - 373)	6 (2.72)	6.5 (165)	1.38 (34)	3/8 (10)	26 (736)



2900 Series



2902P1



2906P1

SUPER DUTY

- Steel hammer case
- Jumbo hammer mechanism (2902P1)
- Twin hammer mechanism (2906P1)
- Pressure-fed mechanism lubrication
- Integral muffler
- 1/4" NPT inlet

Model	Description	Details	Handle	1 min.		Max. ft-lbs		ft-lbs (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
				rpm	ft-lb (Nm)	ft-lb (Nm)	lb (kg)						
2902P1	3/8" square	Pin Retainer	Pistol	10,000	1,500	180 (244)	20 - 150 (27 - 204)	2.5 (1.25)	5.5 (140)	1.38 (35)	3/8 (10)	15 (425)	
2906P1	1/2" square	Pin Retainer	Pistol	5,000	1,200	500 (678)	40 - 350 (54 - 475)	6 (2.72)	6.88 (175)	1.34 (34)	3/8 (10)	23 (651)	

Tune-up kits

Part Number	For Use With
3/8" & 1/2" IMPACTOOL	
2015-TK	2015/25 MAX
2115-TK2	2115/25 MAX
2135-TK2	2135 MAX
1702SB-TK2	1702SB1
1702P-TK2	1702P1, 2902P1
2705-TK3	2705P1
2707-TK2	2707P1
2906P-TK1	2906P1

Hammer kits

Part Number	For Use With
3/8" & 1/2" IMPACTOOL	
2015-THK	2015/25 MAX
2115-THK2	2115/25 MAX
2135-THK1	2135TiMAX 2135QTiMAX
2135PTi-THK1	2135PTiMAX 2135QPTiMAX

Note: Ingersoll Rand lubricants and greases are available to fulfill maintenance needs.

Anvils & hangers

Part Number	Description	For Use With
3/8" & 1/2" IMPACTOOL		
1702-A926-4	1/4" hex quick change anvil assembly	1702/2902 Series
2U-A925-4	Quick change chuck for 1/4" hex shank accessories	1702/2902 Series
1702-A926-7	7/16" hex quick change anvil assembly	1702/2902 Series
502-A925-7	Quick change chuck for 7/16" hex shank accessories	1702/2902 Series
705-A926-7	7/16" hex quick change anvil assembly	2906P1
1901-365	Vertical hanger	1702SB1
2908-365	Vertical hanger	2906P1
1901-366	Horizontal hanger	1702SB1
2706-366	Horizontal hanger	2707P1
904-366	Horizontal hanger	2906P1
2U-215	Socket adapter (3/8" to 1/2")	1702SB1





2100 Series



2145QiMAX-AP



2171XP

MAINTENANCE DUTY

- Steel hammer case
- Composite housing (2145Series, 2155QiMAX)
- Twin hammer mechanism
- Jumbo hammer mechanism (2161, 2171P)
- 3/8 NPT inlet

Model	Description	Details	Handle	rpm	ft-lb (Nm)	ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
2145QiMAX-AP	3/4" square Reverse bias motor	Hog-ring & Through-hole socket retainer	Pistol	7,000	1,150	F: 1,100 (1492) R: 1,350 (1830)	F: 200 – 900 (272 – 1220) R: 200 – 1000 (272 – 1356)	7.4 (3.4)	8.5 (217)	1.6 (41.5)	1/2 (13)	32 (906)
2155QiMAX	1" square Reverse bias motor	Hog-ring & Through-hole socket retainer	Pistol	7,000	1,150	F: 1,100 (1492) R: 1,350 (1830)	F: 200 – 900 (272 – 1220) R: 200 – 1000 (272 – 1356)	7.4 (3.4)	8.8 (225)	1.6 (41.5)	1/2 (13)	32 (906)
2161XP	3/4" square	Hog-ring	Pistol	6,000	1,025	1,250 (1695)	300 – 1,000 (407 – 1360)	12.14 (5.5)	8.3 (210)	1.75 (44)	1/2 (13)	46 (1303)
2161P	3/4" square	Through-hole socket retainer	Pistol	6,000	1,025	1,250 (1695)	300 – 1,000 (407 – 1360)	12.14 (5.5)	8.3 (210)	1.75 (44)	1/2 (13)	46 (1303)
2171XP	1" square	Hog-ring	Pistol	6,000	1,025	1,250 (1695)	300 – 1,000 (407 – 1360)	12.32 (5.6)	8.5 (216)	1.75 (44)	1/2 (13)	46 (1303)
2171P	1" square	Through-hole socket retainer	Pistol	6,000	1,025	1,250 (1695)	300 – 1,000 (407 – 1360)	12.32 (5.6)	8.5 (216)	1.75 (44)	1/2 (13)	46 (1303)

Note: 1) 3" extended anvil models: 2145QiMAX-3
2) 6" extended anvil models: 2145QiMAX-6, 2161XP-6 & 2171XP-6

1700 Series



1720P1



1720B1

HEAVY DUTY

- Steel hammer case
- Jumbo hammer mechanism
- Pressure-feed mechanism lubrication
- Integral muffler
- 3/8" inlet
- 1" drive x 6" extended anvil for 1712B2 (Part#280-726-6)

Model	Description	Details	Handle	rpm	ft-lb (Nm)	ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
1720P1	3/4" square	Through-hole socket retainer	Pistol	5,500	1,000	1,000 (1360)	200 – 600 (271 – 814)	12.54 (5.65)	7.63 (194)	1.91 (48)	1/2 (13)	40 (1133)
1720P3	1" square	Through-hole socket retainer	Pistol	5,500	1,100	1,100 (1491)	250 – 750 (339 – 1017)	12.54 (5.65)	7.63 (194)	1.91 (48)	1/2 (13)	40 (1133)
1720B1	3/4" square	Through-hole socket retainer	Grip I.T.	5,500	1,000	1,000 (1360)	200 – 600 (271 – 814)	13.87 (6.29)	11.75 (299)	1.91 (48)	1/2 (13)	40 (1133)
1720B3	1" square	Through-hole socket retainer	Grip I.T.	5,500	1,000	1,100 (1491)	250 – 750 (339 – 1017)	13.87 (6.29)	11.75 (299)	1.91 (48)	1/2 (13)	40 (1133)
1712B2	1" square	Through-hole socket retainer	Grip I.T.	6,000	800	1,350 (1898)	450 – 1,000 (610 – 1356)	18.25 (8.28)	11.25 (286)	2.19 (56)	3/4 (19)	47 (1331)

Note: 1) Grip-straight/inline shape
2) I.T.-Inside Trigger












3/4" & 1"

2920 Series



SUPER DUTY

- Steel hammer case
- Twin hammer mechanism
- Pressure-fed mechanism lubrication
- Integral muffler
- 3/8" NPT inlet
- 6" Extended anvil as option (part#2910B-726-6)

Model	Description	Details	Handle									
				rpm		ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
2920B1	3/4" square	Through-hole socket retainer	Grip I.T.	5,000	950	1,100 (1492)	250 – 800 (339 – 1085)	13.19 (5.98)	12.5 (318)	1.91 (49)	1/2 (13)	36 (1020)
2920B9	3/4" square at 90°	Through-hole socket retainer	Grip I.T.	5,000	950	550 (746)	125 – 400 (170 – 542)	23.69 (10.75)	17.5 (445)	1.31 (33)	1/2 (13)	36 (1020)










Note: 1) Grip-straight/inline shape
2) I.T.-Inside Trigger
3) O.T.-Outside Trigger

2925Ti Series



SUPER DUTY

- Titanium hammer case
- Corrode-X™ component package
- Twin hammer mechanism
- Choice of balanced or reversed bias motor
- Pressure-fed mechanism lubrication
- Integral muffler
- 3/8" NPT inlet

Model	Description	Details	Handle									
				rpm		ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
2925P1Ti	3/4" square	Through-hole socket retainer	Pistol	5,200	1,050	1,450 (1966)	350 – 1,100 (475 – 1492)	12 (5.44)	8.9 (225)	1.75 (44)	1/2 (13)	60 (1699)
2925RBP1Ti	3/4" square reverse bias	Through-hole socket retainer	Pistol	5,200	1,050	F: 1,300 (1763) R: 1,600 (2169)	F: 300 – 950 (407 – 1288) R: 400 – 1,400 (542 – 1898)	12 (5.44)	8.9 (225)	1.75 (44)	1/2 (13)	60 (1699)
2925B2Ti	1" square	Through-hole socket retainer	Grip I.T.	6,500	900	1,600 (2169)	350 – 1,250 (475 – 1695)	15.2 (6.89)	13.28 (334)	1.75 (44)	1/2 (13)	60 (1699)
2925RB2Ti	1" square reverse bias	Through-hole socket retainer	Grip I.T.	6,500	900	F: 1,500 (2333) R: 1,700 (2304)	F: 300 – 950 (407 – 1288) R: 400 – 1,400 (542 – 1898)	15.2 (6.89)	13.28 (334)	1.75 (44)	1/2 (13)	60 (1699)
2925P3Ti	1" square	Through-hole socket retainer	Pistol	5,200	1,050	1,450 (1966)	350 – 1,100 (475 – 1492)	12.2 (5.54)	9.04 (230)	1.74 (44)	1/2 (13)	60 (1699)
2925RBP3Ti	1" square reverse bias	Through-hole socket retainer	Pistol	5,200	1,050	F: 1,300 (1763) R: 1,600 (2169)	F: 300 – 950 (407 – 1288) R: 400 – 1,400 (542 – 1898)	12.2 (5.54)	9.04 (230)	1.74 (44)	1/2 (13)	60 (1699)



2934 & 2940 Series



2934P2

2934A2 (O.T.-Outside Trigger)
2934B2

SUPER DUTY

- Cast iron hammer case
- Bronze endplates
- Twin hammer mechanism
- Pressure-fed mechanism lubrication
- Integral muffler
- 1/2" NPT inlet

Model	Description	Details	Handle									
				rpm	ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm	
2934B2	1" square	Through-hole socket retainer	Grip I.T.	6,600	750	1,500 (2034)	500 – 1,100 (678 – 1491)	18.5 (8.39)	11.25 (286)	2.19 (56)	3/4 (19)	47 (1331)
2934B9	1" square at 90°	Through-hole socket retainer	Grip I.T.	5,300	780	750 (1017)	250 – 500 (339 – 678)	35.75 (16.2)	18.63 (473)	1.63 (41)	3/4 (19)	47 (1331)
2934P2	1" square	Through-hole socket retainer	Pistol	5,300	825	1,500 (2034)	500 – 1,100 (678 – 1491)	20 (9.07)	8.63 (219)	2.19 (56)	3/4 (19)	47 (1331)
2940B2	1" square	Through-hole socket retainer	Grip I.T.	5,000	850	2,000 (2,710)	1,000-1,600 (1360-2169)	22 (9.98)	12.25 (311)	2.19 (56)	3/4 (19)	58 (1643)
2940P2	1" square	Through-hole socket retainer	Pistol	4,000	810	2,000 (2,710)	1,000-1,600 (1360-2169)	22.88 (10.40)	9.88 (251)	2.19 (56)	3/4 (19)	58 (1643)

Note: 1) #5 spline models-2940B1 (I.T.) & 2940A1 (O.T.)
2) Grip O.T.Model-2940A2

3940Ti Series



3940P2Ti



3940B2Ti

SUPER DUTY

- Titanium hammer case
- Bronze endplates
- Twin hammer mechanism
- Reverse bias motor
- Pressure-fed mechanism lubrication
- Integral muffler
- 1/2" NPT inlet

Model	Description	Details	Handle									
				rpm	ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm	
3940A1Ti	No. 5 spline	Through-hole socket retainer	Grip O.T.	6,000	800	2,500 (3390)	F: 500 – 1,650 (680 – 2240) R: 500 – 1,800 (680 – 2440)	21.2 (9.6)	13.4 (341)	2.3 (59)	3/4 (19)	75 (2124)
3940A2Ti	1" square	Through-hole socket retainer	Grip O.T.	6,000	800	2,500 (3390)	F: 500 – 1,650 (680 – 2240) R: 500 – 1,800 (680 – 2440)	21.2 (9.6)	13.4 (341)	2.3 (59)	3/4 (19)	75 (2124)
3940B1Ti	No. 5 spline	Through-hole socket retainer	Grip I.T.	6,000	800	2,500 (3390)	F: 500 – 1,650 (680 – 2240) R: 500 – 1,800 (680 – 2440)	21.2 (9.6)	13.4 (341)	2.3 (59)	3/4 (19)	75 (2124)
3940B2Ti	1" square	Through-hole socket retainer	Grip I.T.	6,000	800	2,500 (3390)	F: 500 – 1,650 (680 – 2240) R: 500 – 1,800 (680 – 2440)	21.2 (9.6)	13.4 (341)	2.3 (59)	3/4 (19)	75 (2124)
3940P2Ti	1" square	Through-hole socket retainer	Pistol	5,300	800	2,500 (3390)	F: 500 – 1,650 (680 – 2240) R: 500 – 1,800 (680 – 2440)	20.4 (9.3)	10.1 (256)	2.3 (59)	3/4 (19)	75 (2124)












3942Ti Series



SUPER DUTY

- Titanium hammer case
- Bronze endplates
- Twin hammer mechanism
- Reverse bias motor
- Pressure-fed mechanism lubrication
- Integral muffler
- 1/2" NPT inlet

Model	Description	Details	Handle	 rpm	 ft-lb (Nm)	 ft-lb (Nm)	 ft-lb (Nm)	 lb (kg)	 in (mm)	 in (mm)	 in (mm)	 cfm
3942A2Ti	1" square	Through-hole socket retainer	Grip O.T.	5,000	850	3,250 (4406)	F: 1,000 – 1,950 (1356 – 2644) R: 1,000 – 2,100 (1356 – 2848)	22.6 (10.5)	14.2 (361)	2.3 (59)	3/4 (19)	95 (2690)
3942B1Ti	No. 5 spline	Through-hole socket retainer	Grip I.T.	5,000	850	3,250 (4406)	F: 1,000 – 1,950 (1356 – 2644) R: 1,000 – 2,100 (1356 – 2848)	22.6 (10.5)	14.2 (361)	2.3 (59)	3/4 (19)	95 (2690)
3942B2Ti	1" square	Through-hole socket retainer	Grip I.T.	5,000	850	3,250 (4406)	F: 1,000 – 1,950 (1356 – 2644) R: 1,000 – 2,100 (1356 – 2848)	22.6 (10.5)	14.2 (361)	2.3 (59)	3/4 (19)	95 (2690)

Tune-up kits

Part Number	For Use With
3/4" TO 1-1/2" IMPACTOOL	
2145-TK2	2145 Series
2161-TK2	2161XP, 2161P 2171XP, 2171P
1720B-TK2	1720B1, 1720B3
1720P-TK2	1720P1, 1720P3
1712B/1712P-TK3	1712B2
2920B-TK2	2920B Series
2925B-TK2	2925Ti Series
2934-TK3	2934 Series
2940-TK3	2940 Series
2945-TK2	2945 Series
2950-TK2	2950 Series
3940-TK1	3940Ti Series
3942-TK1	3942Ti Series
3955-TK1	3955Ti Series

Anvils, Hangers & Exhaust Kit

Part Number	Description	For Use With
3/4" & 1" IMPACTOOL		
1712-A526	Spline drive anvil assembly	1712B2
2910B-A926-10	Quick change anvil assembly	2920 Series
2910-A526	#4 spline drive anvil assembly	2920 Series & 2925 Series
2934-A526	Spline drive anvil assembly	2934 Series
2161-366	Horizontal hanger	2161/71 & 2925Ti Series
910-366	Horizontal hanger	1720/2920 Series
2934-366	Horizontal hanger	1712B2 & 2934 & 2940 Series
2934-314-6	1" x 6" extended anvil	2934 Series
2940-314-6	1" x 6" extended anvil & hammer kits	2940 Series
2161-123	Piped-away exhaust kit	2925 & 2161P
2940-K184	Piped-away exhaust kit	2934/2940/ 2945 & 2950 Series



Note: Ingersoll Rand lubricants & greases are available to fulfill maintenance needs. Refer to Parts Lists for details.



2950 & 3955Ti Series

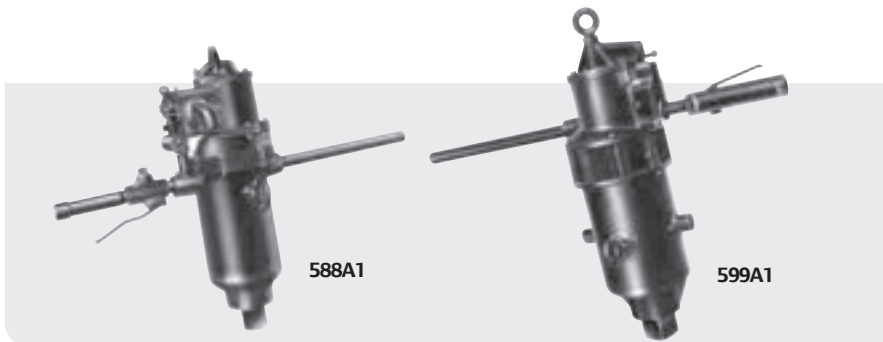


SUPER DUTY

- Plated iron hammer case (2950 Series)
- Titanium hammer case (3955 Series)
- Bronze endplates (3955 Series)
- Twin hammer mechanism
- Reverse bias motor (3955 Series)
- Pressure-fed mechanism lubrication
- Integral muffler
- 1/2" NPT inlet
- Durable epoxy-coated handle/housing (2950 Series)

Model	Description	Details	Handle	rpm	rpm	ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
3955A2Ti	1-1/2" square	Through-hole socket retainer	Grip O.T.	2,750	700	5,000 (6779)	F: 1,600 – 3,900 (2169 – 5288) R: 1,600 – 4,150 (2170 – 5630)	34.6 (15.7)	16.65 (423)	2.67 (68)	3/4 (19)	80 (2265)
3955B1Ti	No. 5 spline	Through-hole socket retainer	Grip I.T.	2,750	700	5,000 (6779)	F: 1,600 – 3,900 (2169 – 5288) R: 1,600 – 4,150 (2170 – 5630)	34.6 (15.7)	16.65 (423)	2.67 (68)	3/4 (19)	80 (2265)
3955B2Ti	1-1/2" square	Through-hole socket retainer	Grip I.T.	2,750	700	5,000 (6779)	F: 1,600 – 3,900 (2169 – 5288) R: 1,600 – 4,150 (2170 – 5630)	34.6 (15.7)	16.65 (423)	2.67 (68)	3/4 (19)	80 (2265)
2950B7	1-1/2" square	Through-hole socket retainer	Grip I.T.	3,750	650	3,000 (4067)	1,600-2,500 (2170-3390)	32.63 (14.8)	14.5 (368)	2.5 (64)	3/4 (19)	70 (1982)

5000 Series



SUPER DUTY

- Cast aluminum hammer case (5980A1, 5982A1)
- Cast iron hammer case (588A1, 599A1)
- Precision ball and cam mechanism
- Built-in lubricator
- Lever throttle
- Dead handle
- Vertical and horizontal hangars

Model	Description	Details	Handle	rpm	rpm	ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
5980A1	1-1/2" square	3/4" NPT Inlet	Lever	830	1,000	10,000 (13560)	2,300 – 5,500 (3119 – 7460)	88 (39.9)	23 (584)	3.06 (78)	1 (25)	138 (3908)
5982A1	2-1/2" square	3/4" NPT Inlet	Lever	830	850	20,000 (27120)	4,000 – 10,000 (5424 – 13560)	120 (54.5)	25.38 (645)	3.5 (90)	1 (25)	130 (3681)
588A1	2-1/2" square	1" NPT Inlet	Lever	355	550	50,000 (67800)	12,000 – 25,000 (16270 – 33900)	215 (97.5)	26.63 (676)	4 (101)	1 (25)	155 (4389)

ATEX Certified Impacttools

Perfect for the Petroleum,
Chemical and Mining
Industries



Ingersoll Rand has always offered product to be used in hazardous atmospheres. As well as the standard classic impacttools with housings in a special spark resistant alloy, investment in low static spark composite technology has made possible a new range of lightweight impacttools which are fully certified to classifications EX I M2 c IIB 95°C X and EX II 2GD c IIB 95°C X under the new European Directives 94/9/EC and 1999/92/EC-commonly known as the A TEX Directives. These are the tool of choice for specialised applications within the petrochem and mining industries, and in any production or processing areas where hazardous atmospheres can occur.

Spark Proof Series Impacttools

• Spark Proof Housing, Hammer Case & Anvil Mechanism



2131PSP

- 1/2" Square drive Impact wrench.
- High output TwinHammer.
- Pressure-feed Lubrication system.
- Reverse biased motor cylinder for increased performance.
- One hand operation forward/reverse.
- 360°swivel inlet helps eliminate air hose twisting and binding.
- In-handle exhaust directs air away from the operator and work.



2145QiMAX-SP

- 3/4" Square drive Impact wrench.
- High output TwinHammer.
- Pressure-feed lubrication system.
- Seven vanes, high output air motor.
- One hand operation forward/reverse.
- 360°swivel inlet helps eliminate air hose twisting and binding.
- Bronze endplates ensure motor durability under the toughest conditions.
- In-handle exhaust directs air away from the operator and work.



2155QiMAX-SP

- 1" Square drive Impact wrench.
- High output TwinHammer.
- Pressure-feed Lubrication system.
- Seven vanes, high-output air motor.
- 360°swivel inlet helps eliminate air hose twisting and binding.
- Bronze endplates ensure motor durability under the toughest conditions.
- In-handle exhaust directs air away from the operator and work.



2934B2SP-EU

- 1" Square drive Impact wrench.
- Six vanes, high output air motor.
- High output TwinHammer.
- Bronze endplates ensure motor durability under the toughest conditions.
- Proven reliability and long-life.



2940B2SP-EU

- 1" Square drive Impact wrench.
- Six vanes, high output air motor.
- High output TwinHammer.
- Bronze endplates ensure motor durability under the toughest conditions.
- Proven reliability and long-life.



Model	Style	SqDrive	Free Speed	Max Reverse Torque	Forward TorqueRange	Weight	Overall Length	Air inlet	Min hose size	Air consumption
		in	rpm	ft-lb (Nm)	ft-lb (Nm)	lb (kg)	in. (mm)	in	in	cfm(1/min)
2131PSP	Pistol	1/2"	9,500	600 (813)	50-400 (68-542)	4.5 (2.0)	6.9 (175)	1/4"	3/8"	9.5 (270)
2145QiMAX-SP	Pistol	3/4"	7,000	1,350 (1830)	200-1000 (271-1356)	7.4 (3.35)	8.8 (225)	3/8"	1/2"	8.5 (241)
2155QiMAX-SP	Pistol	1"	7,000	1,350 (1830)	200-1000 (271-1356)	7.4 (3.35)	8.8 (225)	3/8"	1/2"	8.5 (241)
2934B2SP-EU	In-line inside trigger	1"	6,600	1,500 (2030)	500-1100 (678-1490)	23.8 (10.8)	11.3 (286)	1/2"	3/4"	47.0 (1330)
2940B2SP-EU	In-line inside trigger	1"	5,000	2,000 (2710)	1003-1601 (1360-2170)	28.4 (12.9)	12.2 (311)	1/2"	3/4"	58.0 (1642)

Cordless Impacttools



Designed specifically for industrial manufacturing, Ingersoll Rand IQV20 Series™ Cordless Impacttools feature a durable rare earth magnet motor ideal for high-cycle use.

Ergonomically designed, the IQV20 Series cordless impacts feature a rubber over-molded grip to help minimize vibration and fatigue during continued use. Measuring only 6" from tip-to-tail, these cordless industrial tools will make access to tight spaces easier, and deliver fast applications speeds to help meet plant throughput goals.

With more than 100 years of engineering expertise, rely on the IQV20 Series Impacttool to do the job, do it fast, and do it every time.

W7000 Series

1057 Nm (780 ft-lb)!

W7150EU – Tool only
W7250EU (2" extended anvil)

- 1/2" □ (ring)
- 20 V.
- Ball-Cam impact mechanism.
- 1-hand forward and reverse switch.
- Compatibility with 3.0 Ah IQ^{20V} battery (BL2010).



W7150EU-K2-XXXXX



All-metal drivetrain and hammer mechanism — robust, durable, and optimized for maximum power and efficiency

Variable speed switch with electronic brake — provides maximum control of the tool



Drop-resistant, steel-reinforced frame protects against breakage



W7150EU - (tool without battery)

High-power rare earth magnet (neodymium) motor — offers a long life and high power

Patent-pending soft touch over-molded grip — minimizes vibration, reduces fatigue, and enhances user comfort during extended use



Impact Socket Sets

SK2M12 (CPN: 81287336): 1/4" socket set (6, 7, 8, 9, 10, 11, 12, 13 and 14 mm, 50 and 100 mm extensions, 3/8" F x 1/4" M adapter).
SK3M10 (CPN: 81287344): 3/8" socket set (9, 10, 11, 12, 13, 14, 15, 16, 17 and 19 mm).
SK4M14 (CPN: 81287351): 1/2" socket set (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23 and 24 mm).

Item Number	Country	Description
W7150EU-K2-JAPAN	Japan	W7150EU, Charger, 2 Battery & Case
W7250EU-K2-JAPAN	Japan	W7250EU, Charger, 2 Battery & Case
W7150EU-K2-AUSNZ	Australia/New Zealand	W7150EU, Charger, 2 Battery & Case
W7250EU-K2-AUSNZ	Australia/New Zealand	W7250EU, Charger, 2 Battery & Case
W7150EU-K2-KOREA	Korea	W7150EU, Charger, 2 Battery & Case
W7250EU-K2-KOREA	Korea	W7250EU, Charger, 2 Battery & Case
W7150EU-K1-SINGHK	Singapore/Hongkong	W7150EU, Charger, 1 Battery & Case
W7150EU-K2-SINGHK	Singapore/Hongkong	W7150EU, Charger, 2 Battery & Case
W7250EU-K1-SINGHK	Singapore/Hongkong	W7250EU, Charger, 1 Battery & Case
W7250EU-K2-SINGHK	Singapore/Hongkong	W7250EU, Charger, 2 Battery & Case

Note: Battery in Kit is BL2010. Charger is BC1120.

Cordless Impacttools™ 1/2" ■	V	Nm	Nm	rpm		kg	mm	dB(A)	m/s ² / K ⁽¹⁾
W7150EU	20	68-880	1,057	1,900	2,300	3.10	238	89.0	12.2 / 1.8
W7250EU	20	68-880	1,057	1,900	2,300	3.10	285	89.0	12.2 / 1.8

Note: ISO28927 – 3-axis measurement: vibration level / measurement uncertainty.

W5000 Series

240 Nm (175 ft-lb)!

- W5111** – 1/4" hex
- W5131P** – 3/8" drive (Pin)
- W5151P** – 1/2" drive (Pin)

- Compatibility with 1.5 Ah (BL2005) & 3.0 Ah (BL2010) IQ^{20V} batteries.



All-metal drivetrain and hammer mechanism robust, durable, and optimized for maximum power and efficiency

Compact size, 6" from tip to tail, allows for greater accessibility and versatility



Patented steel reinforced frame protects against breakage

Variable speed switch with electronic brake for maximum tool control

Tough housing protects against fluids, chemicals, and repeated drops



Rare earth magnet motor offers optimal performance and long life

Replaceable brushes extend the heavy duty-cycle tool's usable life

Ergonomic handle and comfort grip help reduce vibration and fatigue and enhances user comfort during extended use

High-power, 20-volt lithium-ion battery compatible with all IQV20 Series™ cordless tools (3.0 Ah)

W5111 - (tool without battery)

Item Number	Country	Description
W5111-K2-JAPAN	Japan	W5111, Charger, 2 Battery & Case
W5111-K2-AUSNZ	Australia/New Zealand	W5111, Charger, 2 Battery & Case
W5111-K2-KOREA	Korea	W5111, Charger, 2 Battery & Case
W5111-K1-SINGHK	Singapore/Hongkong	W5111, Charger, 1 Battery & Case
W5111-K2-SINGHK	Singapore/Hongkong	W5111, Charger, 2 Battery & Case
W5131P-K2-JAPAN	Japan	W5131P, Charger, 2 Battery & Case
W5151P-K2-JAPAN	Japan	W5151P, Charger, 2 Battery & Case
W5131P-K2-AUSNZ	Australia/New Zealand	W5131P, Charger, 2 Battery & Case

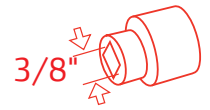
Item Number	Country	Description
W5151P-K2-AUSNZ	Australia/New Zealand	W5151P, Charger, 2 Battery & Case
W5131P-K2-KOREA	Korea	W5131P, Charger, 2 Battery & Case
W5151P-K2-KOREA	Korea	W5151P, Charger, 2 Battery & Case
W5131P-K1-SINGHK	Singapore/Hongkong	W5131P, Charger, 1 Battery & Case
W5131P-K2-SINGHK	Singapore/Hongkong	W5131P, Charger, 2 Battery & Case
W5151P-K1-SINGHK	Singapore/Hongkong	W5151P, Charger, 1 Battery & Case
W5151P-K2-SINGHK	Singapore/Hongkong	W5151P, Charger, 2 Battery & Case

Note: Battery in Kit is BL2005. Charger is BC1120.

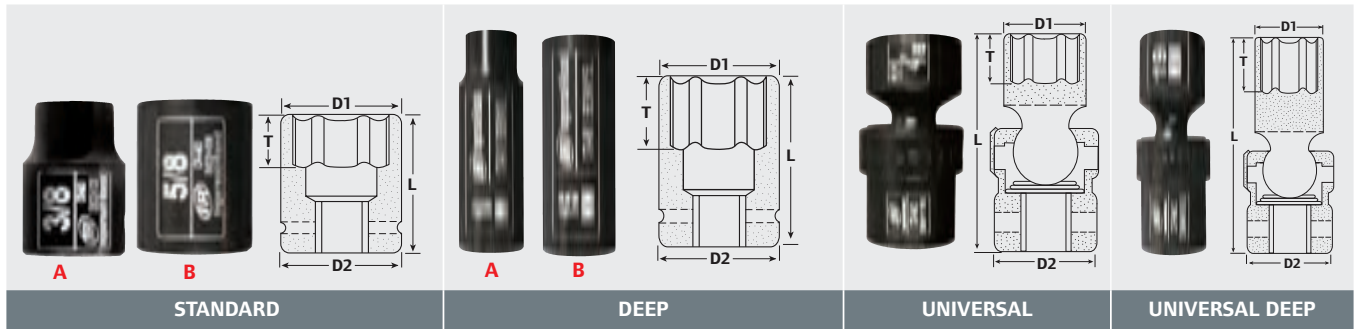
	V	Nm	Max. Nm	1 min. rpm	1 min	kg	mm	dB(A)	m/s ² / K ⁽¹⁾
Cordless Impacttools™ 1/2" ■									
W5151P (BL2005)	20	35-160	215	1,900	2,800	1.6	154	86	4.7/1.2
W5151P (BL2010)	20	35-175	240	1,900	2,800	1.9	154	86	6.9/1.8
Cordless Impacttools™ 3/8" ■									
W5131P (BL2005)	20	35-160	215	1,900	2800	1.6	150	86	4.7/1.2
W5131P (BL2010)	20	35-175	240	1,900	2,800	1.9	150	86	6.9/1.8
Cordless Impact Drivers 1/4" ◆									
W5111 (BL2005)	20	35-160	215	1,900	2,800	1.6	152	86	4.7/1.2
W5111 (BL2010)	20	35-175	240	1,900	2,800	1.9	152	86	6.9/1.8

Note: ISO28927 – 3-axis measurement: vibration level / measurement uncertainty.

Impact Sockets



3/8" Impact Sockets



Individuals


6-PT

Part Number	Output Size	Description	D1 in (mm)	D2 in (mm)	T in (mm)	L in (mm)	Type
S63H14	1/4"	Standard	0.43 (11)	0.75 (19)	0.16 (4)	1.1 (28)	A
S63H516	5/16"	Standard	0.49 (12.5)	0.75 (19)	0.28 (7)	1.1 (28)	A
S63H38	3/8"	Standard	0.57 (14.5)	0.75 (19)	0.28 (7)	1.1 (28)	A
S63H716	7/16"	Standard	0.67 (17)	0.75 (19)	0.28 (7)	1.18 (30)	A
S63H12	1/2"	Standard	0.75 (19)	0.75 (19)	0.28 (7)	1.18 (30)	B
S63H916	9/16"	Standard	0.79 (20)	0.79 (20)	0.28 (7)	1.18 (30)	B
S63H58	5/8"	Standard	0.94 (24)	0.94 (24)	0.39 (10)	1.18 (30)	B
S63H1116	11/16"	Standard	0.94 (24)	0.94 (24)	0.39 (10)	1.26 (32)	B
S63H516L	5/16"	Deep	0.49 (12.5)	0.75 (19)	0.47 (12)	2.48 (63)	A
S63H38L	3/8"	Deep	0.57 (14.5)	0.75 (19)	0.55 (14)	2.48 (63)	A
S63H716L	7/16"	Deep	0.67 (17)	0.75 (19)	0.67 (17)	2.48 (63)	A
S63H12L	1/2"	Deep	0.75 (19)	0.75 (19)	0.67 (17)	2.48 (63)	B
S63H916L	9/16"	Deep	0.79 (20)	0.79 (20)	0.67 (17)	2.48 (63)	B
S63H58L	5/8"	Deep	0.94 (24)	0.94 (24)	0.67 (17)	2.48 (63)	B
S63H1116L	11/16"	Deep	0.94 (24)	0.94 (24)	0.67 (17)	2.48 (63)	B
S63M10L	10mm	Deep	0.59 (15)	0.75 (19)	0.55 (14)	2.48 (63)	A
S63H516U	5/16"	Universal	0.69 (17.5)	0.94 (24)	0.47 (12)	2.09 (53)	A
S63H38U	3/8"	Universal	0.59 (15)	0.94 (24)	0.47 (12)	2.09 (53)	A
S63H716U	7/16"	Universal	0.73 (18.5)	0.94 (24)	0.47 (12)	2.09 (53)	A
S63H12U	1/2"	Universal	0.75 (19)	0.94 (24)	0.47 (12)	2.09 (53)	A
S63H916U	9/16"	Universal	0.87 (22)	0.94 (24)	0.47 (12)	2.09 (53)	A
S63H58U	5/8"	Universal	0.94 (24)	0.94 (24)	0.47 (12)	2.09 (53)	A
S63H1116U	11/16"	Universal	0.98 (25)	0.94 (24)	0.47 (12)	2.09 (53)	A
S63H516UL	5/16"	Universal Deep	0.69 (17.5)	0.94 (24)	0.51 (13)	3.03 (77)	A
S63H38UL	3/8"	Universal Deep	0.71 (18)	0.94 (24)	0.51 (13)	3.03 (77)	A
S63H716UL	7/16"	Universal Deep	0.71 (18)	0.94 (24)	0.51 (13)	3.03 (77)	A

6-PT

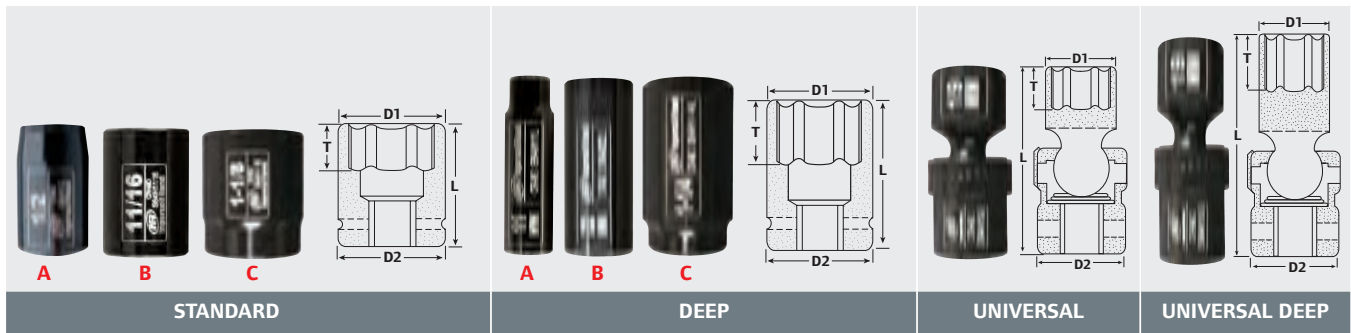
Part Number	Output Size	Description	D1 in (mm)	D2 in (mm)	T in (mm)	L in (mm)	Type
S63H12UL	1/2"	Universal Deep	0.75 (19)	0.94 (24)	0.51 (13)	3.03 (77)	A
S63H916UL	9/16"	Universal Deep	0.83 (21)	0.94 (24)	0.51 (13)	3.03 (77)	A
S63H58UL	5/8"	Universal Deep	0.91 (23)	0.94 (24)	0.51 (13)	3.03 (77)	A
S63H1116UL	11/16"	Universal Deep	0.98 (25)	0.94 (24)	0.51 (13)	3.03 (77)	A

Accessories

Output Size	Description	Retaining Ring
A3F2M	1/4" 3/8" F to 1/4" M Adapter	RR10003
A3F4M	1/2" 3/8" F to 1/2" M Adapter	RR10003
J3	3/8" Universal Joint	—
E33H	3/8" 3" Extension	RR10003
E36H	3/8" 6" Extension	RR10003
E312H	3/8" 12" Extension	RR10003



1/2" Impact Sockets



Individuals

6-PT

Part Number	Output Size	Description	D1 in (mm)	D2 in (mm)	T in (mm)	L in (mm)	Type
S64H916	9/16"	Standard	0.85 (21.5)	0.94 (24)	0.43 (11)	1.5 (38)	A
S64H58	5/8"	Standard	0.94 (24)	0.94 (24)	0.43 (11)	1.5 (38)	B
S64H1116	11/16"	Standard	1.02 (26)	1.02 (26)	0.43 (11)	1.5 (38)	B
S64H34	3/4"	Standard	1.1 (28)	1.1 (28)	0.63 (16)	1.57 (40)	B
S64H1316	13/16"	Standard	1.18 (30)	1.18 (30)	0.63 (16)	1.57 (40)	B
S64H78	7/8"	Standard	1.26 (32)	1.26 (32)	0.63 (16)	1.65 (42)	B


6-PT

Part Number	Output Size	Description	D1	D2	T	L	Type
			in (mm)	in (mm)	in (mm)	in (mm)	
S64H1516	15/16"	Standard	1.34 (34)	1.34 (34)	0.63 (16)	1.73 (44)	B
S64H1	1"	Standard	1.42 (36)	1.42 (36)	0.71 (18)	1.73 (44)	B
S64H1-116	1-1/16"	Standard	1.5 (38)	1.5 (38)	0.71 (18)	1.81 (46)	B
S64H916L	9/16"	Deep	0.87 (22)	0.94 (24)	0.55 (14)	3.07 (78)	A
S64H58L	5/8"	Deep	0.94 (24)	0.94 (24)	0.55 (14)	3.07 (78)	B
S64H1116L	11/16"	Deep	1.02 (26)	1.02 (26)	0.67 (17)	3.07 (78)	B
S64H34L	3/4"	Deep	1.1 (28)	1.1 (28)	0.67 (17)	3.07 (78)	B
S64H1316L	13/16"	Deep	1.18 (30)	1.18 (30)	0.67 (17)	3.07 (78)	B
S64H78L	7/8"	Deep	1.26 (32)	1.26 (32)	0.75 (19)	3.07 (78)	B
S64H1516L	15/16"	Deep	1.34 (34)	1.34 (34)	0.75 (19)	3.07 (78)	B
S64H1L	1"	Deep	1.42 (36)	1.42 (36)	0.75 (19)	3.07 (78)	B
S64H1-116L	1-1/16"	Deep	1.5 (38)	1.5 (38)	0.75 (19)	3.07 (78)	B
S64H916U	9/16"	Universal	0.87 (22)	1.1 (28)	0.51 (13)	2.6 (66)	A
S64H58U	5/8"	Universal	0.94 (24)	1.1 (28)	0.51 (13)	2.6 (66)	A
S64H1116U	11/16"	Universal	1.02 (26)	1.1 (28)	0.51 (13)	2.6 (66)	A
S64H34U	3/4"	Universal	1.1 (28)	1.1 (28)	0.51 (13)	2.6 (66)	A
S64H1316U	13/16"	Universal	1.18 (30)	1.1 (28)	0.51 (13)	2.6 (66)	A
S64H78U	7/8"	Universal	1.26 (32)	1.1 (28)	0.51 (13)	2.6 (66)	A
S64H1516U	15/16"	Universal	1.42 (36)	1.1 (28)	0.51 (13)	2.6 (66)	A
S64H916UL	9/16"	Universal Deep	0.87 (22)	1.1 (28)	0.67 (17)	3.54 (90)	A
S64H58UL	5/8"	Universal Deep	0.94 (24)	1.1 (28)	0.67 (17)	3.54 (90)	A
S64H1116UL	11/16"	Universal Deep	1.02 (26)	1.1 (28)	0.67 (17)	3.54 (90)	A
S64H34UL	3/4"	Universal Deep	1.1 (28)	1.1 (28)	0.67 (17)	3.54 (90)	A
S64H1316UL	13/16"	Universal Deep	1.18 (30)	1.1 (28)	0.67 (17)	3.54 (90)	A
S64H78UL	7/8"	Universal Deep	1.26 (32)	1.1 (28)	0.67 (17)	3.54 (90)	A
S64H1516UL	15/16"	Universal Deep	1.34 (34)	1.1 (28)	0.67 (17)	3.54 (90)	A

Accessories

Output Size	Description	Retaining Ring
A4F3M	1/2" F to 3/8" M Adapter	RR10006
A4F6M	1/2" F to 3/4" M Adapter	RR10008
J4	Universal Joint	—
E43H	3" Extension	RR10006
E45H	5" Extension	RR10006
E47H	7" Extension	RR10006
E410H	10" Extension	RR10006
E418H	18" Extension	RR10006
E424H	24" Extension	RR10006
E436H	36" Extension	RR10006



Adapter

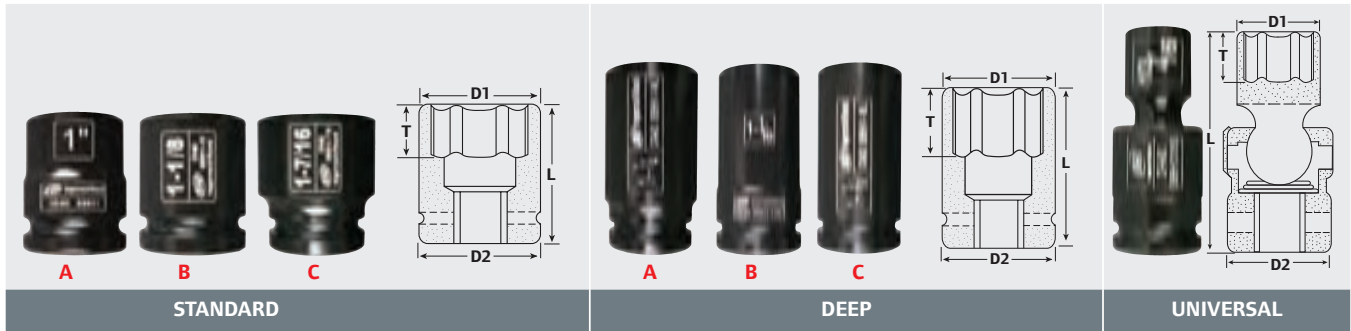


Extension



Extension


3/4" Impact Sockets




Individuals

6-PT									
Part Number	Output Size	Description	D1	D2	T	L	Type	Retaining Ring	
			in (mm)	in (mm)	in (mm)	in (mm)			
S66H1516	15/16"	Standard	1.52 (38.5)	1.63 (41.4)	0.51 (13)	2.01 (51)	A	RR10010	
S66H1	1"	Standard	1.57 (40)	1.63 (41.4)	0.51 (13)	2.09 (53)	A	RR10010	
S66H1-116	1-1/16"	Standard	1.67 (42.5)	1.73 (44)	0.51 (13)	2.09 (53)	A	RR10034S	
S66H1-18	1-1/8"	Standard	1.73 (44)	1.73 (44)	0.63 (16)	2.09 (53)	B	RR10034S	
S66H1-316	1-3/16"	Standard	1.81 (46)	1.73 (44)	0.63 (16)	2.09 (53)	C	RR10034S	
S66H1-14	1-1/4"	Standard	1.89 (48)	1.73 (44)	0.63 (16)	2.24 (57)	C	RR10034S	
S66H1-516	1-5/16"	Standard	1.97 (50)	1.73 (44)	0.75 (19)	2.24 (57)	C	RR10034S	
66H1-38	1-3/8"	Standard	2.07 (52.5)	1.73 (44)	0.75 (19)	2.24 (57)	C	RR10034S	
S66H1-716	1-7/16"	Standard	2.11 (53.5)	1.73 (44)	0.75 (19)	2.24 (57)	C	RR10034S	
S66H1-12	1-1/2"	Standard	2.2 (56)	1.73 (44)	0.87 (22)	2.24 (57)	C	RR10034S	
S66H1-916	1-9/16"	Standard	2.3 (58.5)	1.73 (44)	0.87 (22)	2.28 (58)	C	RR10034S	
S66H1-58	1-5/8"	Standard	2.36 (60)	1.73 (44)	0.87 (22)	2.28 (58)	C	RR10034S	
S66H1-1116	1-11/16"	Standard	2.5 (63.5)	1.73 (44)	1.02 (26)	2.44 (62)	C	RR10034S	
S66H1-34	1-3/4"	Standard	2.54 (64.5)	1.73 (44)	1.02 (26)	2.44 (62)	C	RR10034S	
S66H1-1316	1-13/16"	Standard	2.6 (66)	1.73 (44)	1.02 (26)	2.44 (62)	C	RR10034S	
S66H1516L	15/16"	Deep	1.52 (38.5)	1.63 (41.4)	0.63 (16)	3.54 (90)	A	RR10010	
S66H1L	1"	Deep	1.57 (40)	1.63 (41.4)	0.63 (16)	3.54 (90)	A	RR10010	
S66H1-116L	1-1/16"	Deep	1.67 (42.5)	1.73 (44)	0.63 (16)	3.54 (90)	A	RR10034S	
S66H1-18L	1-1/8"	Deep	1.73 (44)	1.73 (44)	0.63 (16)	3.54 (90)	B	RR10034S	
S66H1-316L	1-3/16"	Deep	1.81 (46)	1.73 (44)	0.63 (16)	3.54 (90)	C	RR10034S	
S66H1-14L	1-1/4"	Deep	1.91 (48.5)	1.73 (44)	0.63 (16)	3.54 (90)	C	RR10034S	
S66H1-516L	1-5/16"	Deep	1.97 (50)	1.73 (44)	0.87 (22)	3.54 (90)	C	RR10034S	
S66H1-38L	1-3/8"	Deep	2.07 (52.5)	1.73 (44)	0.87 (22)	3.54 (90)	C	RR10034S	
S66H1-716L	1-7/16"	Deep	2.11 (53.5)	1.73 (44)	0.87 (22)	3.54 (90)	C	RR10034S	
S66H1-12L	1-1/2"	Deep	2.2 (56)	1.73 (44)	0.87 (22)	3.54 (90)	C	RR10034S	
S66H1-916L	1-9/16"	Deep	2.3 (58.5)	1.73 (44)	0.87 (22)	3.54 (90)	C	RR10034S	
S66H1-58L	1-5/8"	Deep	2.36 (60)	1.73 (44)	0.87 (22)	3.54 (90)	C	RR10034S	
S66H1-1116L	1-11/16"	Deep	2.5 (63.5)	1.73 (44)	1.06 (27)	3.54 (90)	C	RR10034S	


6-PT

Part Number	Output Size	Description	D1	D2	T	L	Type	Retaining Ring
			in (mm)	in (mm)	in (mm)	in (mm)		
S66H1-34L	1-3/4"	Deep	2.54 (64.5)	1.73 (44)	1.06 (27)	3.54 (90)	C	RR10034S
S66H1-1316L	1-13/16"	Deep	2.6 (66)	1.73 (44)	1.06 (27)	3.54 (90)	C	RR10034S
S66H1516U	15/16"	Universal	1.54 (39)	1.73 (44)	0.51 (13)	3.74 (95)	A	RR10034S
S66H1U	1"	Universal	1.61 (41)	1.73 (44)	0.51 (13)	3.94 (100)	A	RR10034S
S66H1-116U	1-1/16"	Universal	1.69 (43)	1.73 (44)	0.67 (17)	3.94 (100)	A	RR10034S
S66H1-18U	1-1/8"	Universal	1.73 (44)	1.73 (44)	0.67 (17)	3.94 (100)	A	RR10034S
S66H1-316U	1-3/16"	Universal	1.85 (47)	1.73 (44)	0.67 (17)	3.94 (100)	A	RR10034S
S66H1-14U	1-1/4"	Universal	1.93 (49)	1.73 (44)	0.67 (17)	4.13 (105)	A	RR10034S
S66H1-516U	1-5/16"	Universal	2.01 (51)	1.73 (44)	0.75 (19)	4.13 (105)	A	RR10034S
S66H1-38U	1-3/8"	Universal	2.09 (53)	1.73 (44)	0.75 (19)	4.13 (105)	A	RR10034S
S66H1-716U	1-7/16"	Universal	2.13 (54)	1.73 (44)	0.75 (19)	4.33 (110)	A	RR10034S
S66H1-12U	1-1/2"	Universal	2.24 (57)	1.73 (44)	0.87 (22)	4.33 (110)	A	RR10034S
S66H1-916U	1-9/16"	Universal	2.36 (60)	1.73 (44)	0.87 (22)	4.33 (110)	A	RR10034S
S66H1-58U	1-5/8"	Universal	2.36 (60)	1.73 (44)	0.87 (22)	4.53 (115)	A	RR10034S
S66H1-1116U	1-11/16"	Universal	2.48 (63)	1.73 (44)	1.06 (27)	4.53 (115)	A	RR10034S
S66H1-34U	1-3/4"	Universal	2.52 (64)	1.73 (44)	1.06 (27)	4.53 (115)	A	RR10034S
S66H1-1316U	1-13/16"	Universal	2.6 (66)	1.73 (44)	1.06 (27)	4.53 (115)	A	RR10034S

Accessories

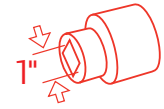
Output Size	Description	Retaining Ring
		
A6F4M	1/2" 3/4" F to 1/2" M Adapter	RR10034S
A6F8M	1" 3/4" F to 1" M Adapter	RR10034S
A6FS5M	#5 Spline 3/4" F to #5 Spline M Adapter	RR10034S
J6	3/4" Universal Joint	RR10034S
E63H	3/4" 3" Extension	RR10034S
E67H	3/4" 7" Extension	RR10034S
E610H	3/4" 10" Extension	RR10034S
E613H	3/4" 13" Extension	RR10034S



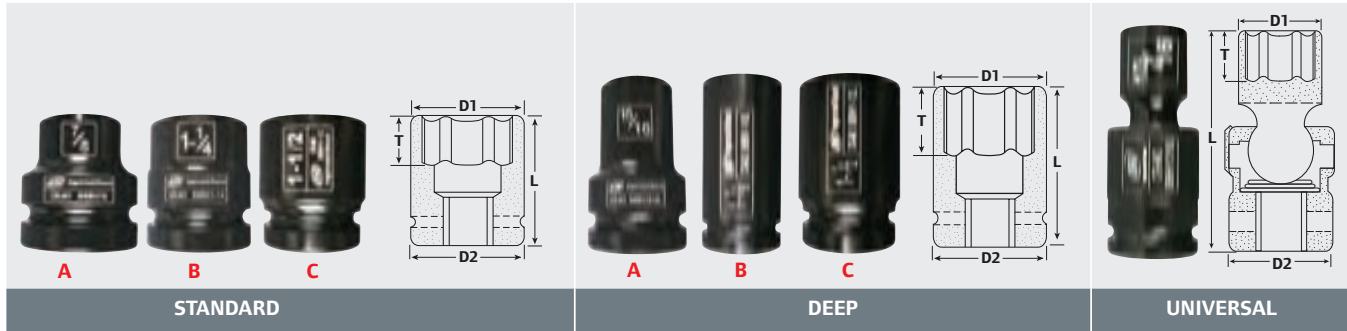
Adapter



Extension



1" Impact Sockets




Individuals




Part Number	Output Size	Description	D1	D2	T	L	Type	Retaining Ring
			in (mm)	in (mm)	in (mm)	in (mm)		
S68H1-18	1-1/8"	Standard	1.81 (46)	2.13 (54)	0.67 (17)	2.44 (62)	A	RR1001SS
S68H1-316	1-3/16"	Standard	1.93 (49)	2.13 (54)	0.67 (17)	2.44 (62)	A	RR1001SS
S68H1-14	1-1/4"	Standard	2.03 (51.5)	2.13 (54)	0.67 (17)	2.48 (63)	A	RR1001SS
S68H1-516	1-5/16"	Standard	2.13 (54)	2.13 (54)	0.75 (19)	2.48 (63)	B	RR1001SS
SS68H1-38	1-3/8"	Standard	2.17 (55)	2.13 (54)	0.75 (19)	2.6 (66)	C	RR1001SS
S68H1-716	1-7/16"	Standard	2.22 (56.5)	2.13 (54)	0.75 (19)	2.6 (66)	C	RR1001SS
S68H1-12	1-1/2"	Standard	2.32 (59)	2.13 (54)	0.87 (22)	2.6 (66)	C	RR1001SS
S68H1-916	1-9/16"	Standard	2.4 (61)	2.13 (54)	0.87 (22)	2.6 (66)	C	RR1001SS
S68H1-58	1-5/8"	Standard	2.46 (62.5)	2.13 (54)	0.87 (22)	2.68 (68)	C	RR1001SS
S68H1-1116	1-11/16"	Standard	2.56 (65)	2.13 (54)	0.98 (25)	2.76 (70)	C	RR1001SS
S68H1-34	1-3/4"	Standard	2.66 (67.5)	2.37 (60.3)	0.98 (25)	2.76 (70)	C	RR1001SS
S68H1-1316	1-13/16"	Standard	2.72 (69)	2.37 (60.3)	1.06 (27)	2.83 (72)	C	RR1001SS
S68H1-78	1-7/8"	Standard	2.76 (70)	2.37 (60.3)	1.06 (27)	2.83 (72)	C	RR1001SS
S68H1-1516	1-15/16"	Standard	2.85 (72.5)	2.37 (60.3)	1.06 (27)	2.99 (76)	C	RR1001SS
S68H2	2"	Standard	2.91 (74)	2.37 (60.3)	1.06 (27)	2.99 (76)	C	RR1001SS
S68H2-116	2-1/16"	Standard	3.01 (76.5)	2.37 (60.3)	1.22 (31)	3.15 (80)	C	RR1001SS
S68H2-18	2-1/8"	Standard	3.11 (79)	2.37 (60.3)	1.22 (31)	3.15 (80)	C	RR1001SS
S68H2-316	2-3/16"	Standard	3.15 (80)	2.37 (60.3)	1.22 (31)	3.31 (84)	C	RR1001SS
S68M41	41"	Standard	2.46 (62.5)	2.13 (54)	0.98 (25)	2.68 (68)	C	RR1001SS
S68M42	42"	Standard	2.52 (64)	2.13 (54)	0.98 (25)	2.68 (68)	C	RR1001SS
S68M43	43"	Standard	2.56 (65)	2.13 (54)	0.98 (25)	2.76 (70)	C	RR1001SS
S68M45	45"	Standard	2.66 (67.5)	2.13 (54)	0.98 (25)	2.76 (70)	C	RR1001SS
S68M46	46"	Standard	2.72 (69)	2.13 (54)	1.14 (29)	2.83 (72)	C	RR1001SS
S68M48	48"	Standard	2.81 (71.5)	2.13 (54)	1.14 (29)	2.99 (76)	C	RR1001SS
S68M50	50"	Standard	2.91 (74)	2.13 (54)	1.22 (31)	2.99 (76)	C	RR1001SS
S68M52	52"	Standard	3.01 (76.5)	2.13 (54)	1.22 (31)	3.15 (80)	C	RR1001SS
S68M54	54"	Standard	3.11 (79)	2.13 (54)	1.22 (31)	3.15 (80)	C	RR1001SS
S68M55	55"	Standard	3.15 (80)	2.13 (54)	1.34 (34)	3.31 (84)	C	RR1001SS



6-PT

Part Number	Output Size	Description	D1	D2	T	L	Type	Retaining Ring
			in (mm)	in (mm)	in (mm)	in (mm)		
S68M56	56"	Standard	3.21 (81.5)	2.13 (54)	1.34 (34)	3.31 (84)	C	RR10015S
S68H1-18L	1-1/8"	Deep	1.81 (46)	2.13 (54)	0.98 (25)	3.54 (90)	A	RR10015S
S68H1-316L	1-3/16"	Deep	1.93 (49)	2.13 (54)	0.98 (25)	3.54 (90)	A	RR10015S
S68H1-14L	1-1/4"	Deep	2.03 (51.5)	2.13 (54)	0.98 (25)	3.54 (90)	A	RR10015S
S68H1-516L	1-5/16"	Deep	2.13 (54)	2.13 (54)	0.98 (25)	3.54 (90)	B	RR10015S
S68H1-38L	1-3/8"	Deep	2.17 (55)	2.13 (54)	0.98 (25)	3.54 (90)	C	RR10015S
S68H1-716L	1-7/16"	Deep	2.22 (56.5)	2.13 (54)	0.98 (25)	3.54 (90)	C	RR10015S
S68H1-12L	1-1/2"	Deep	2.32 (59)	2.13 (54)	0.98 (25)	3.54 (90)	C	RR10015S
S68H1-916L	1-9/16"	Deep	2.4 (61)	2.13 (54)	0.98 (25)	3.54 (90)	C	RR10015S
S68H1-58L	1-5/8"	Deep	2.46 (62.5)	2.13 (54)	0.98 (25)	3.54 (90)	C	RR10015S
S68H1-1116L	1-11/16"	Deep	2.56 (65)	2.13 (54)	0.98 (25)	3.54 (90)	C	RR10015S
S68H1-34L	1-3/4"	Deep	2.66 (67.5)	2.37 (60.3)	1.22 (31)	3.94 (100)	C	RR10015S
S68H1-1316L	1-13/16"	Deep	2.72 (69)	2.37 (60.3)	1.22 (31)	3.94 (100)	C	RR10015S
S68H1-78L	1-7/8"	Deep	2.76 (70)	2.37 (60.3)	1.22 (31)	3.94 (100)	C	RR10015S
S68H1-1516L	1-15/16"	Deep	2.85 (72.5)	2.37 (60.3)	1.22 (31)	3.94 (100)	C	RR10015S
S68H2L	2"	Deep	2.91 (74)	2.37 (60.3)	1.22 (31)	3.94 (100)	C	RR10015S
S68H2-116L	2-1/16"	Deep	3.01 (76.5)	2.37 (60.3)	1.22 (31)	3.94 (100)	C	RR10015S
S68H2-18L	2-1/8"	Deep	3.11 (79)	2.37 (60.3)	1.22 (31)	4.25 (108)	C	RR10015S
S68H2-316L	2-3/16"	Deep	3.15 (80)	2.37 (60.3)	1.22 (31)	4.25 (108)	C	RR10015S
S68H1-18U	1-1/8"	Universal	1.89 (48)	2.13 (54)	0.75 (19)	5.2 (132)	A	RR10015S
S68H1-316U	1-3/16"	Universal	1.93 (49)	2.13 (54)	0.75 (19)	5.2 (132)	A	RR10015S
S68H1-14U	1-1/4"	Universal	2.01 (51)	2.13 (54)	0.75 (19)	5.2 (132)	A	RR10015S
S68H1-516U	1-5/16"	Universal	2.09 (53)	2.13 (54)	0.75 (19)	5.2 (132)	A	RR10015S
S68H1-38U	1-3/8"	Universal	2.17 (55)	2.13 (54)	0.75 (19)	5.2 (132)	A	RR10015S
S68H1-716U	1-7/16"	Universal	2.28 (58)	2.13 (54)	0.75 (19)	5.2 (132)	A	RR10015S
S68H1-12U	1-1/2"	Universal	2.32 (59)	2.13 (54)	0.98 (25)	5.39 (137)	A	RR10015S
S68H1-916U	1-9/16"	Universal	2.4 (61)	2.13 (54)	0.98 (25)	5.39 (137)	A	RR10015S
S68H1-58U	1-5/8"	Universal	2.48 (63)	2.13 (54)	0.98 (25)	5.39 (137)	A	RR10015S
S68H1-1116U	1-11/16"	Universal	2.56 (65)	2.13 (54)	0.98 (25)	5.39 (137)	A	RR10015S
S68H1-34U	1-3/4"	Universal	2.64 (67)	2.13 (54)	0.98 (25)	5.39 (137)	A	RR10015S
S68H1-1316U	1-13/16"	Universal	2.72 (69)	2.13 (54)	1.06 (27)	5.59 (142)	A	RR10015S
S68H1-78U	1-7/8"	Universal	2.8 (71)	2.13 (54)	1.06 (27)	5.59 (142)	A	RR10015S
S68H1-1516U	1-15/16"	Universal	2.83 (72)	2.13 (54)	1.06 (27)	5.59 (142)	A	RR10015S

Accessories

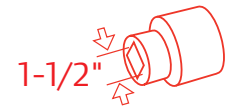
Output Size	Description	Retaining Ring
		
A8F6M	3/4" 1" F to 3/4" M Adapter	RR10015S
A8F12M	1-1/2" 1" F to 1-1/2" M Adapter	RR10015S
A8FS5M	#5 Spline 1" F to #5 Spline M Adapter	RR10015S
J8	1" Universal Joint	RR10015S
E83H	1" 3" Extension	RR10015S
E87H	1" 7" Extension	RR10015S
E810H	1" 10" Extension	RR10015S
E813H	1" 13" Extension	RR10015S



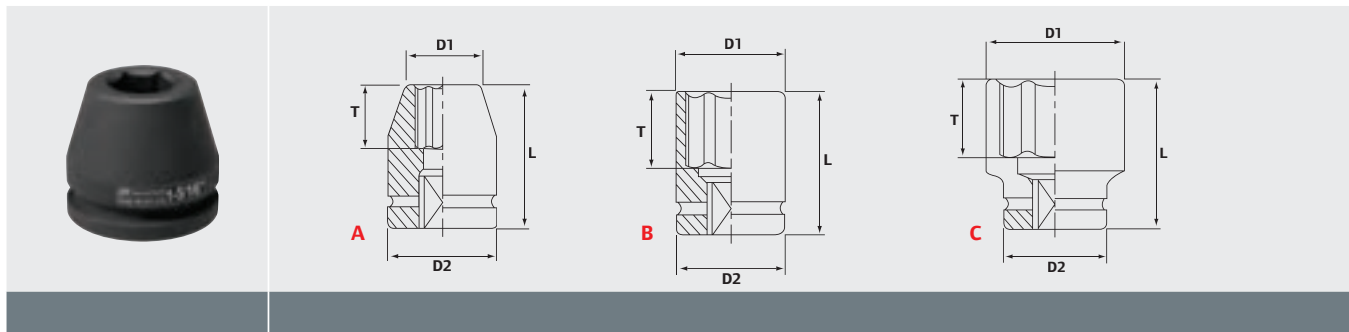
Adapter





Extension



1-1/2" Impact Sockets



Individuals

 6-PT									
Part Number	Output Size	Description	D1	D2	T	L	Type	Retaining Ring	
			in (mm)	in (mm)	in (mm)	in (mm)			
S612H1-78L	1-7/8"	Deep	3.07 (78)	3.39 (86)	1.26 (32)	4.53 (115)	A	RR10025S	
S612H1-1516L	1-15/16"	Deep	3.15 (80)	3.39 (86)	1.26 (32)	4.53 (115)	A	RR10025S	
S612H2L	2"	Deep	3.23 (82)	3.39 (86)	1.34 (34)	5.31 (135)	A	RR10025S	
S612H2-116L	2-1/16"	Deep	3.27 (83)	3.39 (86)	1.34 (34)	5.51 (140)	A	RR10025S	
S612H2-18L	2-1/8"	Deep	3.39 (86)	3.39 (86)	1.46 (37)	5.51 (140)	B	RR10025S	
S612H2-316L	2-3/16"	Deep	3.46 (88)	3.39 (86)	1.46 (37)	5.51 (140)	C	RR10025S	
S612H2-14L	2-1/4"	Deep	3.54 (90)	3.39 (86)	1.54 (39)	5.91 (150)	C	RR10025S	
S612H2-516L	2-5/16"	Deep	3.66 (93)	3.39 (86)	1.54 (39)	5.91 (150)	C	RR10025S	
S612H2-38L	2-3/8"	Deep	3.7 (94)	3.39 (86)	1.54 (39)	5.91 (150)	C	RR10025S	
S612H2-716L	2-7/16"	Deep	3.78 (96)	3.39 (86)	1.65 (42)	5.91 (150)	C	RR10025S	
S612H2-12L	2-1/2"	Deep	3.86 (98)	3.39 (86)	1.65 (42)	5.91 (150)	C	RR10025S	
S612H2-916L	2-9/16"	Deep	3.94 (100)	3.39 (86)	1.65 (42)	5.91 (150)	C	RR10025S	



6-PT

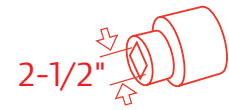
Part Number	Output Size	Description	D1	D2	T	L	Type	Retaining Ring
			in (mm)	in (mm)	in (mm)	in (mm)		
S612H2-58L	2-5/8"	Deep	4.02 (102)	3.39 (86)	1.81 (46)	5.91 (150)	C	RR10025S
S612H2-1116L	2-11/16"	Deep	4.09 (104)	3.39 (86)	1.81 (46)	5.91 (150)	C	RR10025S
S612H2-34L	2-3/4"	Deep	4.17 (106)	3.39 (86)	1.81 (46)	6.3 (160)	C	RR10025S
S612H1-78	1-7/8"	Standard	3.07 (78)	3.39 (86)	1.26 (32)	3.43 (87)	A	RR10025S
S612H1-1516	1-15/16"	Standard	3.15 (80)	3.39 (86)	1.26 (32)	3.43 (87)	A	RR10025S
S612H2	2"	Standard	3.23 (82)	3.39 (86)	1.26 (32)	3.43 (87)	A	RR10025S
S612H2-116	2-1/16"	Standard	3.27 (83)	3.39 (86)	1.34 (34)	3.43 (87)	A	RR10025S
S612H2-18	2-1/8"	Standard	3.39 (86)	3.39 (86)	1.46 (37)	3.54 (90)	B	RR10025S
S612H2-316	2-3/16"	Standard	3.46 (88)	3.39 (86)	1.46 (37)	3.54 (90)	C	RR10025S
S612H2-14	2-1/4"	Standard	3.54 (90)	3.39 (86)	1.54 (39)	3.74 (95)	C	RR10025S
S612H2-516	2-5/16"	Standard	3.66 (93)	3.39 (86)	1.54 (39)	3.74 (95)	C	RR10025S
S612H2-38	2-3/8"	Standard	3.7 (94)	3.39 (86)	1.54 (39)	3.74 (95)	C	RR10025S
S612H2-716	2-7/16"	Standard	3.78 (96)	3.39 (86)	1.65 (42)	3.94 (100)	C	RR10025S
S612H2-12	2-1/2"	Standard	3.86 (98)	3.39 (86)	1.65 (42)	3.94 (100)	C	RR10025S
S612H2-916	2-9/16"	Standard	3.94 (100)	3.39 (86)	1.65 (42)	3.94 (100)	C	RR10025S
S612H2-58	2-5/8"	Standard	4.02 (102)	3.39 (86)	1.81 (46)	4.13 (105)	C	RR10025S
S612H2-1116	2-11/16"	Standard	4.09 (104)	3.39 (86)	1.81 (46)	4.13 (105)	C	RR10025S
S612H2-34	2-3/4"	Standard	4.17 (106)	3.39 (86)	1.81 (46)	4.13 (105)	C	RR10025S

Accessories

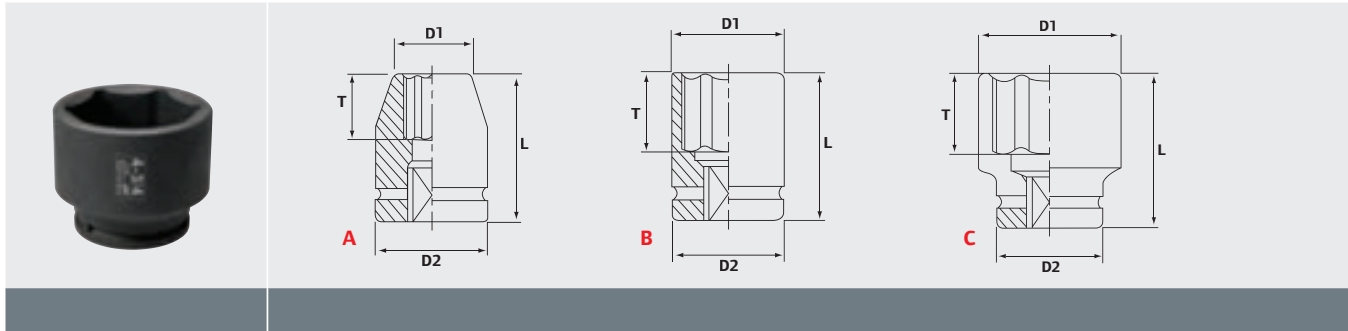
Output Size	Description	Retaining Ring
A12F8M	1" 1-1/2" F to 1" M Adapter	RR10025S
A12F20M	2-1/2" 1-1/2" F to 2-1/2" M Adapter	RR10025S
A12F55M	#5 Spline 1-1/2" F to #5 Spline M Adapter	RR10025S
J12	#5 Spline Universal Joint	RR10025S
E125H	1-1/2" 5" Extension	RR10025S
E1210H	1-1/2" 10" Extension	RR10025S
E1212H	1-1/2" 12" Extension	RR10025S
E1220H	1-1/2" 20" Extension	RR10025S



Universal Joint



2-1/2" Impact Sockets



Individuals

6-PT									
Part Number	Output Size	Description	D1	D2	T	L	Type	Retaining Ring	
			in (mm)	in (mm)	in (mm)	in (mm)			
S620H3	3"	Standard	4.72 (120)	5 (127)	1.77 (45)	5.51 (140)	A	RR10035S	
S620H3-18	3-1/8"	Standard	4.88 (124)	5 (127)	1.77 (45)	5.51 (140)	A	RR10035S	
S620H3-14	3-1/4"	Standard	5 (127)	5 (127)	1.77 (45)	5.51 (140)	B	RR10035S	
S620H3-38	3-3/8"	Standard	5.16 (131)	5 (127)	2.05 (52)	5.51 (140)	C	RR10035S	
S620H3-12	3-1/2"	Standard	5.31 (135)	5 (127)	2.05 (52)	5.51 (140)	C	RR10035S	
S620H3-58	3-5/8"	Standard	5.47 (139)	5 (127)	2.05 (52)	5.71 (145)	C	RR10035S	
S620H3-34	3-3/4"	Standard	5.63 (143)	5 (127)	2.05 (52)	5.71 (145)	C	RR10035S	
S620H3-78	3-7/8"	Standard	5.79 (147)	5 (127)	2.28 (58)	5.91 (150)	C	RR10035S	
S620H4	4"	Standard	5.94 (151)	5 (127)	2.28 (58)	5.91 (150)	C	RR10035S	
S620H4-18	4-1/8"	Standard	6.1 (155)	5 (127)	2.28 (58)	6.1 (155)	C	RR10035S	
S620H4-14	4-1/4"	Standard	6.26 (159)	5 (127)	2.36 (60)	6.3 (160)	C	RR10035S	
S620H4-38	4-3/8"	Standard	6.42 (163)	5 (127)	2.44 (62)	6.5 (165)	C	RR10035S	
S620H4-12	4-1/2"	Standard	6.57 (167)	5 (127)	2.44 (62)	6.5 (165)	C	RR10035S	
S620H4-58	4-5/8"	Standard	6.77 (172)	5 (127)	2.64 (67)	6.69 (170)	C	RR10035S	

Accessories

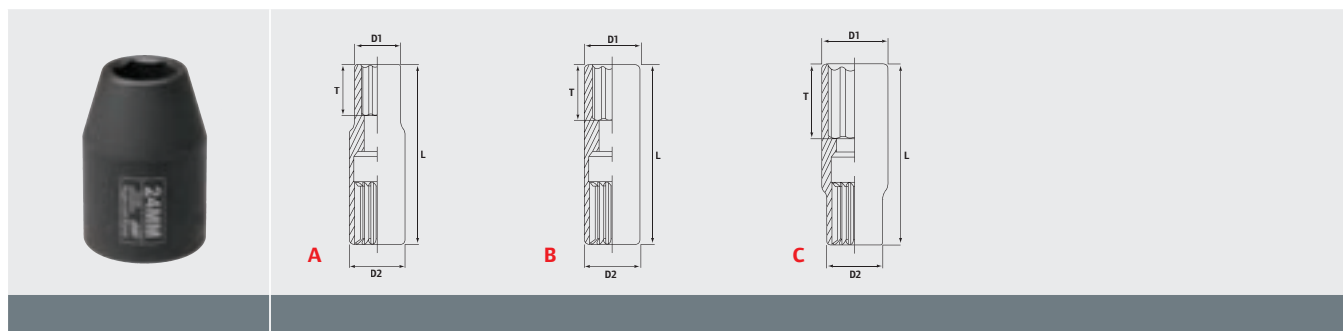
Output Size	Description	Retaining Ring
A20F12M	1-1/2" 2-1/2" F to 1-1/2" M Adapter	R10035S
E205H	2-1/2" 5" Extension	R10035S
E2010H	2-1/2" 10" Extension	R10035S
E2020H	2-1/2" 20" Extension	R10035S



Extension



#5 Spline Impact Sockets



Individuals


6-PT

Part Number	Description	Output Size	D1 in (mm)	D2 in (mm)	T in (mm)	L in (mm)	Type
S65SH1-116	1-1/16"	Standard	1.89 (48)	2.17 (55)	0.94 (24)	3.15 (80)	A
S65SH1-118	1-1/8"	Standard	1.89 (48)	2.17 (55)	0.94 (24)	3.15 (80)	A
S65SH1-114	1-1/4"	Standard	2.17 (55)	2.17 (55)	0.94 (24)	3.15 (80)	B
S65SH1-34	1-3/4"	Standard	2.87 (73)	2.56 (65)	1.5 (38)	3.15 (80)	C
S65SH1-12	1-1/2"	Standard	2.36 (60)	2.17 (55)	0.94 (24)	3.15 (80)	C
S65SH78	7/8"	Standard	1.73 (44)	2.17 (55)	0.94 (24)	3.15 (80)	A
S65SH1516	15/16"	Standard	1.73 (44)	2.17 (55)	0.94 (24)	3.15 (80)	A
S65SH1	1"	Standard	1.81 (46)	2.17 (55)	0.94 (24)	3.15 (80)	A
S65SH1-316	1-3/16"	Standard	2.01 (51)	2.17 (55)	0.94 (24)	3.15 (80)	A

Construction Tools



Pavement Breakers	35
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Pavement Breakers



PB Series

One-piece housing eliminates costly side rods and springs
 Power-stroke piston delivers more energy to the work surface and eliminates another costly wear item
 Built-in lubricator helps ensure adequate lubrication
 Two roll pins and removal of the housing plug on the top head make service access simple
 Muffler reduces noise (PB35AS8 and PB50AS1 only)

Model	Hex Shank Size	Stroke in (mm)	Bore in (mm)	Length Without Accessory in (mm)	Weight Without Accessory lb (kg)	bpm	cfm	Inlet Size NPT in	Recommended Hose Size in (mm)
PAVING BREAKERS WITH MUFFLER									
PB35AS8	1" x 4-1/4"	6.25" (159)	1.75" (44)	25" (625)	43 (20)	1,250	49	3/4"	3/4" (19)
PB50AS1	1-1/8" x 6"	6.25" (159)	1.75" (44)	27.5" (699)	55 (25)	1,150	58	3/4"	3/4" (19)
PAVING BREAKERS WITHOUT MUFFLER									
PB35AL8	1" x 4-1/4"	6.25" (159)	1.75" (44)	25" (625)	40 (18)	1,250	49	3/4"	3/4" (19)
PB50AL1	1-1/8" x 6"	6.25" (159)	1.75" (44)	27.5" (699)	52 (24)	1,150	58	3/4"	3/4" (19)

Note: Performance figures are at 90 psi (6.2 bar) air pressure.

30% fewer parts

Ergonomically designed handles, grips, throttle lever, and breaker housing provide maximum operator comfort and productivity

Internal lubricator for continuous tool protection

Four-bolt backhead contoured to fit operator's leg; easily removed for routine maintenance

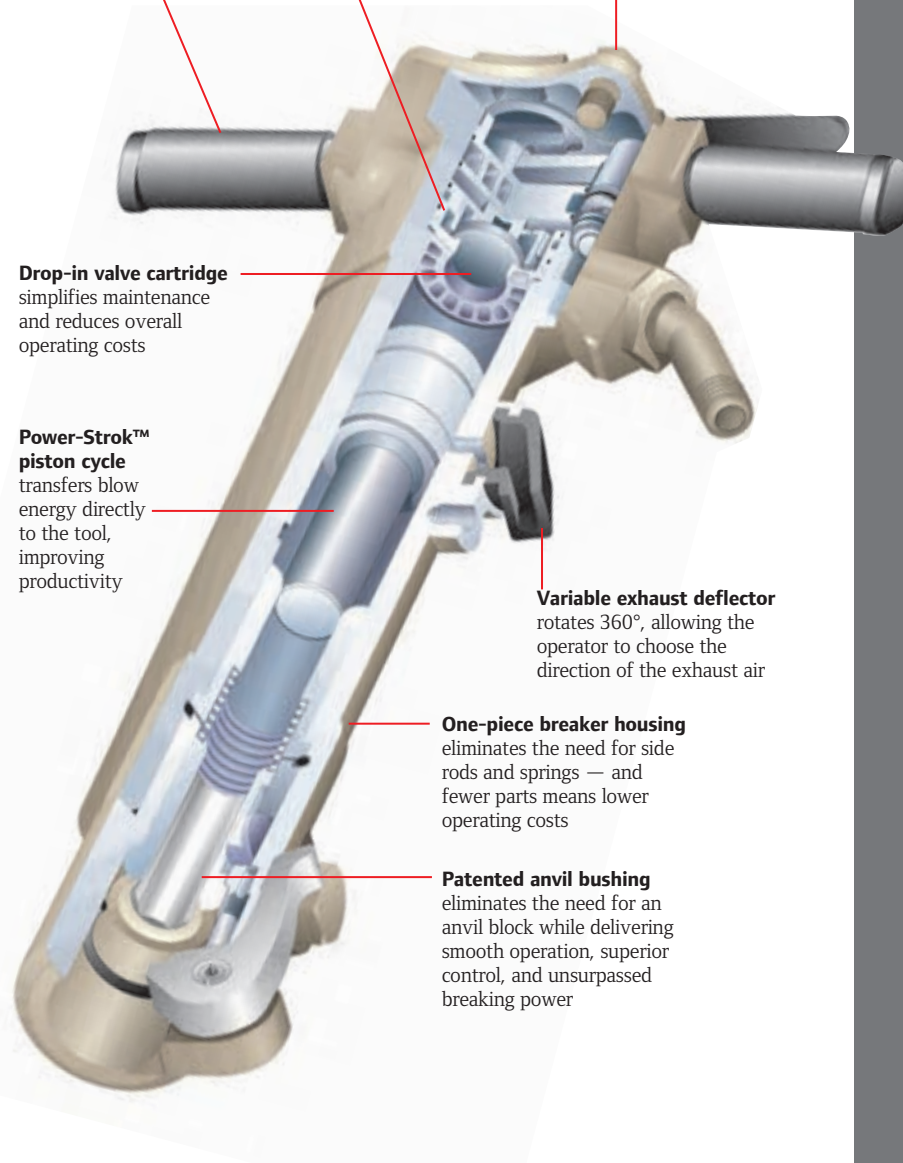
Drop-in valve cartridge simplifies maintenance and reduces overall operating costs

Power-Strok™ piston cycle transfers blow energy directly to the tool, improving productivity

Variable exhaust deflector rotates 360°, allowing the operator to choose the direction of the exhaust air

One-piece breaker housing eliminates the need for side rods and springs — and fewer parts means lower operating costs

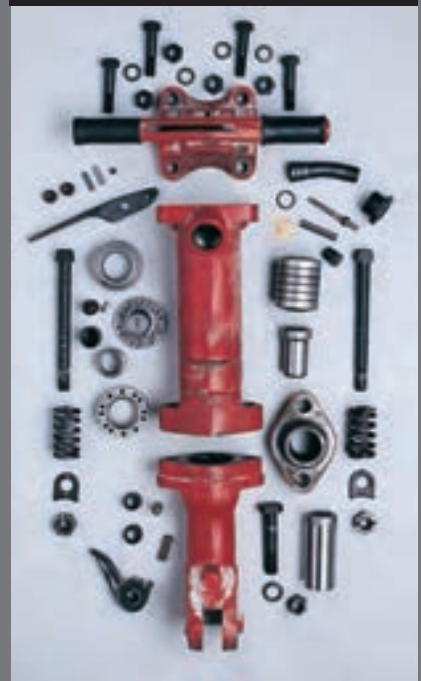
Patented anvil bushing eliminates the need for an anvil block while delivering smooth operation, superior control, and unsurpassed breaking power



Ingersoll Rand breaker



Competitive brand breaker



MX Series

- No expensive side rods and springs
- Composite valve won't rust
- Directional exhaust eliminates blow back
- Built-in lubricator
- Hand-serviceable shank doesn't require a press to service
- Backhead conforms to operator's leg
- Optional muffler sold separately (MX90 Series only)



MX60A



MX90A

MX Series with Flex-Handle™

The Flex-Handle feature provides vibration dampening in a full 360° range of movement. Competitive mechanical springs only work in one direction and lose their ability to absorb vibration when fully compressed, or when hammering while pulling the breaker out of the work surface.



MX60AF



MX90AF

Model	Hex Shank Size	Stroke in (mm)	Bore in (mm)	Length Without Accessory in (mm)	Weight Without Accessory lb (kg)	bpm	cfm	Inlet Size NPT in	Recommended Hose Size in (mm)	Muffler Part Number
STANDARD BREAKERS										
MX60A	1-1/8" x 6"	5.75" (146)	2.06" (52.3)	27.5" (686)	76 (31.8)	1,250	70	3/4"	3/4" (19)	N/A
MX60B	1-1/4" x 6"	5.75" (146)	2.06" (52.3)	27.5" (686)	76 (31.8)	1,250	70	3/4"	3/4" (19)	N/A
MX90A	1-1/8" x 6"	5.75" (146)	2.62" (66.5)	27.5" (686)	87 (39.5)	1,250	85	3/4"	3/4" (19)	51953453
MX90B	1-1/4" x 6"	5.75" (146)	2.62" (66.5)	27.5" (686)	87 (39.5)	1,250	85	3/4"	3/4" (19)	51953453
VIBRATION-REDUCED FLEX-HANDLE BREAKERS										
MX60AF	1-1/8" x 6"	5.75" (146)	2.06" (52.3)	27.5" (686)	76 (31.8)	1,250	70	3/4"	3/4" (19)	N/A
MX60BF	1-1/4" x 6"	5.75" (146)	2.06" (52.3)	27.5" (686)	76 (31.8)	1,250	70	3/4"	3/4" (19)	N/A
MX90AF	1-1/8" x 6"	5.75" (146)	2.62" (66.5)	27.5" (686)	87 (39.5)	1,250	85	3/4"	3/4" (19)	51953453
MX90BF	1-1/4" x 6"	5.75" (146)	2.62" (66.5)	27.5" (686)	87 (39.5)	1,250	85	3/4"	3/4" (19)	51953453

Note: Performance figures are at 90 psi (6.2 bar) air pressure.

Spike Drivers

- Built-in lubricator
- No side rods or springs to wear
- Composite valve eliminates rust
- Power-stroke piston
- The fronthead guides and supports spike



Model	Stroke in (mm)	Bore in (mm)	Length Without Accessory in (mm)	Weight Without Accessory lb (kg)	bpm	cfm	Inlet Size NPT in	Recommended Hose Size in (mm)
FIXED-SPIKE DRIVERS								
MX60-SD	5.75" (146)	2.06" (52.3)	27.5" (686)	69 (31.4)	1,250	70	3/4"	3/4" (19)
MX90-SD	5.75" (146)	2.62" (66.5)	27.5" (686)	86 (39)	1,250	85	3/4"	3/4" (19)
VIBRATION-REDUCED FLEX-HANDLE MODELS								
MX60F-SD	5.75" (146)	2.06" (52.3)	27.5" (686)	69 (31.4)	1,250	70	3/4"	3/4" (19)
MX90F-SD	5.75" (146)	2.62" (66.5)	27.5" (686)	86 (39)	1,250	85	3/4"	3/4" (19)

Note: Performance figures are at 90 psi (6.2 bar) air pressure.

Diggers

















- Multiple retainer configurations
- D-handle grip
- Extra long nozzles for long life
- Three-finger inside trigger



Model	Retainer Type	Hex Shank Size	Stroke in (mm)	Bore in (mm)	Length Without Accessory in (mm)	Weight Without Accessory lb (kg)	bpm	cfm	Inlet Size NPT in	Recommended Hose Size in (mm)
93 SERIES LIGHTWEIGHT DIGGERS										
93A1	Sleeve	7/8" x 3-1/4"	2.5" (64)	1.69" (43)	18.88" (479)	22 (10)	2,350	45	3/8"	1/2" (13)
93A4	Hitch	7/8" x 3-1/4"	2.5" (64)	1.69" (43)	17.88" (454)	21 (9.5)	2,350	45	3/8"	1/2" (13)
93LA1	Latch	7/8" x 3-1/4"	2.5" (64)	1.69" (43)	18.88" (479)	23 (10.4)	2,350	45	3/8"	1/2" (13)
95 SERIES MEDIUM-WEIGHT DIGGERS										
95A1	Sleeve	7/8" x 3-1/4"	4" (102)	1.69" (43)	21.88" (556)	27 (12.3)	1,850	47	3/8"	1/2" (13)
95LA1	Latch	7/8" x 3-1/4"	4" (102)	1.69" (43)	21.88" (556)	28 (12.7)	1,850	47	3/8"	1/2" (13)
95LA3	Latch	1" x 4-1/4"	4" (102)	1.69" (43)	21.88" (556)	30 (13.6)	1,850	47	3/8"	1/2" (13)

Note: Performance figures are at 90 psi (6.2 bar) air pressure.

Pavement Breaker and Digger Steels

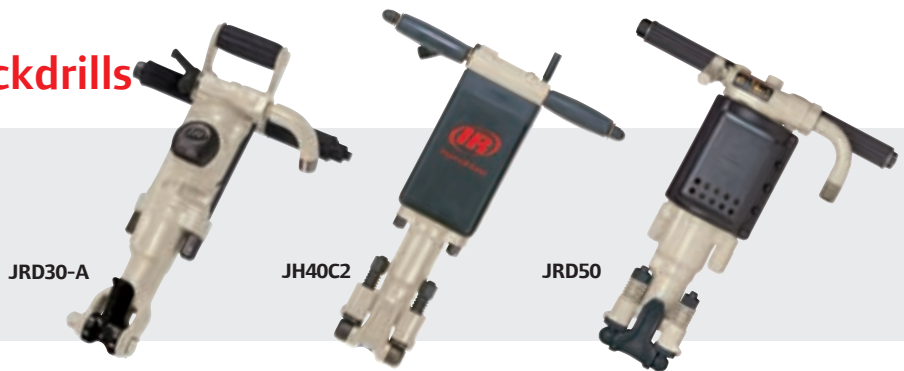
Product	Steel Description	Under Collar Length		Hex Shank Size and Part Number			
				Tool*	7/8" x 3-1/4"	1" x 4-1/4"	1-1/8" x 6"
	Moil Points — Standard-duty <i>Used for general demolition</i>	14"	PB / D	50050269	50050368	50050475	50055680
		18"		50050277	50050376	50055524	50055698
		24"		50050285	50050392	50055540	50055714
		36"		51305860	45512563	50055565	50055730
		48"		45512621	45512571	50055573	50055748
		60"		45512639	45512589	50055581	50055755
		72"		45512647	45512597	50055599	50198993
	Moil Points — Super-duty	11-1/4"	PB / D	22041495	22041057	22041073	22041099
		14-1/4"		22041602	22041065	22041081	22041107
	1" Narrow Chisels — Standard-duty <i>Used for general demolition</i>	14"	PB / D	50199207	50197805	50197904	50196385
		18"		50199215	50197821	50197912	50196401
		24"		50199223	45510245	50197938	50196419
		36"		45510682	45510252	51298107	51299477
		48"		45510690	45510260	50197979	51299485
		60"		45510708	45510278	50197987	51299048
		72"		45510716	45510286	50197995	51299493
	1" Narrow Chisels — Super-duty	11-1/4"	PB / D	22041503	22041115	22041131	22041156
		14-1/4"		22041610	22041123	22041149	22041164
	1-1/2" Super-cut Chisel <i>Specially designed for breaking concrete</i>	16"	PB	N/A	22040463	22040471	22040489
	3" Chisels <i>Used for concrete demolition and asphalt cutting</i>	14"	PB	50195288	50195320	50114883	50193879
		18"		50195296	50195338	50193754	50193887
		24"		45510542	50195353	50193747	50193903
		36"		45510559	50195361	45510500	45510484
		48"		45510567	50195379	45510518	50193937
		60"		45510575	45510476	45510526	45510492
		72"		45510583	51304574	45510534	50191790
	3" Digging Chisel <i>Used for deeper digging and asphalt cutting</i>	16"	D	22040968	22040976	22040984	5018604
	3-3/4" Combo Cutter <i>Used for manhole reconstruction</i>	11-1/2"	PB	N/A	N/A	22040612	22040620
	5" Asphalt Cutter <i>Used for asphalt cutting and removal</i>	11"	PB	22040935	50190404	50185982	50185990
	5-1/2" Clay Spade <i>Used for trench digging and trimming</i>	11"	D	50189596	50189554	50189562	50189570
	1" Pipe Drivers <i>Used for driving steel pipe with up to 1-1/2" OD</i>	11"	PB	N/A	N/A	22040505	22040513
	1-1/2" Pipe Drivers	11"	PB	N/A	N/A	22040547	22040554
	Ground Rod Driver <i>Used for driving steel rod with up to 1" OD</i>	8"	PB	N/A	22040588	22040596	22040604
	Detachable Shank <i>To be used with tent stake drivers or tamping pad</i>	7-3/4"	PB / D	22040927	50187830	50187848	50187855
	2" Tent Stake Drivers <i>Used with detachable shank</i>	N/A	PB / D	22040638	22040638	22040638	22040638
	2-1/2" Tent Stake Drivers	N/A	PB / D	22040646	22040646	22040646	22040646
	8" Tamping Pad Square <i>Used for tamping and backfilling; used with detachable shank</i>	N/A	PB / D	50187897	50187897	50187897	50187897
	3-piece Sign Post Driver <i>Includes shank, post block, and 3-1/2" IO driver</i>	7-3/4"	PB / D	22040778	22040943	22041008	22041016

Note: *PB = Pavement Breaker
D = Digger

Note: Super-duty moil points and chisels are rounded under the collar and have more mass and strength for longer life and less sharpening. Other steels and lengths available from Ingersoll Rand Construction Tool Steels and Accessories Catalog: Form # IRPS-0407-006.

Jackhammers and Rockdrills

Easy-access adjustable 3-speed throttle
 Reversible pawls
 Integral muffler
 For wet or dry drilling



Model	Hex Shank Size	Stroke in (mm)	Bore in (mm)	Length Without Accessory in (mm)	Weight Without Accessory lb (kg)	Max Hole Diameter	Max Hole Depth			Inlet Size NPT in	Recommended Hose Size in (mm)
								bpm	cfm		
JRD30-A	7/8" x 3-1/4"	1.44" (37)	2.38" (60)	19.5" (495)	29 (13.2)	1.5" (38)	10' (254)	2,700	73	3/4"	3/4" (19)
JRD30-B	7/8" x 4-1/4"	1.44" (37)	2.38" (60)	19.5" (495)	29 (13.2)	1.5" (38)	10' (254)	2,700	73	3/4"	3/4" (19)
JH40C1	7/8" x 3-1/4"	2.63" (67)	2.5" (63.5)	22.5" (572)	61 (27.7)	2" (51)	18' (457)	2,000	115	3/4"	3/4" (19)
JH40C2	7/8" x 4-1/4"	2.63" (67)	2.5" (63.5)	22.5" (572)	61 (27.7)	2" (51)	18' (457)	2,000	115	3/4"	3/4" (19)
JH40C3	1" x 4-1/4"	2.63" (67)	2.5" (63.5)	22.5" (572)	61 (27.7)	2" (51)	18' (457)	2,000	115	3/4"	3/4" (19)
JRD50-A	7/8" x 3-1/4"	2" (51)	3" (76)	20.5" (521)	51 (23)	2" (51)	16' (406)	2,300	120	3/4"	3/4" (19)
JRD50-B	7/8" x 4-1/4"	2" (51)	3" (76)	20.5" (521)	51 (23)	2" (51)	16' (406)	2,300	120	3/4"	3/4" (19)
JRD50-C	1" x 4-1/4"	2" (51)	3" (76)	20.5" (521)	51 (23)	2" (51)	16' (406)	2,300	120	3/4"	3/4" (19)

Note: Performance figures are at 90 psi (6.2 bar) air pressure.

Steels, Bits, and Retainers

Product	Description	Under Collar Length		Hex Shank Part Number and Size		
		in	7/8" x 3-1/4"	7/8" x 4-1/4"	1" x 4-1/4"	
	"H" Thread Jack Rods	18"	50283266	51242014	50713031	
		24"	50283506	51233690	50354596	
		30"	51305639	51242030	51305704	
		36"	50712728	51234052	50713049	
		48"	50283555	51234060	50283183	
		60"	50712736	51242063	50713056	

Product	Description	Bit Size in (mm)	Part Number	
			Single-use	Multi-use
	"H" Thread Carbide Bits	1-1/2" (38)	51248367	51248300
		1-3/4" (44)	51248383	51248326
		2" (52)	51248409	51248342
		2-1/4" (57)	N/A	51356723
		2-1/2" (64)	N/A	51293017

Product	Description	Bit Diameter in	Depth in	Length in	Part Number		
					7/8" x 3-1/4"	7/8" x 4-1/4"	1" x 4-1/4"
	Carbide-tipped Drill Steel	5/8"	15"	18"	WB581518	WBA581518	N/A
		5/8"	21"	24"	WB582124	WBA582124	N/A
		3/4"	15"	18"	WB341518	WBA341518	WBC341518
		3/4"	21"	24"	WB342124	WBA342124	WBC342124
		7/8"	15"	18"	WB781518	WBA781518	WBC781518
		7/8"	21"	24"	WB782124	WBA782124	WBC782124
		1"	15"	18"	WB11518	WBA11518	WBC11518
		1"	21"	24"	WB12124	WBA12124	WBC12124
		1-1/8"	15"	18"	WB1181518	WBA1181518	WBC1181518
		1-1/8"	21"	24"	WB1182124	WBA1182124	WBC1182124

Note: A full line of carbide-tipped drill steels and 1-1/4" x 4-1/4" hex shank rope thread jackrod is available from the Ingersoll Rand Construction Tool Steels and Accessories catalog, along with other sizes of jackrod and bits: Form # IRPS-0407-006.

Rivet Busters





Piston bridge prevents accidental discharge for increased safety
 Steel throttle valve
 Case-hardened alloy steel cylinder
 Heavy-duty upper and lower sleeves
 Takes industry standard jumbo steel
 Directional exhaust (9001 and 11001 models only)












Model	Barrel Type	Stroke in (mm)	Bore in (mm)	Length Without Accessory in (mm)	Weight Without Accessory lb (kg)	Inlet Size NPT			Recommended Hose Size in (mm)
						bpm	cfm	in	
8001A	Grooved barrel with lock spring	8" (203)	1.19" (30)	22.5" (572)	30 (13.6)	1,140	44	1/2"	3/4" (19)
9001A	Grooved barrel with lock spring	9" (229)	1.06" (27)	22.5" (572)	24.75 (11.2)	900	40	1/2"	3/4" (19)
9001	Threaded barrel with lock clip	9" (229)	1.06" (27)	22.5" (572)	24.75 (11.2)	900	40	1/2"	3/4" (19)
11001A	Grooved barrel with lock spring	11" (279)	1.06" (27)	24.5" (622)	30.21 (13.7)	800	45	1/2"	3/4" (19)
11001	Threaded barrel with lock clip	11" (279)	1.06" (27)	24.5" (622)	30.21 (13.7)	800	45	1/2"	3/4" (19)

Note: Performance figures are at 90 psi (6.2 bar) air pressure.

Rivet Buster Steels and Retainers

Product	Description	Length in (mm)	Part Number
	Moil Point	9" (229)	9001-297-9
		12" (305)	9001-297-12
	Chisels	9-1/2" (241)	9001-276-9-1/2
		12" (305)	9001-276-12
		18" (457)	9001-276-18
	Side-cut Chisel	9-1/2" (241)	9001-277-9-1/2
		12" (305)	9001-277-12
	Ripper Chisel	9-1/2" (241)	9001-295 9-1/2
		12" (305)	9001-295-12

Product	Description	Threaded Barrel 9001, 11001	Grooved Barrel 8001A, 9001A, 11001A
	Retainer	N/A	89938443
	Retainer	9001-200	N/A
	Upper Sleeve	9001-220	9001-220
	Lower Sleeve	9001-201	9001-201

Product	Description	Threaded Barrel 9001, 11001	Grooved Barrel 8001A, 9001A, 11001A
	Bumper	9001-203	9001-203
	Lock Clip	9RB-207	N/A
	Spring Lock	N/A	89938450
	Key	9001-208	N/A
	Pin	FMD2-667	N/A

Chipping Hammers

D Series

Construction-duty

Die-cast aluminum handle with outside trigger

Directional exhaust

Available in 2", 3", or 4" stroke

Tease throttle

Uses oval collar accessories



2DA2SA

Model	Retainer Type	Stroke in (mm)	Bore in (mm)	Length Without Accessory in (mm)	Weight Without Accessory		Inlet Size NPT		Recommended Hose Size in (mm)
					lb (kg)	bpm	cfm	in	
D SERIES CONSTRUCTION-DUTY CHIPPERS									
WITH .580" HEX NOZZLE — FOR USE WITH HEX SHANK OVAL COLLAR ACCESSORIES									
2DA1SA	Standard	2" (51)	1.13" (29)	13.75" (349)	13.75 (6.25)	2,200	28	7/8"-24	1" (25)
3DA1SA	Standard	3" (76)	1.13" (29)	17" (432)	15 (6.82)	1,900	31	7/8"-24	1" (25)
4DA1SA	Standard	4" (102)	1.13" (29)	18" (457)	16 (7.27)	1,600	34	7/8"-24	1" (25)
WITH .680" ROUND NOZZLE — FOR USE WITH ROUND SHANK OVAL COLLAR ACCESSORIES									
2DA2SA	Standard	2" (51)	1.13" (29)	13.75" (349)	13.75 (6.25)	2,200	28	7/8"-24	1" (25)
3DA2SA	Standard	3" (76)	1.13" (29)	17" (432)	15 (6.82)	1,900	31	7/8"-24	1" (25)
4DA2SA	Standard	4" (102)	1.13" (29)	18" (457)	16 (7.27)	1,600	34	7/8"-24	1" (25)

Note: Performance figures are at 90 psi (6.2 bar) air pressure.

Chipping Hammers

A Series

Industrial-duty
Grooved barrel with lock-spring retainer
Swan-neck handle with outside trigger
Replaceable piston
Uses oval collar accessories



2A2SA

W Series

Heavy-duty
Swan-neck handle with outside trigger
Heavy-duty threaded barrel
Rubber buffered screw on retainer
Uses round collar accessories








W3A2








Model	Retainer Type	Stroke in (mm)	Bore in (mm)	Length Without Accessory in (mm)	Weight Without Accessory		Inlet Size NPT		Recommended Hose Size in (mm)
					lb (kg)	bpm	cfm	in	
A SERIES INDUSTRIAL-DUTY CHIPPERS									
WITH .580" HEX NOZZLE — FOR USE WITH (X4) HEX SHANK OVAL COLLAR ACCESSORIES									
1A1SA	Standard	1" (25)	1.13" (28)	15.5" (394)	14.75 (6.69)	2,500	28	3/8"	1/2" (13)
2A1SA	Standard	2" (51)	1.13" (28)	16" (406)	15.13 (6.86)	2,300	28	3/8"	1/2" (13)
3A1SA	Standard	3" (76)	1.13" (28)	17.88" (454)	16.63 (7.54)	1,725	29	3/8"	1/2" (13)
4A1SA	Standard	4" (102)	1.13" (28)	18.88" (480)	17.5 (7.94)	1,480	29	3/8"	1/2" (13)
WITH .680" ROUND NOZZLE — FOR USE WITH (X4) ROUND SHANK OVAL COLLAR ACCESSORIES									
1A2SA	Standard	1" (25)	1.13" (28)	15.5" (394)	14.75 (6.69)	2,500	28	3/8"	1/2" (13)
2A2SA	Standard	2" (51)	1.13" (28)	16" (406)	15.13 (6.86)	2,300	28	3/8"	1/2" (13)
3A2SA	Standard	3" (76)	1.13" (28)	17.88" (454)	16.63 (7.54)	1,725	29	3/8"	1/2" (13)
4A2SA	Standard	4" (102)	1.13" (28)	18.88" (480)	17.5 (7.94)	1,480	29	3/8"	1/2" (13)
W SERIES HEAVY-DUTY CHIPPERS									
WITH .580" HEX NOZZLE — FOR USE WITH (X4) HEX SHANK ROUND COLLAR ACCESSORIES									
W1A1	Rubber-buffered	1" (25)	1.13" (28)	15.88" (403)	14.75 (6.69)	2,500	28	3/8"	1/2" (13)
W2A1	Rubber-buffered	2" (51)	1.13" (28)	16.38" (416)	15.13 (6.86)	2,300	28	3/8"	1/2" (13)
W3A1	Rubber-buffered	3" (76)	1.13" (28)	18.25" (464)	16.63 (7.54)	1,725	29	3/8"	1/2" (13)
W4A1	Rubber-buffered	4" (102)	1.13" (28)	19.25" (489)	17.5 (7.94)	1,480	29	3/8"	1/2" (13)
WITH .680" ROUND NOZZLE — FOR USE WITH (X4) ROUND SHANK ROUND COLLAR ACCESSORIES									
W1A2	Rubber-buffered	1" (25)	1.13" (28)	15.88" (403)	14.75 (6.69)	2,500	28	3/8"	1/2" (13)
W2A2	Rubber-buffered	2" (51)	1.13" (28)	16.38" (416)	15.13 (6.86)	2,300	28	3/8"	1/2" (13)
W3A2	Rubber-buffered	3" (76)	1.13" (28)	18.25" (464)	16.63 (7.54)	1,725	29	3/8"	1/2" (13)
W4A2	Rubber-buffered	4" (102)	1.13" (28)	19.25" (489)	17.5 (7.94)	1,480	29	3/8"	1/2" (13)

Note: Performance figures are at 90 psi (6.2 bar) air pressure.






Chipping Hammer Steels and Retainers

Product	Description	Under Collar Length	K, A, and D Series		W Series	
			0.68 Round Shank Oval Collar	0.58 Hex Shank Oval Collar	0.68 Round Shank Round Collar	0.58 Hex Shank Round Collar
	1" Flat Chisel	9"	HH1-215F-9	HH1-214F-9	H3R-215F-9	H3R-214F-9
		12"	HH1-215F-12	HH1-214F-12	H3R-215F-12	H3R-214F-12
		18"	HH1-215F-18	HH1-214F-18	H3R-215F-18	H3R-214F-18
	Moil Point	9"	HH1-215M-9	HH1-214M-9	H3R-215M-9	H3R-214M-9
		12"	HH1-215M-12	HH1-214M-12	H3R-215M-12	H3R-214M-12
		18"	HH1-215M-18	HH1-214M-18	H3R-215M-18	H3R-214M-18
	2" Scaling Chisel	9"	HH1-323-9	HH1-324-9	HH1-423-9	HH1-424-9
		12"	HH1-323-12	HH1-324-12	H3R-423-12	H3R-424-12
	Diamond Point	12"	HH1-215D-12	HH1-214D-12	H3R-215D-12	H3R-214D-12
	Bushing Tool	9"	HH1-215T-9	HH1-214T-9	H3R-215T-9	H3R-214T-9

Note: Other steels available from Ingersoll Rand Construction Tool Steels and Accessories Catalog, Form # IRPS-0407-006 including spark-resistant chisels, blanks, capes, gouges, round noses, fullers, caulking, ripper chisels, tooth chisels, and paper box stripping chisels.

Product	Description	Barrel Type	K, A, and D Series	W Series
	Standard Standard on all chippers ending in SA	Grooved	HH1-1190	N/A
	Optional Quick Change	Grooved	HH1-1191	N/A
	Optional Quick Change	Grooved	HH1-3400-3	N/A
	Lock Spring Used on all grooved barrel retainers	Grooved	HH1-1194	N/A
	Rubber-Buffered* Standard on all W Series chippers	Threaded	N/A	HHW1-A300
	Optional Economy Type	Threaded	N/A	HHW2-200
	Optional Quick Change	Threaded	N/A	HHW1-3450

Note: *W Series chipper with rubber-buffered retainer, part number HHW1-A300, includes the parts below.

Product	Description	Part Number
	Upper Buffer Washer (2 pieces)	H3R-31
	Lower Buffer Washer (2 pieces)	HHW1-213
	Lower Buffer Washer Ring	R000A2-103
	Rubber Bumper	H3R-203
	Lock Clip	24SR-207

Backfill Tampers and Sand Rammers



Sand Rammers

Time-tested valve design
 Round piston rod
 Dual-action sand wiper keeps dirt out of the barrel
 2-1/2" butt standard on 130A1M; 3" butt standard on 241A1M

Backfill Tampers

Built-in lubricator and muffler
 Dual-action sand wiper keeps dirt out of the barrel
 Plated piston
 5-3/4" round malleable butt standard on both the 341A2M and 441A2

130A1M

241A1M

341A2M

441A2

Model	Type	Stroke in (mm)	Bore in (mm)	Length in (mm)	Weight lb (kg)	bpm	cfm	Inlet Size NPT in	Recommended Hose Size in (mm)
SAND RAMMERS									
130A1M	Bench	2.5" (63)	1" (25)	21.5" (546)	11.56 (5.24)	870	14	1/4"	3/8" (10)
241A1M	Floor	4" (102)	1.31" (33)	52.75" (1340)	26.88 (12.2)	1,590	29	3/8"	1/2" (13)
BACKFILL TAMPERS									
341A2M	N/A	4" (102)	1.63" (41)	52.75" (1340)	34.88 (15.8)	1,550	29	3/8"	1/2" (13)
441A2	N/A	4" (102)	2" (51)	50.88" (1292)	47.13 (21.4)	1,750	36	3/8"	1/2" (13)

Note: Performance figures are at 90 psi (6.2 bar) air pressure.

Accessory Options

Description Of Butt	Part Number
FOR MODEL 130A1M — 1/2" TAPERED ROD	
Malleable butt 2-1/2" (64 mm) diameter, standard	12SR-83
Rubber-tipped butt 2-3/8" (60 mm) diameter	14SR-83R-2-3/8
Rubber topping-off butt 3-29/32" (99 mm) diameter	14SR-83R-4
Rubber-tipped peen	14SR-93R
FOR MODEL 341A2M — 7/8" TAPERED ROD	
Malleable butt 5-3/4" (146 mm) diameter, standard	34SR-M183-5-3/4
Steel butt 3" (76 mm) diameter	34SR-383

Description Of Butt	Part Number
FOR MODEL 241A1M — 5/8" TAPERED ROD	
Malleable butt 3" (76 mm) diameter, standard	22SR-83-3x3/4
Rubber-tipped butt 3" (76 mm) diameter	24SR-83R-3
Rubber-tipped butt 5" (127 mm) diameter	24SR-83R-5
FOR MODEL 441A2 — 1" TAPERED ROD	
Malleable butt 5-3/4" (146 mm) diameter, standard	44SR-M183-5-3/4
Half-moon butt 5-1/4" (133 mm) diameter	44SR-HM183-5

Large Drills



33SKA

Graduated roll throttle
Ball bearing support for long life and efficient operation
Heat-treated aluminum housing is high-strength and lightweight

22MA2

Ball bearing support for long life and efficient operation
Durable spur gearing
Governed motor regulates air to the motor to keep drill working at peak of power curve

Model	Free Speed rpm	Capacity In Drilling in (mm)	Steel Reaming in (mm)	Spindle Attachment	Max Power hp (kw)	Length Of Feed in (mm)	Weight lb (kg)	Height Over Spindle in (mm)	Side To Center Distance in (mm)	Inlet Size cfm	NPT Air Recommended Size Hose in (mm)		
22JA1	1,025	9/16" (14)	3/8" (10)	Stub taper, threaded chuck	5/64-1/2"	1.75 (1.31)	2.5" (63)	15 (6.8)	16.38" (416)	1.44" (36)	55	1/2"	3/4" (19)
22KA1	725	9/16" (14)	7/16" (11)	Stub taper, threaded chuck	5/64-1/2"	1.75 (1.31)	2.5" (63)	15.25 (6.92)	17.63" (448)	1.44" (36)	55	1/2"	3/4" (19)
22MA2	350	7/8" (22)	5/8" (16)	No. 2 Morse taper	N/A	1.75 (1.31)	2.5" (63)	14.25 (6.46)	18.63" (473)	1.44" (36)	55	1/2"	3/4" (19)
22NA1	280	7/8" (22)	5/8" (16)	Stub taper, threaded drive	5/8" square	1.65 (1.23)	2.5" (63)	16.5 (7.48)	20.38" (517)	1.44" (36)	55	1/2"	3/4" (19)
22KWA1	725	N/A	N/A	Stub taper, threaded wood	1/2" shank	1.75 (1.31)	2.5" (63)	14.25 (6.46)	17.25" (438)	1.44" (36)	55	1/2"	3/4" (19)
33SJA	450	1" (25)	15/16" (24)	No. 3 Morse taper	N/A	3.0 (2.24)	4.25" (108)	25.75 (11.7)	14" (355)	1.88" (47)	85	1/2"	3/4" (19)
33SKA	300	1-1/4" (32)	1" (25)	No. 3 Morse taper	N/A	3.0 (2.24)	4.25" (108)	25.75 (11.7)	14" (355)	1.88" (47)	85	1/2"	3/4" (19)
33SMA	185	1-1/4" (32)	1-1/4" (32)	No. 3 Morse taper	N/A	2.9 (2.16)	4.25" (108)	31 (14.1)	16.81" (427)	1.94" (49)	85	1/2"	3/4" (19)
44SMA	155	2" (51)	2" (51)	No. 4 Morse taper	N/A	3.6 (2.69)	4.25" (108)	43.75 (19.8)	18.25" (463)	2.31" (59)	102	1/2"	3/4" (19)
551SMA	120	3" (76)	2-1/2" (64)	No. 5 Morse taper	N/A	5.6 (4.18)	5" (127)	69 (31.3)	21.88" (556)	2.94" (75)	160	1"	1" (25)
551SOA	77	Heavy	Heavy	No. 5 Morse taper	N/A	5.6 (4.18)	5" (127)	69.5 (31.5)	21.88" (556)	2.94" (75)	160	1"	1" (25)

Note: Performance figures are at 90 psi (6.2 bar) air pressure.

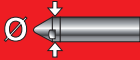





Large Drill Accessories

Part Number	Description	For Use With
SQUARE DRIVE SOCKET ADAPTER		
DE-215A	1/2" square drive socket adapter	22 Series
NUTS / CHUCKS		
DE-99C	3-jaw key chuck	22 Series
T05-99A	3-jaw key chuck	22 Series
T12-347	Chuck nut	33 Series
TA-461	Nut	551 Series
MORSE TAPER SOCKET		
DE-323A-2	No. 2 Morse taper socket	22 Series
WOOD BIT CHUCKS AND ACCESSORIES		
K-27	Wood bit chuck wrench	22 Series
R33SW-151-1/2	Wood bit chuck	33 Series
TA-A291	Wood bit chuck assembly	551 Series
LARGE DRILL ACCESSORIES		
TC-365	Suspension ring	33 Series
TC-461	Feed screw cover	33 Series



Concrete Vibrating Pokers



Ref.						
	mm	Hz rpm	mm	kg	in (BSP)	mm
DV28-EU	28	300 18,000	15	4.5	1	10
DV35-EU	35	308 18,500	25	6.1	1	10
DV45-EU	45	283 17,000	38	7.9	1	10
DV55-EU	54	283 17,000	45	9.1	1	13
DV65-EU	64	300 18,000	54	11.1	1	13
DV75-EU	76	300 18,000	64	14.5	1	13
DV105-EU	105	225 13,500	100	23.0	1	19

Note: Specifications at 90 psi

Air Line Accessories



Hoses

Part Number	Hose ID in	Length ft	Rated psi
DOUBLE-BANDED UNIVERSAL — BOTH ENDS			
22040679	3/4"	50'	300
DOUBLE-BANDED UNIVERSAL — 3/8" NPT STRAIGHT MALE			
22040687	1/2"	8'	250
DOUBLE-BANDED UNIVERSAL — 1/2" NPT STRAIGHT MALE			
22041453	1/2"	8'	250
DOUBLE-BANDED UNIVERSAL — 1/2" NPT SWIVEL MALE			
22041479	1/2"	8'	250

Swivel Inlets

Part Number	Description	Duty Type
HH1-A165	3/8" NPT x 1/2" hose barb	General-duty
HH1-VSW7/8	7/8" x 24" NPT x 1/2" hose barb	Heavy-duty
HH1-VSW1/2	1/2" NPT x 1/2" hose barb	Heavy-duty

Oilers

Oil Capacity	3 oz	5 oz	8 oz	16 oz
NPT Pipe Size	1/2"	3/4"	3/4"	1"
Part Number	3LUB8	6LUB12	8LUB12	16LUB16

Combination Unit with Gauge

Female NPT	FRL
	Part Number
1/4"	C38121-800
1/4"	C38221-810
3/8"	C38331-810
1/2"	C38341-810
3/4"	C38451-810
1"	C38461-810

Couplers

Hose / Pipe in	Universal To Female	Universal To Hose Barb	Universal To Male	OSHA Shut-off Valve	Universal 3-way	Universal Coupler Gasket	Hose Clamp
3/8"	N/A	N/A	UM-37-M	N/A	UW-300-B	UG-100	MT1-AL34-3/8
1/2"	UF-50-M	UH-50-M	UM-50-M	N/A	UW-300-B	UG-100	MT1-AL34-1/2
3/4"	UF-75-M	UH-75-M	UM-75-M	170-6	UW-300-B	UG-100	MT1-AL34-3/4
1"	UF-100-M	UH-100-M	UM-100-M	170-8	UW-300-B	UG-100	MT1-AL34-1

Industrial Surface Preparation



Advancements in manufacturing and production continue to transform the nature of industrial finishing. While traditional, heavy-duty material removal continues in many segments, increases in precision and reductions in waste are changing overall demands. New materials require different tool speeds and attachments; parts and components must match surrounding surfaces with greater accuracy.

For more than 100 years, Ingersoll Rand has helped transform the way the industry works. We've combined the best engineering talent, top-quality materials, and superior customer service in delivering tools with unmatched power and durability. Our designs reflect emerging trends in finishing tool use, changing technology, and new materials.

Whatever the application, Ingersoll Rand finishing tools bring out the best in your operators' skills, and contribute to the ultimate quality of your products and processes.

Contents

Wheel Types and Collets . . . 52



Revolution Series Grinders . . 53



Created for non-production industrial applications, the Revolution Series delivers high performance at an affordable price. They're available in straight, extended, or 90-degree angle head configurations, multiple speed capacities, and offer various attachments.

G-Series & M2-Series Grinders . . 56



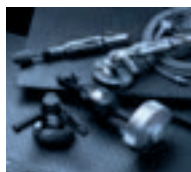
Our industrial grinders uphold the Ingersoll Rand tradition of innovation, durability, and reliability. The grinders' ergonomic, innovative designs make them easier and more comfortable to use, as well as simple to service.

Vortex VT22 Turbine Grinders . . 68



Introducing the new Ingersoll Rand 3.0 HP (2.2 kW) twin-stage 5" (125mm) turbine grinder. Our new Vortex VT22 Turbine Grinder tool offers a speed governor that maintains the most efficient speed while under load. A spindle offset of only .89" (25mm) allows greater use of the grinding wheel and a cutting depth of up to 1.6" (40mm). The Vortex VT22 Turbine Grinder is made for an unsurpassed material removal rate in the toughest application environment.

Pro-Series™ Grinders. 69



Pro-Series grinders are designed for heavy material removal. They feature best-in-class vibration dampening technologies, patented integral guards, and self-locking, spring-loaded throttle levers that prevent accidental operation.

Pro-Series™ Finishing Tools . . 75



Ingersoll Rand industrial sanders, polishers, and buffers have been developed for specific use in surface preparation and final finishing applications. They're the perfect multipurpose accessory tools for a variety of applications.

Finishing Tools - (Scaler, die/pencil/turbine grinders) . . 79



Ingersoll Rand offers a host of finishing tools to accomplish a variety of surface preparation tasks, whether heavy-duty or intricate in nature.

Random Orbital Sanders . . . 84



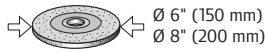
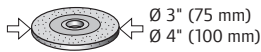
Lightweight sanders offer unsurpassed reliability for the finest in swirl-free finishes. They are available in non-vacuum, vacuum-ready, and venturi-vacuum models.

Wheel Types and Collets

STRAIGHT GRINDERS



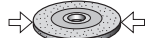
Type 1 Wheels



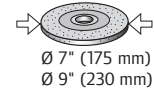
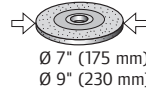
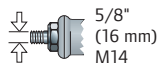
VERTICAL AND ANGLE GRINDERS



Type 27 Depressed Center Flat Wheels



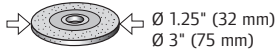
- Ø 4.5" (115 mm)
- Ø 5" (125 mm)
- Ø 6" (150 mm)
- Ø 8" (200 mm)



CONE AND PLUG WHEEL GRINDERS



Type 16, 17, 18, 18R, and 19 Cone and Plug Wheels



COLLET TYPE GRINDERS

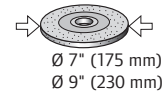
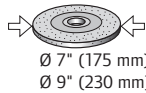


Mounted Wheels and High Speed Steel or Carbide Burrs

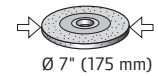
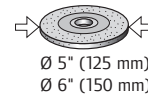


- Ø 1/8" (3 mm)
- Ø 1/4" (6 mm)
- Ø 5/16" (8 mm)
- Ø 3/8" (10 mm)

Type 28 Depressed Center Saucer Wheels



Type 6 and 11 Cup Wheels



Revolution Series Grinders



Ingersoll Rands Revolution Series die grinders are designed for non-production, industrial applications and deliver high performance at an affordable price. These grinders epitomize the Ingersoll Rand tradition of quality engineering with light-weight, ergonomic designs that make tools comfortable and easy to use for material removal and surface preparation. Tools are available in a variety of configurations including straight, extended, and angle. Tools are also designed around various motor packages — offering different speeds and horsepower — providing the user with the optimal combination of die grinder performance to accomplish the task at hand.



Revolution Series grinders feature both ergonomic designs and light weight that make them comfortable and easy to use for material removal and surface preparation.

Power

Powerful 0.33 to 0.40 hp air motors deliver plenty of strength in speeds from 12,000 to 35,000 rpm. The Revolution Series offers the torque and muscle required for a wide range of applications.

- Automotive
- General assembly
- Metal fabrication
- Plant maintenance
- Production prep
- Aerospace
- Shipbuilding
- Utilities
- Tool and die

Performance









Precision gearing and components contribute to long and reliable tool life. Whether removing material, weld cleaning, deburring, cutting, blending, grinding, sanding, or polishing, the New Revolution Series offers smooth operation, maximum power, and efficient performance, all at an affordable price.

Comfort

Weighing only 0.9 to 1.4 pounds, the New Revolution Series grinders requires minimal operator effort. Its compact, contoured shape fits naturally in the operator's hand for easy handling and maneuverability. A composite surface area covering the polished aluminum housing provides excellent grip and control, while insulating the operator from the effects of temperature and vibration.

Revolution Series



									
Model	hp	rpm	Exhaust	Output	lb (kg)	in (mm)	in (mm)	in (mm)	cfm
ANGLE									
312AC4A	0.40	12,000	Rear	1/4" collet	1.2 (0.55)	6.7" (170)	2.53" (64)	0.75" (19)	32
314AC4A	0.33	14,000	Rear	1/4" collet	1.2 (0.55)	6.7" (170)	2.53" (64)	0.75" (19)	30
320AC4A	0.40	20,000	Rear	1/4" collet	1.2 (0.55)	6.7" (170)	2.53" (64)	0.75" (19)	32
STRAIGHT									
325SC4A	0.40	25,000	Rear	1/4" collet	0.9 (0.43)	6.5" (166)	N/A	0.75" (19)	32
330SC4A	0.33	30,000	Rear	1/4" collet	0.9 (0.43)	6.5" (166)	N/A	0.75" (19)	30
335SC4A	0.37	35,000	Rear	1/4" collet	0.9 (0.43)	6.5" (166)	N/A	0.75" (19)	30
EXTENDED									
325XC4A	0.40	25,000	Rear	1/4" collet, 3" extended	1.4 (0.64)	9.6" (244)	N/A	0.75" (19)	33
330XC4A	0.33	30,000	Rear	1/4" collet, 3" extended	1.4 (0.62)	9.6" (244)	N/A	0.75" (19)	30

Note: Air inlet for all models is 1/4" NPT.

All models are rear exhaust.

3/8" air hose recommended.

Performance figures are at 90 psi air pressure.

Collet wrenches are standard.

G-Series Grinders



Our G1 and G3 Series grinders easily withstand the rigors of today's most demanding industrial environments and conditions, delivering power and precision for enhanced performance. With a G-Series grinder, you'll get the job done faster and more reliably. You'll have shorter downtimes and need fewer parts in inventory, thanks to their easy serviceability.

G-Series grinders are ergonomically designed, which makes them easier and more comfortable to use.

The G-Series Grinders — What You See Is What You Get ... Times Three

Configurable front-ends to meet your needs

- Straight die grinders
- Angle die grinders
- Straight grinders (type 1 wheels)
- Angle grinders (type 1 and type 27 wheels)

Improved efficiency means big power in a small package

Ergonomic low-profile locking throttle lever for operator safety

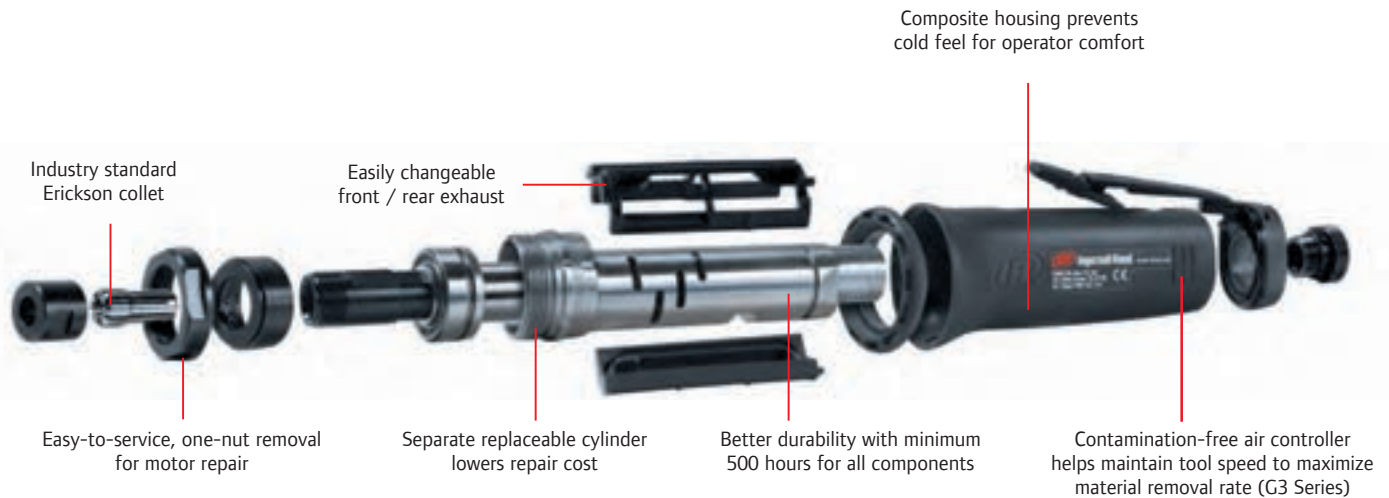
Easy attachment of pipe exhaust



6" guard for greater application coverage (G3 Series)

Ergonomic D-shaped handle for operator comfort

Laser-etched product information won't wear off



Industry standard Erickson collet

Easily changeable front / rear exhaust

Composite housing prevents cold feel for operator comfort

Easy-to-service, one-nut removal for motor repair

Separate replaceable cylinder lowers repair cost

Better durability with minimum 500 hours for all components

Contamination-free air controller helps maintain tool speed to maximize material removal rate (G3 Series)



From the compact 0.4 hp G1 Series to the powerful 1.35 hp G3 Series, these grinders are made to order for any grinding, cutting, and material removal needs. Engineered and built with Ingersoll Rand reliability and durability, the G-Series has the features operators want most. With our G-Series industrial grinders, your total cost of ownership is reduced. You get the job done faster with greater power, and the easy serviceability of the G-Series means shorter downtimes and fewer parts in inventory.

G1 SERIES



- At 0.4 hp, the G1 Series packs a lot of power in a small package.
- Ideal for light material removal, cleaning rough castings, deburring parts, cleaning up welds, and other finishing tasks.
- Ergonomic D-shaped handle fits better in your hand.
- Low noise and vibration.
- One-nut access for all motor servicing.
- Available in angle, horizontal, and extended horizontal configurations.

G3 SERIES



- Superior power-to-weight ratio — the G3 Series delivers a mighty 1.35 hp.
- The biggest jobs demand the most power.
- Internal contamination-free air controller helps maintain tool speed to maximize material removal rate.
- Ideal for industrial-duty material removal with burrs, grinding wheels, and coated abrasives.
- Available in angle, horizontal, extended horizontal, and extended angle configurations.
- Vibration-reducing handle, allowing end user extended operation.

G1 Series



G1A200RG4



G1A200RH63



G1A200RS812



G1H200FG4



G1H200RH63



G1X350RG4

Model	hp	rpm	Exhaust	Output	Type	lb (kg)	in (mm)	in (mm)	cfm
G-SERIES ANGLE GRINDERS									
G1A120FG4	0.4	12,000	Front	1/4" collet	N/A	1.1 (0.5)	6.0" (152)	3.0" (76)	19
G1A120RG4	0.4	12,000	Rear	1/4" collet	N/A	1.1 (0.5)	6.0" (152)	3.0" (76)	19
G1A200FG4	0.4	20,000	Front	1/4" collet	N/A	1.1 (0.5)	6.0" (152)	3.0" (76)	25
G1A200RG4	0.4	20,000	Rear	1/4" collet	N/A	1.1 (0.5)	6.0" (152)	3.0" (76)	25
G1A200RH63	0.4	20,000	Rear	3/8" - 24 thread, 3" guard	1	1.3 (0.6)	6.0" (152)	1.9" (48)	25
G1A200RP63	0.4	20,000	Rear	3/8" - 24 thread, 3" guard	27, 28	1.3 (0.6)	6.0" (152)	1.9" (48)	25
G-SERIES ANGLE SANDERS									
G1A120RS418	0.4	12,000	Rear	1/4" x 18" belt	N/A	1.2 (0.5)	14.0" (355)	N/A	19
G1A120RS4	0.4	12,000	Rear	1/4" - 20 thread	N/A	1.1 (0.5)	6.0" (152)	3.0" (76)	19
G1A120RS812	0.4	12,000	Rear	1/2" x 12" belt	N/A	1.2 (0.5)	10.8" (274)	N/A	19
G1A120RS818	0.4	12,000	Rear	1/2" x 18" belt	N/A	1.5 (0.7)	14.0" (355)	N/A	19
G1A200RS4	0.4	20,000	Rear	1/4" - 20 thread	N/A	1.1 (0.5)	6.0" (152)	3.0" (76)	25
G1A200RS812	0.4	20,000	Rear	1/2" x 12" belt	N/A	1.2 (0.5)	10.8" (274)	N/A	25
G1A200RS818	0.4	20,000	Rear	1/2" x 18" belt	N/A	1.5 (0.7)	14.0" (355)	N/A	25
G-SERIES HORIZONTAL GRINDERS									
G1H200FG4	0.4	20,000	Front	1/4" collet	N/A	0.9 (0.4)	6.1" (155)	N/A	19
G1H200RG4	0.4	20,000	Rear	1/4" collet	N/A	0.9 (0.4)	6.1" (155)	N/A	19
G1H200RH63	0.4	20,000	Rear	3/8" - 24 thread, 3" guard	1	1.2 (0.5)	6.1" (155)	N/A	19
G1H250RH63	0.4	25,000	Rear	3/8" - 24 thread, 3" guard	1	1.2 (0.5)	6.1" (155)	N/A	20
G1H250FG4	0.4	25,000	Front	1/4" collet	N/A	0.9 (0.4)	6.1" (155)	N/A	20
G1H250RG4	0.4	25,000	Rear	1/4" collet	N/A	0.9 (0.4)	6.1" (155)	N/A	20
G1H350FG4	0.4	35,000	Front	1/4" collet	N/A	0.9 (0.4)	6.1" (155)	N/A	25
G1H350RG4	0.4	35,000	Rear	1/4" collet	N/A	0.9 (0.4)	6.1" (155)	N/A	25
G-SERIES EXTENDED HORIZONTAL GRINDERS									
G1X200RG4	0.4	20,000	Rear	1/4" collet	N/A	1.3 (0.6)	9.1" (231)	N/A	25
G1X250RG4	0.4	25,000	Rear	1/4" collet	N/A	1.3 (0.6)	9.1" (231)	N/A	25
G1X350RG4	0.4	35,000	Rear	1/4" collet	N/A	1.3 (0.6)	9.1" (231)	N/A	25

G3 Series

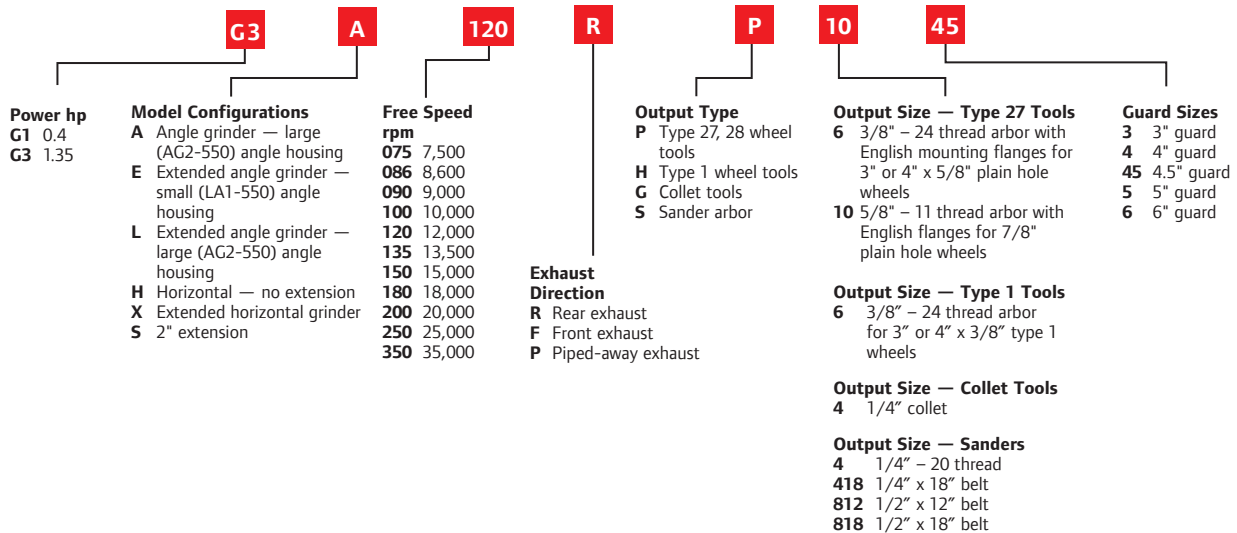


G3A100RP106



G3X180RH63

Model	hp	rpm	Exhaust	Output	Type	lb (kg)	in (mm)	in (mm)	cfm
G-SERIES ANGLE GRINDERS									
G3A100RP106	1.35	10,000	Rear	5/8" - 11 thread, 6" guard	27, 28	4.9 (2.2)	9.6" (244)	3.6" (91)	33
G3A120RG4	1.35	12,000	Rear	1/4" collet	N/A	3.7 (1.6)	9.5" (241)	3.3" (84)	55
G3A120RP1045	1.35	12,000	Rear	5/8" - 11 thread, 4.5" guard	27, 28	4.6 (2)	9.6" (244)	3.6" (91)	55
G3A120RP105	1.35	12,000	Rear	5/8" - 11 thread, 5" guard	27, 28	4.7 (2.1)	9.6" (244)	3.6" (91)	55
G-SERIES HORIZONTAL GRINDERS									
G3H150RG4	1.35	15,000	Rear	1/4" collet	N/A	2.3 (1)	9.1" (231)	N/A	33
G3H180RG4	1.35	18,000	Rear	1/4" collet	N/A	2.3 (1)	9.1" (231)	N/A	55
G-SERIES EXTENDED ANGLE SANDERS									
G3L086RS10	1.35	8,600	Rear	5/8" - 11 thread	N/A	4.3 (1.9)	13.0" (330)	3.0" (76)	33
G-SERIES EXTENDED HORIZONTAL GRINDERS									
G3X150RG4	1.35	15,000	Rear	1/4" collet	N/A	3.7 (1.6)	14.1" (358)	N/A	33
G3X150RH64	1.35	15,000	Rear	3/8" - 24 thread, 4" guard	1	4.5 (2)	14.1" (358)	N/A	33
G3X180RG4	1.35	18,000	Rear	1/4" collet	N/A	3.7 (1.6)	14.1" (358)	N/A	55
G3X180RH63	1.35	18,000	Rear	3/8" - 24 thread, 3" guard	1	4.5 (2)	14.1" (358)	N/A	55



M2 Series Industrial Grinders and Sanders



More powerful.
More versatile.
Less maintenance.

Tools that do more ...

...and need less maintenance. You'll get more time to work and spend less time on maintenance with the all-new M2 Series grinders and sanders from Ingersoll Rand.

All M2 Series tools feature a long-lasting 1-hp motor that's lube-free and runs cooler. Its other internal components are built to last too, for lower cost of ownership. A variety of grinder models are available with different guard sizes to fit a wide range of wheels, and the guards are easily adjustable—without a tool. Changing accessories is faster on both grinders and sanders, thanks to a spindle lock. And for maximum versatility, M2 Series grinders and sanders are available in various speeds and configurations to match the jobs you need to get done.

Get more from tools that ask less of you. Get the M2 Series grinders and sanders from Ingersoll Rand.



Material removal



Metal and pipe cutting



De-burring and edge finishing



Durability

Lube-free, 1-hp motors run cooler and longer for less maintenance.

Rugged internal components, built to last for more uptime and less downtime.

Productivity

Speed-governed motors help maximize the life of abrasives, increasing grinder efficiency and improving productivity.

Multi-positional grinder guards adjust easily and quickly without tools, reducing downtime.

Spindle locks make changing accessories faster and easier.

Versatility

Straight and angled grinder configurations are available for increased access to a wide variety of jobs.

Different speed ratings across the full range of M2 Series tools ensure there's a grinder or sander for virtually any job.

Multiple guard sizes on grinders and a **threaded arbor** on sanders allow for a wider variety of accessory usage.

Weld cleaning and smoothing



Finishing



Sanding and smoothing

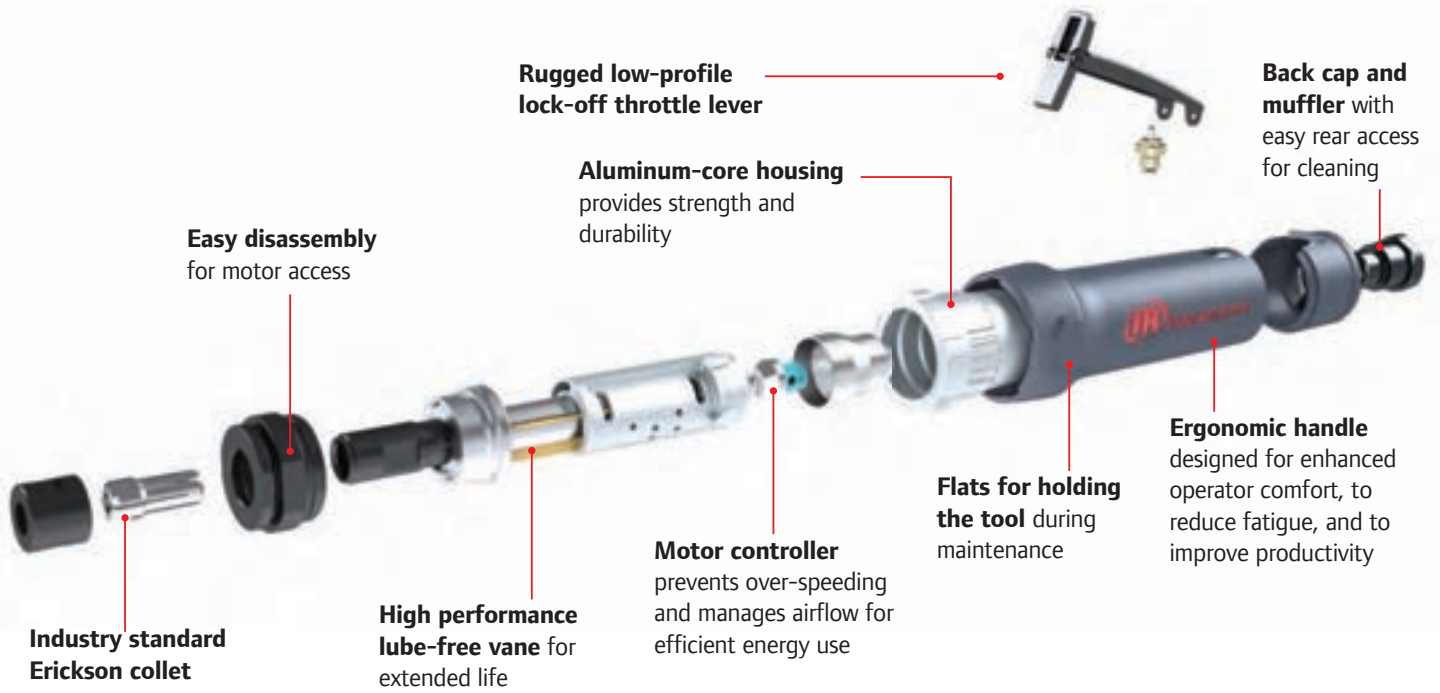


More durability, flexibility, and convenience



M2 Series Grinders





Rugged low-profile lock-off throttle lever

Back cap and muffler with easy rear access for cleaning

Aluminum-core housing provides strength and durability

Easy disassembly for motor access

Ergonomic handle designed for enhanced operator comfort, to reduce fatigue, and to improve productivity

Flats for holding the tool during maintenance

Motor controller prevents over-speeding and manages airflow for efficient energy use

High performance lube-free vane for extended life

Industry standard Erickson collet

M2 Series Sanders



Compact and powerful 1-hp motor for faster material removal

Low-profile throttle lever for increased comfort and ergonomic handle design

Lube-free motor for reduced maintenance

Ergonomic handle designed for enhanced operator comfort, to reduce fatigue, and to improve productivity

Steel housing for superior durability

Spindle lock allows faster, easier accessory changes

Threaded arbor for wider variety of accessory usage

A wide variety of M2 Series products for a wide variety of applications

Model	Power (hp)	Rated Speed (rpm)	Exhaust	Output	Abrasive Type	Weight lb (kg)	Overall Length in (mm)	Height Over Spindle End in (mm)	(at free speed) cfm
M2 Series Angle Grinders									
M2A090RP95	1.0	9,000	Rear	M14 THD	Wire Brush – 5" Max	3.56 (1.62)	9.29 (236)	3.39 (86)	22
M2A120RG4	1.0	12,000	Rear	Collet (1/4" and 6 mm)	Burr	3.56 (1.62)	8.94 (227)	3.28 (83)	17
M2A120RP945	1.0	12,000	Rear	M14 THD	4-1/2" X 1/4" Wheel – Type 27	3.76 (1.71)	9.29 (236)	3.39 (86)	17
M2A120RP1045	1.0	12,000	Rear	5/8"-11 THD	4-1/2" X 1/4" Wheel – Type 27	3.76 (1.71)	9.29 (236)	3.39 (86)	17
M2A120RP95	1.0	12,000	Rear	M14 THD	5" X 1/4" Wheel – Type 27	3.89 (1.77)	9.29 (236)	3.39 (86)	17
M2A120RP105	1.0	12,000	Rear	5/8"-11 THD	5" X 1/4" Wheel – Type 27	3.89 (1.77)	9.29 (236)	3.39 (86)	17
M2A135RP64	1.0	13,500	Rear	3/8"-24 THD	4" X 1/4" Wheel – Type 27	3.72 (1.69)	9.29 (236)	3.39 (86)	22
M2A180RG4	1.0	18,000	Rear	Collet (1/4" and 6 mm)	Burr	3.56 (1.62)	8.94 (227)	3.28 (83)	25
M2 Series Straight Grinders									
M2H180RG4	1.0	18,000	Rear	Collet (1/4" and 6 mm)	Burr	1.69 (0.77)	8.38 (213)	NA	14
M2H200RG4	1.0	20,000	Rear	Collet (1/4" and 6 mm)	Burr	1.69 (0.77)	8.38 (213)	NA	17
M2H250RG4	1.0	25,000	Rear	Collet (1/4" and 6 mm)	Burr	1.69 (0.77)	8.38 (213)	NA	25
M2 Series Extended Angle Grinders									
M2E145RP64	1.0	14,500	Rear	3/8"-24 THD	4" X 1/4" Wheel – Type 27	3.78 (1.72)	11.57 (294)	3.13 (79)	22
M2L100RP106	1.0	10,000	Rear	5/8"-11 THD	6" X 1/4" Wheel – Type 27	5.46 (2.48)	12.4 (315)	3.39 (86)	25
M2L120RP1045	1.0	12,000	Rear	5/8"-11 THD	4-1/2" X 1/4" Wheel – Type 27	4.55 (2.07)	12.4 (315)	3.39 (86)	17
M2L135RP64	1.0	13,500	Rear	3/8"-24 THD	4" X 1/4" Wheel – Type 27	4.55 (2.07)	12.4 (315)	3.39 (86)	22
M2 Series Extended Straight Grinders									
M2X180RH63	1.0	18,000	Rear	3/8"-24 THD	3" X 1/2" Wheel – Type 1	3.26 (1.48)	13.35 (339)	NA	14
M2X075RG4	1.0	7,500	Rear	Collet (1/4" and 6 mm)	Sanding Drum (Mounted)	2.97 (1.35)	11.95 (304)	NA	25
M2X180RG4	1.0	18,000	Rear	Collet (1/4" and 6 mm)	Burr	2.68 (1.22)	13.08 (332)	NA	14
M2X200RG4	1.0	20,000	Rear	Collet (1/4" and 6 mm)	Burr	2.68 (1.22)	13.08 (332)	NA	17
M2X250RG4	1.0	25,000	Rear	Collet (1/4" and 6 mm)	Burr	2.68 (1.22)	13.08 (332)	NA	25
M2 Series Extended Angle Sanders									
M2L075RS10	1.0	7,500	Rear	5/8"-11 THD	Sanding Pad	4.55 (2.07)	12.05 (306)	3.57 (91)	14
M2L055RS10	1.0	5,500	Rear	5/8"-11 THD	Sanding Pad	4.18 (1.9)	12.52 (318)	3.57 (91)	25
M2L055RS9	1.0	5,500	Rear	M14 THD	Sanding Pad	4.18 (1.9)	12.52 (318)	3.57 (91)	25
M2L040RS10	1.0	4,000	Rear	5/8"-11 THD	Sanding Pad	4.18 (1.9)	12.52 (318)	3.57 (91)	14
M2L040RS9	1.0	4,000	Rear	M14 THD	Sanding Pad	4.18 (1.9)	12.52 (318)	3.57 (91)	14
M2L025RS10	1.0	2,500	Rear	5/8"-11 THD	Sanding Pad	4.18 (1.9)	12.52 (318)	3.57 (91)	17
M2L025RS9	1.0	2,500	Rear	M14 THD	Sanding Pad	4.18 (1.9)	12.52 (318)	3.57 (91)	17



M2A120RP1045



M2A180RG4



M2H200RG4



M2E145RP64



M2L120RP1045



M2X200RG4



M2X180RH63



M2L040RS10



Get the most out of your M2 Series products

Extended warranty kits

At Ingersoll Rand, we don't just build the most durable and powerful tools on the market, we also back them up with a warranty program that's just as reliable. When you purchase Ingersoll Rand extended warranty kits for your new M2 Series tools, you'll get an additional year of coverage for parts and labor, for a total of two years of protection.*

Each extended warranty kit contains the following:

- One filter/lubricator/regulator
- One pint of lubricating oil
- One 4 oz. tube of grease
- One M2 Series tune-up kit



*Limited warranty on full parts and labor for additional year, applicable to workmanship, craftsmanship, and materials.

Tune-up kits

Our tune-up kits help you keep your M2 Series tools running in tiptop shape with soft-part replacements.

VORTEX

VT22 Turbine Grinder

MORE MATERIAL REMOVAL, GREATER CUTTING DEPTH, LESS EFFORT! Introducing the new Ingersoll Rand 3.0 HP twin-stage 5" turbine grinder. Our new VT22 Turbine Grinder offers a speed governor that maintains the most efficient speed while under load. A spindle offset of only .89" allows greater use of the grinding wheel and a cutting depth of up to 1.6". New productivity features include a single, push button spindle lock that provides dual usage for easy wheel changes and guard adjustments, plus an optional top handle for easy access in tight spaces.



Specifications		
	Us standard	metric
Part number	VT22-120P105	VT22-120P95M
Rated power	3.0 HP	2.W
Free speed	12,000 rpm	12,000 rpm
Wheel size	5 in	125 mm
Maximum wheel thickness	1/4 in	6 mm
Maximum cutting depth	1.6 in	40 mm
Wheel type	Type 27, Type 1	Type 27, Type 1
Arbor/spindle thread	5/8 in – 11 in	M14s
Air Requirements		
Air consumption @ free speed	27 CFM	12.7 L/s
Air consumption at load	84 CFM	39.6 L/s
Noise & Vibration		
Sound pressure/power (ISO15744)	86.4/97.4 dB(A)	86.4/97.4 dB(A)
Vibration level/measurement uncertainty (ISO28927)	5.7/ 2.1 m/s ²	5.7/ 2.1 m/s ²
Weights & Dimensions		
Tool weight	4.6 lb	2.1 kg
Tool length	11.6 in	295 mm
Tool height	3.5 in	88.9 mm
Shipping weight	6.4 lb	2.9 kg

Note: 1) **US standard 4.5", model VT-22-120P1045**

2) Performance figures are at 90 psi (6.2 bar)

Air inlet size: 1/2" NPTF and BSP

Recommended hose size: 1/2" (13mm)

Pro-Series™ Grinders

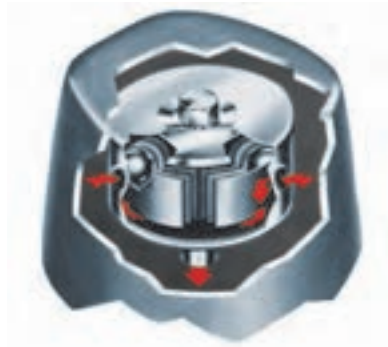


With the Pro-Series grinders, Ingersoll Rand offers a complete line of heavy-duty vertical, horizontal, and angle finishing tools that deliver superior performance, as well as outstanding safety and ergonomic features. Available in 1.25 to 3.0 hp motors, Pro-Series grinders are specially designed for heavy-duty production applications.

Pro-Series grinders reduce air consumption by one-third over competitive models, while removing up to 25 percent more material. When it comes to reliability and safety, no other grinders compare to the Pro-Series. They feature best-in-class vibration dampening, patented integral guards, and self-locking throttle levers to prevent accidental operation.

Motor Controller

Ingersoll Rand Pro-Series finishing tools incorporate a patented motor controller designed to increase productivity while enhancing operator safety. The controller regulates airflow through the endplate 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.



Locking Throttle Lever

The Ingersoll Rand 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

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.



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

Pro-Series 88 and 99

- Powerful 2 hp and 3 hp motors for efficient high 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.
- Built-in mist lubricator automatically oils motor when throttle is activated.



Pro-Series 77

- Powerful 1.5 hp motor produces efficient high 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 throttle is activated.



Pro-Series 61

- Solid steel motor and arbor housing provide maximum durability.
- Powerful 1.25 to 1.33 hp motor produces efficient high 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.



Series	Type	Throttle	Free Speed rpm	Type of Wheel	Diameter and Thread of Arbor	Diameter of Collet or Wheel
61	A Angle	L Lever	45 4,500	G Collet	6 3/8" - 24 thread	4 1/4" collet
77	H Horizontal	G Grip	60 6,000	H Type 1 wheel	8 1/2" - 13 thread	3 3" wheel
88	V Vertical		77 7,700	L Cone wheel	10 5/8" - 11 thread	4 4" wheel
99			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

Straight Grinders

Carbide Burr and Mounted Wheel

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



Model	hp	rpm	Exhaust	Output	lb (kg)	in (mm)	Spindle Housing Diameter in (mm)	cfm
61H120G4	1.25	12,000	Side	1/4" Collet	4.3 (1.9)	15.5" (393)	1.4" (36)	37
61H150G4	1.33	15,000	Side	1/4" Collet	4.3 (1.9)	15.5" (393)	1.4" (36)	40

Note: Air inlet for both models is 3/8".
Size hose recommended for both models is 1/2".
Performance figures are at 90 psi air pressure.

Cone and Plug Wheel

Standard Equipment

- Tool wrench



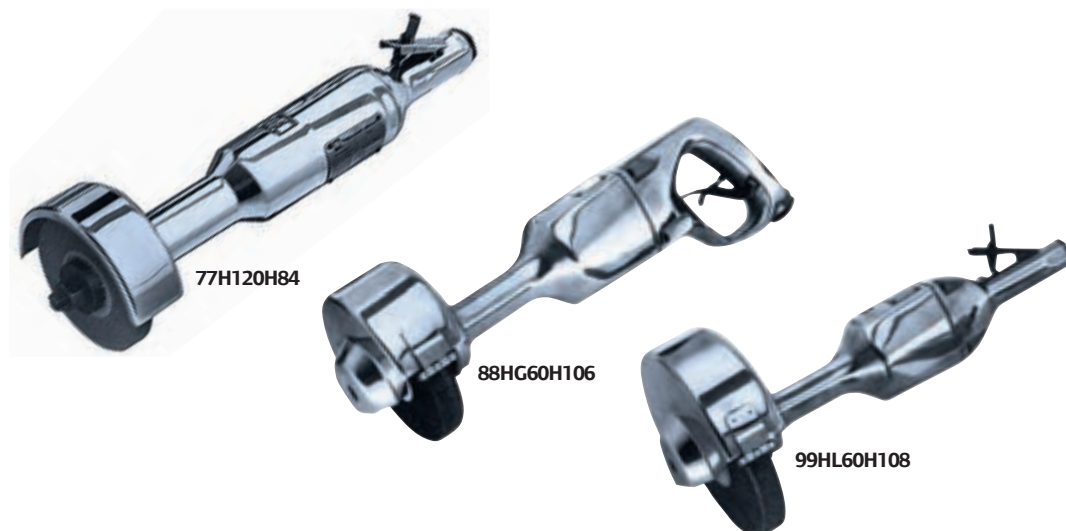
Model	hp	rpm	Exhaust	Output	lb (kg)	in (mm)	Spindle Housing Diameter in (mm)	cfm
61H120L6	1.25	12,000	Side	3/8" - 24 Thread	4.3 (1.9)	14.8" (376)	1.4" (36)	37
61H150L6	1.33	15,000	Side	3/8" - 24 Thread	4.3 (1.9)	14.8" (376)	1.4" (36)	40
77H90L10	1.5	9,000	Side	5/8" - 11 Thread	6.0 (2.7)	16.4" (417)	1.9" (48)	37
77H120L10	1.5	12,000	Side	5/8" - 11 Thread	6.0 (2.7)	16.4" (417)	1.9" (48)	39
88HL90L10	2.2	9,000	Side	5/8" - 11 Thread	8.4 (3.8)	18.3" (465)	2.3" (58)	66





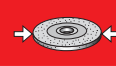

Note: Air inlet for Series 88H is 1/2" NPT. All others 3/8" NPT.
Size hose recommended for Series 88H is 3/4". All others 1/2".
Performance figures are at 90 psi air pressure.
Maximum wheel diameter is 3".

Type 1 Wheel

Standard Equipment

- Wheel guard, flanges, and nut



Model	Handle	hp	 rpm	Exhaust	 Output	 lb (kg)	 in (mm)	 Spindle Housing Diameter in (mm)	 cfm
61H120H63	Lever	1.25	12,000	Side	3/8" - 24 Thread, 3" guard	4.8" (2.2)	15.8" (401)	1.4" (36)	37
61H120H64	Lever	1.25	12,000	Side	3/8" - 24 Thread, 4" guard	4.8" (2.2)	15.8" (401)	1.4" (36)	37
61H150H63	Lever	1.33	15,000	Side	3/8" - 24 Thread, 3" guard	4.8" (2.2)	15.8" (401)	1.4" (36)	40
77H120H63	Lever	1.5	12,000	Side	3/8" - 24 Thread, 3" guard	6.1" (2.8)	16.6" (422)	2.6" (66)	39
77H90H84	Lever	1.5	9,000	Side	1/2" - 13 Thread, 4" guard	6.5" (2.9)	17.3" (439)	2.6" (66)	37
77H120H84	Lever	1.5	12,000	Side	1/2" - 13 Thread, 4" guard	6.5" (2.9)	17.3" (439)	2.6" (66)	39
88HL60H106*	Lever	2	6,000	Side	5/8" - 11 Thread, 6" guard	11.3" (5.1)	20.0" (508)	3.4" (86)	61
88HG60H106*	Grip	2	6,000	Side	5/8" - 11 Thread, 6" guard	11.7" (5.3)	19.8" (503)	3.4" (86)	61
99HL60H106*	Lever	3	6,000	Side	5/8" - 11 Thread, 6" guard	13.5" (6.1)	20.5" (520)	3.9" (99)	84
99HG60H106*	Grip	3	6,000	Side	5/8" - 11 Thread, 6" guard	15.3" (6.9)	20.4" (518)	3.9" (99)	84
99HL45H108**	Lever	2.35	4,500	Side	5/8" - 11 Thread, 8" guard	14.9" (6.8)	20.3" (516)	3.9" (99)	70
99HG45H108**	Grip	2.35	4,500	Side	5/8" - 11 Thread, 8" guard	15.6" (7.1)	20.1" (511)	3.9" (99)	70
99HL60H108**	Lever	3	6,000	Side	5/8" - 11 Thread, 8" guard	14.8" (6.7)	20.3" (516)	3.9" (99)	84

Note: *Net weight of guard and flanges is 3.2 lb.

**Net weight of guard and flanges is 4.5 lb.

Air inlet for Series 61H and 77H is 3/8" NPT. For Series 88H and 99H, 1/2" NPT.

Size hose recommended for Series 61H and 77H is 1/2". For Series 88H and 99H, 3/4".

Performance figures are at 90 psi air pressure.

Angle Grinders

Depressed Center Wheel Type 27 and 28 Wheel

Standard Equipment

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

Accessories

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



77A60P107



88V60P107

Model	hp	rpm	Exhaust	Output	lb (kg)	in (mm)	in (mm)	in (mm)	in (mm)	m/s ²	cfm
ANGLE GRINDERS*											
77A60P107	1.5	6,000	Side	5/8" - 11 Thread, 7" guard	9.0 (4.1)	17.6" (447)	3.9" (99)	1.3" (33)	7" (177)	1.9	39
77A60P109	1.5	6,000	Side	5/8" - 11 Thread, 9" guard	9.2 (4.2)	17.6" (447)	3.9" (99)	1.3" (33)	9" (228)	1.8	39
77A75P107	1.5	7,500	Side	5/8" - 11 Thread, 7" guard	9.2 (4.2)	17.6" (447)	3.9" (99)	1.3" (33)	7" (177)	2	39
VERTICAL GRINDERS**											
88V60P107	2.1	6,000	Side	5/8" - 11 Thread, 7" guard	8.8 (4.0)	N/A	6.1" (155)	2.1" (54)	7" (177)	1.5	61
88V60P109	2.1	6,000	Side	5/8" - 11 Thread, 9" guard	9.1 (4.1)	N/A	6.1" (155)	2.1" (54)	9" (228)	1	61
88V77P107	2.2	7,700	Side	5/8" - 11 Thread, 7" guard	8.8 (4.0)	N/A	6.1" (155)	2.1" (54)	7" (177)	1.2	68
88V85P107	2.2	8,500	Side	5/8" - 11 Thread, 7" guard	8.8 (4.0)	N/A	6.1" (155)	2.1" (54)	7" (177)	1.5	66
99V60P107	3.0	6,000	Side	5/8" - 11 Thread, 7" guard	11.3 (5.1)	N/A	6.9" (175)	2.9" (74)	7" (177)	1.5	84
99V60P109	3.0	6,000	Side	5/8" - 11 Thread, 9" guard	11.3 (5.1)	N/A	6.9" (175)	2.9" (74)	9" (228)	0.9	84
99V77P107	3.0	7,700	Side	5/8" - 11 Thread, 7" guard	11.3 (5.1)	N/A	6.9" (175)	2.9" (74)	7" (177)	0.9	84
99V85P107	3.0	8,500	Side	5/8" - 11 Thread, 7" guard	11.3 (5.1)	N/A	6.9" (175)	2.9" (74)	7" (177)	0.9	84

Note: *Air inlet for all models is 3/8" NPT.
Size hose recommended for all models is 1/2".

Note: ** Air inlet for all models is 1/2" NPT.
Size hose recommended for all models is 3/4".

Note: Performance figures are at 90 psi air pressure.

Vertical Grinders

Cup Wheel Type 6 and 11 Wheel

Standard Equipment

- Wheel guard, flanges, and nut

Accessories

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



88V60S106



99V60S106

Model	hp	rpm	Exhaust	Output	lb (kg)	in (mm)	in (mm)	in (mm)	m/s ²	cfm
88V60S106	2.1	6,000	Side	5/8" - 11 spindle, 6" guard	8.4 (3.8)	6.1" (155)	2.1" (53)	5" or 6" (127 or 152)	0.8	61
99V45S106	2.5	4,500	Side	5/8" - 11 spindle, 6" guard	10.8 (4.9)	6.9" (175)	2.9" (74)	5" or 6" (127 or 152)	1.1	70
99V60S106	3.0	6,000	Side	5/8" - 11 spindle, 6" guard	10.8 (4.9)	6.9" (175)	2.9" (74)	5" or 6" (127 or 152)	0.6	84

Note: Air inlet for all models is 1/2" NPT.
Size hose recommended for all models is 3/4".

Note: Performance figures are at 90 psi air pressure.

Pro-Series™ Finishing Tools



Ingersoll Rand industrial sanders, polishers, and buffers have been developed for specific use in surface preparation and final finishing applications. These models are multipurpose accessory tools used in aerospace, shipbuilding, utilities, woodworking, furniture production, vehicle and marine assembly, and general maintenance.

Pro-Series Sanders, Polishers, and Buffers

Designed for applications involving larger areas and heavier-duty materials, Pro-Series sanders, polishers, and buffers range from 0.8 to 2 horsepower, in straight, angle, and vertical configurations. They incorporate many of the same unique features as their counterpart grinder models.

Series	Type	Free Speed rpm	Type of Wheel	Arbor Diameter	Wheel Diameter
61	A Angle	24	B Wire brush	10 5/8" - 11 thread	6 6" wheel
77	H Horizontal	25	F Polishing head		7 7" wheel
88	S Vertical	30	W Sanding head		8 8" wheel
99	sander	45			9 9" wheel
		48			
		50			
		60			

Angle Tools

Pro-Series

Standard Equipment

- Back-up pads with nut
77A-BM825-7 - 7" firm (F107)
77A-AM825-9 - 9" medium (W109)
- P500-850 polishing bonnet
(model 77A25F107 only)

Accessories

- 77A-AM825-5 - 5" medium pad
- 77A-AM825-7 - 7" medium pad
- AG230-26M spanner



77A25F107

Model	hp	rpm	Exhaust	Output	lb (kg)	in (mm)	in (mm)	in (mm)	m/s ²	cfm
77A25F107	1.5	2,500	Side	5/8" - 11 Thread, 7" polishing bonnet	8.4 (3.8)	17.6" (447)	3.8" (97)	1.3" (33)	3.4	37
77A45W109	1.5	4,500	Side	5/8" - 11 Thread, 9" back-up pad	7.8 (3.5)	17.6" (447)	3.8" (97)	1.3" (33)	1.5	37
77A60W107	1.5	6,000	Side	5/8" - 11 Thread, 7" back-up pad	7.8 (3.5)	17.6" (447)	3.8" (97)	1.3" (33)	1.2	39

Note: Air inlet for all models is 3/8" NPT.

Size hose recommended for all models is 1/2".

Performance figures are at 90 psi air pressure.

Vertical Tools

Pro-Series

Standard Equipment

- Backer pads
77A-AM825-7 – 7" medium pad
77A-AM825-9 – 9" pad



88S60W107

Accessories

- Comfort grips CG-88V, CG99V
- 77A-BM825-7 – 7" firm pad
- AG230-26M spanner
- AG230-26M spanner wrench
- Piped-away exhaust kits 88V60-K184, 99V60-K184

Model	hp	rpm	Exhaust	Output	lb (kg)	in (mm)	in (mm)	m/s ²	cfm
88S45W109	1.8	4,500	Side	5/8" – 11 Thread, 9" back-up pad	7.1 (3.2)	6.0" (152)	2.1" (53)	1	50
88S60W107	2.0	6,000	Side	5/8" – 11 Thread, 7" back-up pad	7.1 (3.2)	6.0" (152)	2.1" (53)	1	61

Note: Air inlet for both models is 1/2" NPT.

Note: Size hose recommended for both models is 3/4".

Note: Performance figures are at 90 psi air pressure.

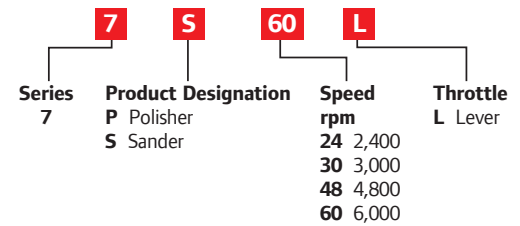
Pro-Series

Standard Equipment

- 77A-8M825-7 backer pad
- P500-850 polishing bonnet (model 7P24L only)



7S60L



Model	hp	rpm	Exhaust	Output	without Pad lb (kg)	in (mm)	in (mm)	cfm
7P24L	0.8	2,400	Side	5/8" – 11 Thread, 7" polishing bonnet	3.25 (1.4)	6.4" (163)	0.4" (10)	22
7S30L	0.8	3,000	Side	5/8" – 11 Thread, 7" back-up pad	3.25 (1.4)	6.4" (163)	0.4" (10)	22
7S48L	0.8	4,800	Side	5/8" – 11 Thread, 7" back-up pad	3.25 (1.4)	6.4" (163)	0.4" (10)	22
7S60L	0.8	6,000	Side	5/8" – 11 Thread, 7" back-up pad	3.25 (1.4)	6.4" (163)	0.4" (10)	22

Note: Air inlet for all models is 1/4" NPT.

Note: Size hose recommended for all models is 5/16".

Note: Performance figures are at 90 psi air pressure.

Straight Tools

Pro-Series

Standard Equipment

- Wheel, flanges, and nut

Accessories

- 7RAQT4-254 1" wheel bearing nut wrench
- 7S60-24818 wire brush nut wrench

Spindle is 2-3/4" long.
Threads are 2" long.



77H30B106

Model	hp	rpm	Exhaust	Output	lb (kg)	in (mm)	in (mm)	cfm
77H30B106	1.5	3,000	Side	5/8" – 11 x 2" Thread (for flap wheels, wire brushes, etc.)	7.3 (3.3)	17.7" (450)	0.9" (23)	37
77H50B106	1.5	5,000	Side	5/8" – 11 x 2" Thread (for flap wheels, wire brushes, etc.)	7.3 (3.3)	17.7" (450)	0.9" (23)	39

Note: Air inlet for both models is 3/8" NPT.

Note: Size hose recommended for both models 1/2".

Note: Performance figures are at 90 psi air pressure.

Type 1 Wheel Accessories

Description	Series 61H	Series 77H	Series 88H
1/4" Erickson collet	G160-HD-700-14	N/A	N/A
1/4" Erickson collet assembly	DG220-A290-G4	N/A	N/A
3/8" Erickson collet	DG120-700-G6	N/A	N/A
3/8" Erickson collet assembly	DG220-A290-G6	N/A	N/A
Collet body wrench	DG10-69	N/A	N/A
Collet nut wrench	DG120-69	N/A	N/A
3/8"-24 cone wheel spindle	DG220-104-L6	N/A	N/A
Cone wheel spindle wrench	DG20-69A	7RAQT4-254	7RAQT4-254
Controller wrench	R15-169	77H-950	88V60-950

Type 27 and 28 Wheel Accessories

Description	Series 77A	Series 88V	Series 99V
6" type 6 or 11 cup wheel guard	N/A	88V60-A216	99V60-A216A
Piped-away exhaust kit	N/A	88V60-K184	99V60-K184
Wheel retaining screw wrench	88V-562	88V-562	88V-562
Controller wrench	77H-950	88V60-950	99V60-950

Type 6 and 11 Wheel Accessories

Description	Series 88V	Series 99V
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

Note: *For use with Type 27 plain hole depressed center wheels.

Pro-Series Finishing Tool Accessories

Description	Series 7	Series 77A	Series 88S	Series 99S
5" medium sanding pad assembly	77A-AM825-5	77A-AM825-5	77A-AM825-5	77A-AM825-5
7" medium sanding pad assembly	77A-AM825-7	77A-AM825-7	77A-AM825-7	77A-AM825-7
7" firm sanding pad assembly	77A-BM825-7	77A-BM825-7	77A-BM825-7	77A-BM825-7
9" firm sanding pad assembly	77A-AM825-9	77A-AM825-9	77A-AM825-9	77A-AM825-9
7" wool polishing bonnet	P500-850	P500-850	N/A	N/A
Pad nut	D94SK-226	D94SK-226	D94SK-226	D94SK-226
Pad nut wrench	D94SK-26	D94SK-26	D94SK-26	D94SK-26
Spindle wrench	7S60-24818*	DG120-69	DG120-69	DG120-69**
Controller wrench	N/A	77H-950	88V60-950	99V60-950
Pad nut kit	77A-826	77A-826	77A-826	77A-826

Note: *5/16" OE.

**5/8" x 3/4" OE.

Finishing Tools



Ingersoll Rand offers a host of finishing tools to accomplish a variety of surface preparation tasks, whether heavy-duty or intricate in nature. We provide an impressive line of scalers, needle scalers, piston scalers, drills, and accessories. For the smaller jobs, our ARO finishing tool line is the perfect solution — excellent for intricate grinding applications, including mold finishing, deburring, cleaning, and polishing.

Consult our website, your distributor, or an Ingersoll Rand representative for more details on our complete product line.

Pistol Grip Scalers



Model	Description	lb (kg)	in (mm)	in (mm)	in (mm)	bpm	in	Chisel Shank in (mm)	No. of 3 mm Needles (flat)	cfm
170PG	Needle scaler	6.6 (3.0)	12.4" (314)	1.4" (35)	0.9" (23)	3,000	1/4" NPT	N/A	19	5.5
180PG	Needle scaler	8.9 (4.0)	13.5" (342)	1.5" (38)	1.1" (28)	2,200	1/4" NPT	N/A	28	8
170PG-CS	Chisel scaler	5.3 (2.4)	12.4" (314)	1.4" (35)	0.9" (23)	3,000	1/4" NPT	1/2" (12)	N/A	5.5
180PG-CS*	Chisel scaler	6.8 (3.1)	12.4" (314)	1.5" (38)	1.1" (28)	2,200	1/4" NPT	1/2" (12)	N/A	8

Note: *5/8" hex shank chisel holder/retainer (p/n 22039705) is available for 180PG-CS
 Recommended hose size is 5/16".
 Performance figures are at 90 psi air pressure.

170PG-KIT includes: The 170PG needle scaler, the 1/2" shank chisel holder, 3 needle packs, and 3 chisels. Needles included are one pack each of chisel tip, pointed tip, and flat 3 mm needles. There are 19 needles per pack. The needles are 7" long and made of carbon steel. The chisels included are one each of the following 1/2" square, 7" long chisels: a 3/4" flat, a 1-3/8" offset (weld flux), and a 2" flat chisel.

180PG-KIT includes: The 180PG needle scaler, the 1/2" shank chisel holder, 3 needle packs, and 3 chisels. Needles included are one pack each of chisel tip, pointed tip, and flat 3 mm needles. There are 28 needles per pack. The needles are 7" long and made of carbon steel. The chisels included are one each of the following 1/2" square, 7" long chisels: a 3/4" flat, a 1-3/8" offset (weld flux), and a 2" flat chisel.

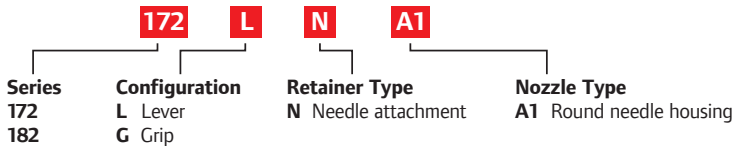
Needle Scalers

Features

- Adjustable bayonet-type needle housing lock allows adjustment without special tools.
- Choice of three needle materials permits custom selection for various surfaces.
- Rubber-faced throttle valve means positive sealing.
- Tested and approved in accordance with MIL-S-23492A (ships).
- Precision heat-treated needles for maximum performance.

Standard Equipment

- Lever throttle.
- 19 1/8" (3 mm) diameter steel needles, 5" (127 mm) long, NS11-22-19.



Model	Needle Housing Shape	lb (kg)	in (mm)	in (mm)	in (mm)	bpm	in	cfm
172LNA1	Round	5.3 (2.4)	13.8" (351)	0.6" (14)	0.9" (23)	5,500	1/4"	12
182LNA1	Round	5.8 (2.6)	15.0" (381)	1.1" (28)	0.9" (23)	4,000	1/4"	13

Note: Recommended hose size is 5/16".
 Performance figures are at 90 psi air pressure.

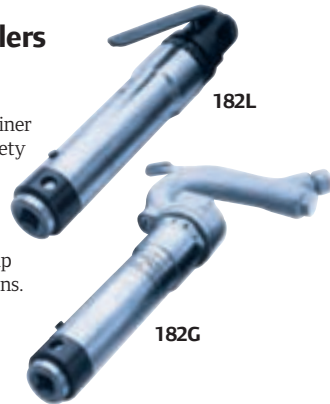
Chisel and Needle Scalers

Features

- Long nozzle section extends retainer life and permits the use of a variety of accessories.
- Positive chisel retainer is simple to operate.
- Strengthened head block holds up under the most extreme conditions.

Standard Equipment

- Positive lock chisel retainer.



Needle Scaler Kit

182K1 Scaler Kit

- Model 182L scaler.
- Complete NS11A needle attachment with 5" long needles.
- One extra set of NS11-22-19 needles 5" long.
- One set of NS11-122-19 needles 7" long.
- One WF-14A - 6 - 1/8" angle chisel.
- One WF-14B - 6 - 1/8" straight chisel.
- One WF-14F - 7" flat chisel.
- PKB-1 or vinyl carrying case.



Model	Throttle	lb (kg)	in (mm)	in (mm)	in (mm)	bpm	in	cfm
172L	Lever	3.7 (1.7)	7.6" (193)	0.5" (13)	0.9" (23)	5,500	1/4"	12
182G	Grip	5.3 (2.4)	12.8" (325)	1.1" (28)	0.9" (23)	4,000	1/4"	13
182L	Lever	4.1 (1.9)	9.0" (229)	1.1" (28)	0.9" (23)	4,000	1/4"	13

Note: Recommended hose size is 5/16".
Performance figures are at 90 psi air pressure.

Scaler and Needle Scaler Accessories

Needle Scaler Attachments

Needle scaler attachments are available for use on Series 172 or Series 182 scalers already in service. Order by one of the symbols shown.

Attachment Symbol	Description	
NS11A	5" (127 mm) standard steel needles	Round
NS11AS	5" (127 mm) stainless steel needles	Needle
NS11A7	7" (178 mm) extended steel needles	Housing
NS11BB	5" (127 mm) beryllium copper needles	Rectangular
NS11BS	5" (127 mm) stainless steel needles	Needle
NS11B7	7" (178 mm) extended steel needles	Housing

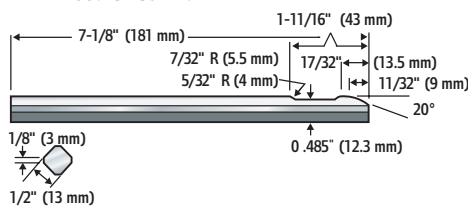
Replacement Needles

Set of 19 needles.

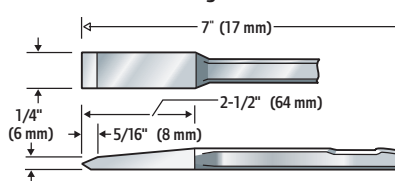
Part Number	Description
NS11-22-19	5" (127 mm) standard steel needles
NS11-B22-19	5" (127 mm) beryllium copper needles
NS11-S22-19	5" (127 mm) stainless steel needles
NS11-122-19	7" (178 mm) extended steel needles

Chisels and Star Drills for Series 172 and Series 182 Scalers

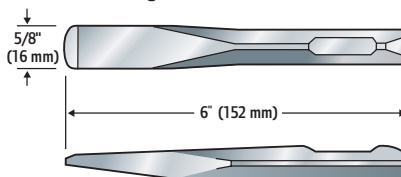
WF-14-007 Chisel Blank



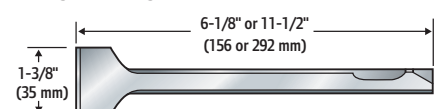
WF-14F-7 Flat Scaling Chisel



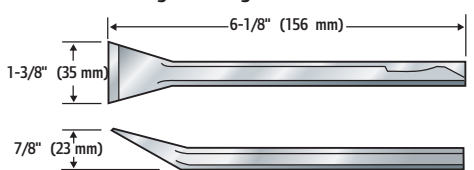
WF-14G-6" Gouge Chisel



WF-14B-007 or WF-14B-012 Straight Scaling Chisel



WF-14A-007 Angle Scaling Chisel



Finishing Tools

Classic Line Die Grinders

Rated Power: 20,000 – 85,000 rpm/0.1 hp (0.08 kW)

Standard Equipment

- Collet with insert.
- Collet wrenches.
- 6' x 7/32" ID (1.8 m x 6 mm) air hose and 18" exhaust overhose on models GH011A-600.
- 7' x 3/16" ID (2.1 m x 4.8 mm) air hose on models 7978, 7980, and 7114-E.
- 39830 cartridge air filter on models 7980 and 7114-E.

Turbine Grinders

Rated Power: 85,000 rpm/0.1 hp (0.08 kW)

Capacity: 1/8" carbide burr 3/8" mounted stone

- Ideal high-speed tools for final cleaning and polishing of dies.

Pencil Grinders

Rated Power: 60,000 rpm/0.1 hp (0.08 kW)

Capacity: 1/4" carbide burr 1/4" mounted stone

- Excellent for intricate grinding applications, including mold finishing.
- Trim, comfortable design enables precise control.
- Choice of rear exhaust or front exhaust.



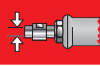




Die Grinders

Rated Power: 20,000 rpm/0.1 hp (0.08 kW)

Capacity: 1/4" carbide burr 1/2" mounted stone

- Ideal for mold finishing, light deburring, and flash removal.



Model	 rpm	 Throttle Style	 Output	Exhaust	 Spindle Offset	 oz (kg)	 @ Free Speed	 @ Free Speed	Standard Collet	
	rpm		Output		in (mm)	in (mm)	cfm	dBa	Insert	
7980-2	85,000	Lever	1/8" Collet	Front	0.6" (14)	5.6" (143)	14.0 (0.4)	9	84	31812-4
7980-A	85,000	Twist	1/8" Collet	Front	0.6" (14)	5.6" (143)	14.0 (0.4)	9	84	31812-4
7978	60,000	Slide	1/8" Collet	Front	0.4" (9)	5.6" (143)	5.5 (0.16)	6	80	46119-2
GH011A-600-1	60,000	Twist	1/8" Collet	Rear	0.3" (8)	5.3" (136)	2.6 (0.07)	7	77	47568-1
7114-E	20,000	Lever	1/8" Collet	Front	0.5" (12)	6.0" (152)	13.0 (0.37)	6	79	31812-4

Optional Collet Inserts

For Models	Part Number	Description
7980 and 7114-E	31812 - ()	Collet insert
7978	46119 - ()	Collet insert
GH011A	47568 - ()	Collet insert

Note: Grinders have 1/8" NPT inlet; 7/32" hose is recommended.
Performance figures are at 90 psi air pressure.

Pencil Grinders

Carbide Burr and Mounted Stone



DG600G2

Standard Equipment

- Collet with 1/8" insert.
- Collet wrenches 47579, 47580.
- 6' x 7/32" ID (1.8 m x 6 mm) air hose and 18" exhaust overhose.

Accessories

- 3 mm collet 47568-2.
- 3/32" collet 47568-3.
- DG600G2K grinder kit contains model DG600G2 die grinder plus a molded carrying case, collet wrenches, exhaust hose assembly, inlet hose assembly and six 1/8" shank carbide burrs, including ball, tapered, tree, and assorted cylindrical burrs.

Model	rpm	Throttle Style	Output	Exhaust	Spindle Offset	in (mm)	@ Free Speed cfm	@ Free Speed dBA	Standard Collet Insert
DG600G2	60,000	Twist	1/8" Collet	Rear	0.3" (8)	5.3" (136)	7	77	47568-1
DG600G2K	60,000	Twist	1/8" Collet	Rear	0.3" (8)	5.3" (136)	7	77	47568-1

Note: Grinders have 1/8" NPT inlet; 7/32" hose is recommended.
Performance figures are at 90 psi air pressure.

Air Engraving Pen Kit

Features

- Knurled zoom throttle provides positive control.
- Steel housing dampens vibration, improves operator control.
- Variable speed permits tool to be used on a wide selection of materials.
- Carbide-tipped stylus holds percussive point.
- Easy to repair, reducing downtime.
- Three sets of tool flats eliminate need for special repair tools.

EP50K Engraving Pen Kit

- Model EP50 engraving pen, medium stylus standard.
- Flexible hose (DG100-130: 6' x 3/16").
- Three assorted styluses (fine, medium, coarse).
- Molded plastic carrying case DG10-RF.

EP50K



Optional Equipment

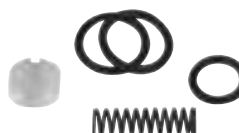
- Fine-point stylus EP50-515 (black).
- Medium-point stylus EP50-516 (steel color).
- Coarse-point stylus EP50-517 (green).
- Hose assembly (includes 1/8" NPT fittings) DG100-130.
- Stylus grinding collet EP50-514.

The Ingersoll Rand EP50 engraving pen is designed to meet your industrial engraving needs. Variable zoom throttle permits a wide range of engraving possibilities from hard alloys to brittle ceramics. The engraving pen can be easily disassembled with standard mechanic's tools. Comfort, quietness, and power have been ergonomically designed into this versatile tool. The engraving pen, including a standard stylus, can be purchased separately as model EP50.

Model	oz (kg)	in (mm)	in (mm)	bpm	dBA	Hose Pipe Tap in (mm)	Size Hose Recomm. in (mm)
EP50	5 (0.14)	5.6" (137)	0.3" (8)	18,750	75.5	1/8" (3)	7/32" (5.6)
EP50K (kit)	5 (0.14)	5.6" (137)	0.3" (8)	18,750	75.5	1/8" (3)	7/32" (5.6)

Note: Medium-point stylus included.

Part Number	For Use With
ENGRAVING PEN TUNE-UP KIT	
EP50-TK1	EP50 engraving pen



Random Orbital Sanders



Cyclone random orbital sanders deliver unsurpassed reliability, with moisture-resistant composite rotors, fully machined counterweights, and large counterweight bearings. They are lube-free when used with conventional air systems. Their high-performance air motors ensure high speed under load, and the finest in swirl-free finishes.

Cyclone Select Series

They are the ultimate in lightweight, efficient design, with comfort and performance to match. The Select Series' composite housing keeps overall weight at a mere 1.8 lb, with reduced vibration and quiet operation at just 78 dBA. High-efficiency air motors deliver 12,000 rpm performance. Vacuum-ready models extract dust and particulates through and around the pad, then out a dedicated port, keeping foreign matter away from the motor. Special shroud material prevents surface-marring, and lightweight, flexible hoses provide

excellent maneuverability. Non-vacuum models can easily be converted to vacuum-ready with the simple addition of a vacuum adaptor, petal pad, and different shroud.

CycloVac System

This version of the Select Series features a unique self-generated vacuum system, with twice the power of the closest competitor. An educator assembly produces a high-velocity vacuum of tool exhaust air that draws air and dust from the sanding area. A diffuser then channels both streams of air through the hose and into a double-bagged collection system. The result is a truly effective, self-contained, self-generating vacuum system in one compact, convenient package.

Cyclone Standard Series

These models incorporate traditional aluminum housings with textured comfort grips, and are available in non-vacuum, vacuum-ready, and venturi-vacuum models.

Cyclone Select Series

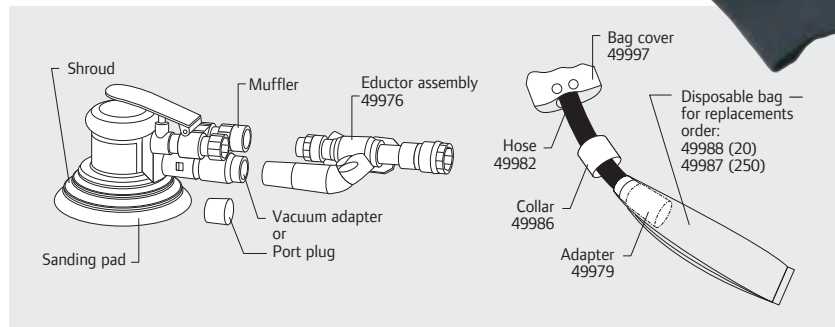
The Cyclone Select Series composite housing keeps overall weight at just 1.83 lb, with reduced vibration and quiet operation at just 78 dBA.

- High-efficiency air motors deliver true 12,000 rpm.
- One sander fits all hand sizes, with interchangeable soft rubber grip rings that fit securely around the top of the housing.



CycloVac System

- Unique double-bagging integral vacuum system provides a cleaner work environment.
- Delivers twice the vacuum power of the nearest competitor, and uses a disposable dust bag enclosed in a protective cover.

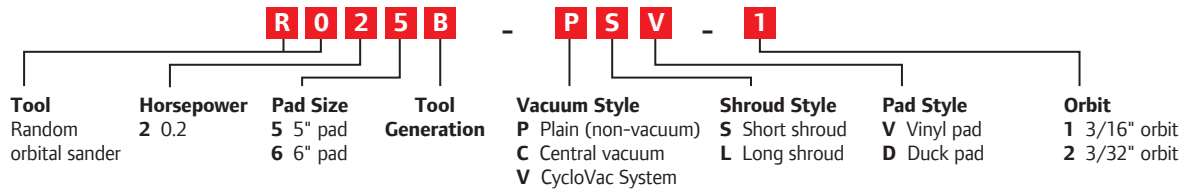


Cyclone Standard Series

- Select from non-vacuum models, vacuum-ready models for use with central or portable vacuum systems, or venturi-vac models with a self-contained hose and dust collection bag.
- Non-vacuum models can be converted to vacuum-ready status with an available conversion kit.
- Comfortable cushion grip provides excellent feel and control.

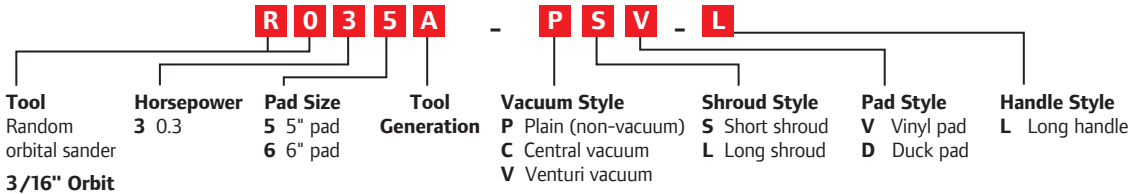


Cyclone Select Series and Cyclo Vac System (composite housing)



Model	Shroud Style	Pad Face in (mm)	rpm	hp	@ Free Speed scfm	Female	lb (kg)
NON-VACUUM							
R025B-PSV-1*	Short	5" (127)	12,000	0.2	15.8	5/16"-24	1.8 (0.8)
R026B-PSV-1	Short	6" (152)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
R025B-PSV-2	Short	5" (127)	12,000	0.2	15.8	5/16"-24	1.8 (0.8)
R026B-PSV-2	Short	6" (152)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
VACUUM-READY**							
R025B-CSV-1*	Short	5" (127)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
R026B-CSV-1	Short	6" (152)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
R025B-CLV-1	Long	5" (127)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
R026B-CLV-1	Long	6" (152)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
CYCLOVAC***							
R025B-VLV-1**	Long	5" (127)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
R026B-VLV-1**	Long	6" (152)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)

Cyclone Standard Series (aluminum housing)



Model	Long Handle in (mm)	Pad Face	rpm	hp	@ Free Speed scfm	Female	Palm style lb (kg)	Long handle lb (kg)
NON-VACUUM								
R035A-PSV*	R035A-PSV-L 5" (127)	Vinyl	10,000	0.3	18.5	5/16"-24	2.3 (1.0)	2.6 (1.2)
R036A-PSV*	R036A-PSV-L 6" (152)	Vinyl	10,000	0.3	18.5	5/16"-24	2.3 (1.0)	2.6 (1.2)
R035A-PSD	5" (127)	Duck	10,000	0.3	18.5	5/16"-24	2.3 (1.0)	2.6 (1.2)
R036A-PSD	6" (152)	Duck	10,000	0.3	18.5	5/16"-24	2.3 (1.0)	2.6 (1.2)
VACUUM-READY**								
R035A-CSV*	5" (127)	Vinyl	10,000	0.3	18.5	5/16"-24	2.4 (1.1)	N/A
R036A-CSV	6" (152)	Vinyl	10,000	0.3	18.5	5/16"-24	2.4 (1.1)	N/A
VENTURI-VAC***								
R035A-VLV**	5" (127)	Vinyl	10,000	0.3	18.5	5/16"-24	2.4 (1.1)	N/A

Note: *Most popular models.

**Sanding pads have industry-standard hole pattern for "thru-the-pad" vacuum pickup.

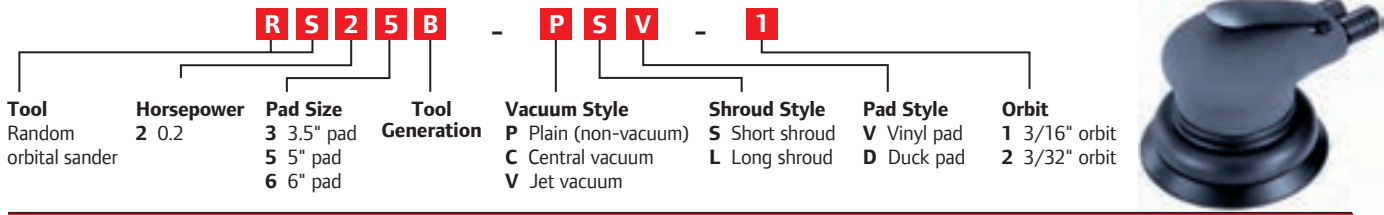
For use with coated sanding discs with pre-punched holes.

Air inlet is 1/4" NPT female; recommended air pressure is 90 psi.

Recommended hose size is 5/16" (8 mm) I.D.

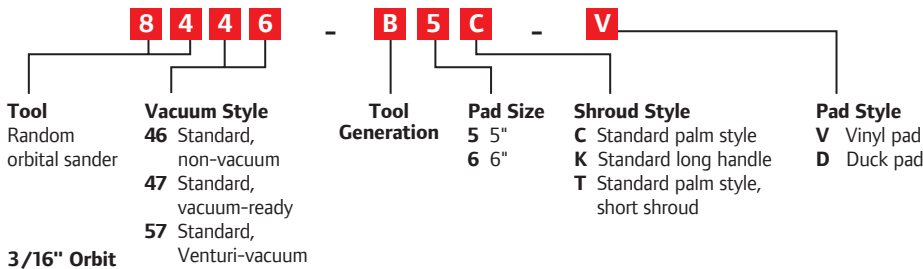
Note: ***Standard Equipment: (3) 49973 Bag
 (1) 49997 Bag cover
 1 49979 Adapter
 1 49982 Hose
 1 49986 Collar

ARO Sanders — Elite Sanders (composite housing)



Model	Shroud Style	Pad Face in (mm)	rpm	hp	@ Free Speed scfm	Female	lb (kg)
NON-VACUUM							
RS23B-PLV-1	Long	3.5" (89)	12,000	0.2	15.8	5/16"-24	1.8 (0.8)
RS23B-PLV-2	Long	3.5" (89)	12,000	0.2	15.8	5/16"-24	1.8 (0.8)
RS25B-PSV-1*	Short	5" (127)	12,000	0.2	15.8	5/16"-24	1.8 (0.8)
RS26B-PSV-1	Short	6" (152)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
VACUUM-READY**							
RS26B-CSV-1	Short	6" (152)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
RS25B-CLV-1	Long	5" (127)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
RS26B-CLV-1	Long	6" (152)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
CYCLOVAC***							
RS25B-VLV-1**	Long	5" (127)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)
RS26B-VLV-1**	Long	6" (152)	12,000	0.2	15.8	5/16"-24	1.9 (0.9)

ARO Sanders — Classic Sanders (aluminum housing)



Model	Pad Face in (mm)	rpm	hp	@ Free Speed scfm	Female	lb (kg)
CLASSIC LINE						
8446-B5C-V	5" (127)	10,000	0.3	18.5	5/16"-24	2.3 (1)
8446-B6C-V	6" (152)	10,000	0.3	18.5	5/16"-24	2.3 (1)
8447-E5T-V	5" (127)	10,000	0.3	18.5	5/16"-24	2.4 (1)
8447-E6T-V	6" (152)	10,000	0.3	18.5	5/16"-24	2.4 (1)
8457-B5T-V	5" (127)	10,000	0.3	18.5	5/16"-24	2.4 (1)

Note: *Most popular models.
 **Sanding pads have industry-standard hole pattern for "thru-the-pad" vacuum pickup.
 For use with coated sanding discs with pre-punched holes.
 Air inlet is 1/4" NPT female; recommended air pressure is 90 psi.
 Recommended hose size is 5/16" (8 mm) I.D.

Note: ***Standard Equipment: (3) 49973 Bag
 (1) 49997 Bag cover
 1 49979 Adapter
 1 49982 Hose
 1 49986 Collar

Safety Information for Finishing Tools

General Safety Tips

Ingersoll Rand grinders are built to reflect a host of governmental and industry safety codes, regulations, and standards. Others may apply as well, depending upon your specific location. Familiarize yourself with all of them before using any finishing tool.

Keep hands, loose clothing, and long hair away from the rotating ends of tools.

Personal Protective Equipment (PPE)

PPE is not intended as a substitute for safe workplace practices or well-engineered tools.

In general, PPE should be appropriate to the tool used and the type of work performed. Be sure to inspect, clean, repair, and properly store PPE.

Eye and Face Protection

Protective eyewear must be worn by everyone in or around the area where the tool is being operated. Types of protection include approved safety glasses with side protection, goggles, and face shields. The best protection is provided when safety glasses or goggles are worn with face shields. Eye protective devices should allow for air to circulate between the eye and the lens.

Head Protection

There are a variety of situations in which hard hats must be worn, such as wherever there is danger of falling or flying objects, or electrical hazards.

Hearing Protection

Grinders generate considerable noise when operated. Appropriate ear muffs or ear plugs should be worn.

Safety Shoes/Boots

Safety shoes with impact, compression, and/or puncture protection must be worn in work areas where those types of hazards exist.

Gloves

Make sure the gloves being used are the right type for the job, since insufficient gloves may provide no protection. Gloves should fit properly and shouldn't increase the grip force required to control the tool. When wearing gloves, always be sure that they won't prevent the throttle mechanism from being released.

Breathing Apparatus

Respiratory protection suited to particular dust or particle hazards may be required. Appropriate respirators must be worn if it is not possible to ventilate the work area properly.

Body Protection

Under certain circumstances, body protection may also be needed. This could include coveralls, aprons, arm guards, etc.

Air Delivery System

There are a number of precautions you should take to ensure that your air delivery system is operating safely and efficiently.

Air Pressure

Use clean, dry air at 90 psi (6.2 bar/620 kPa) maximum air pressure at the inlet. Higher pressure can cause hazardous situations such as excessive



grinder speed, line rupture, and incorrect torque output. Pressure below 90 psi isn't unsafe, but will limit the tool's power.

Air Hose

Periodically check air hoses for any defects, such as kinks, leaks, fraying, etc., which can cause line ruptures and injuries. Correct any defects before connecting hoses to any tools.

Protect air supply lines and hoses from traffic damage or other equipment — preferably by suspending them overhead.

Air Breaker

Use properly sized air breakers (safety air fuses) at the source of the air supply or branch lines if working with hoses with inside diameters larger than one-half inch. If a hose fails, an air breaker limits hose whipping. Never approach a whipping hose since it can cause serious injury. Turn off the air supply before approaching the hose.

Couplings and Connections

Use correctly sized quick-disconnect couplings on grinders with abrasive wheels smaller than 4 inches in diameter. These help maintain maximum air pressure along the length of an air line.

Make sure all connections are secure, especially threaded tool connections, which can work loose if not properly tightened.

A safety cable should also be used when using hoses with inside diameters larger than one-half inch.

Connecting the Tool

Before connecting an air line to a tool, safely blow out the line to remove any moisture or dirt.

Always have the air supply turned off when attaching or detaching any air tool. If you're using a grinder with an abrasive wheel 4 or more inches in diameter, be sure to have a hose whip threaded into the air inlet. Before connecting the air line to the whip, be sure to clean off any dirt or grit that may have accumulated on the fittings.

Abrasive Wheel Handling and Mounting

If an abrasive wheel is carelessly handled, mounted, stored, or used, it can disintegrate and cause serious injury. It's vital that you follow important safety precautions.

Wheel Selection and Speed Ratings

Choose and mount abrasive wheels with a minimum amount of handling. Take extra care to avoid dropping a wheel.

Always select the right wheel for the job and the tool being used — make sure the wheel has a speed rating equal to or greater than the grinder itself. Refer to the manufacturer's plate on the grinder, which indicates the tool's rated speed and maximum wheel size. Check the wheel's label for the manufacturer's maximum rated safe operating speed. Never exceed this speed. Don't use a wheel if it doesn't show a rated speed.

Don't use a grinder without first checking its speed with a calibrated tachometer.

Wheel Inspection

Inspect all grinding wheels for chips or cracks prior to mounting. Do not use a wheel that is chipped, cracked, or otherwise damaged.

Abrasive Wheel Mounting (through-hole design)

When mounting these types of wheels, always use the flanges that were supplied with the grinder. Make sure they're the same diameter, aren't accidentally reversed, and have matched recesses. Mismatched or reversed flanges can stress the wheel and cause it to fail. Never use washers in place of flanges.

The wheel and the flanges must be wiped clean to ensure even contact, with no pressure points. Clamp the wheel flanges correctly against the blotter with adequate pressure against the wheel.

The grinder's arbor shank should extend through the wheel, with threads showing both in and through the outside flange. Wheels with through-hole designs should have about 0.007" (0.17 mm) maximum diametral clearance around the arbor shank. Do not use reducing bushings to adapt a wheel to any arbor shank unless such bushings are supplied, or recommended, by the wheel manufacturer.

Tighten the end nut carefully with a hand wrench — just tight enough to hold the wheel firmly in place. Over-tightening the end nut can stress the wheel and cause it to break.

Blotters

A blotter is a compressible washer that cushions the flanges, distributes their pressure evenly, and protects them from the abrasive surface of the wheel. Be sure to use a new blotter if mounting a wheel that requires one, but doesn't already have one affixed by the wheel manufacturer. Don't use loose, scuffed, or damaged blotters.

Abrasive Wheel Mounting (threaded wheel design)

Threaded abrasive wheels have threaded steel bushings molded into the wheel so they can be threaded onto the end of the grinder spindle. When mounting a threaded wheel, the back flange should be flat, without a recess. If a flange with recesses is used, the bushing can be pulled out of the wheel when it's tightened into place. Use a wheel retaining screw if one is provided with your grinder.

Speed Test

After an abrasive wheel is mounted, a full speed test should be run. Hold the grinder under a steel bench or inside a casting, making sure everyone is out of the way and that the open part of the guard is not facing anyone. Turn the tool on and hold it at full throttle for one minute. If the wheel is damaged or weakened, this is usually when it will fail. If the wheel does fail and you need to mount a replacement wheel, be sure to turn off the air, disconnect the hose, and follow the mounting steps closely.

If the grinder's guard was struck by a disintegrating wheel, install a new guard before replacing the wheel.

Protective Grinder Features

Ingersoll Rand puts considerable effort and resources into designing the safest, most ergonomic air grinders possible. Safety features built into our grinders should never be overridden or compromised.



Wheel Guards

The wheel guard is one of the most important safety features on a grinder. There are two types of guards — adjustable and integral (i.e., non-adjustable). All wheels guards should be mounted between the wheel and the operator, and be tightened securely.

Never use a grinder without the manufacturer's furnished wheel guard installed. Do not use an unguarded grinder except for internal work where the work provides protection. Always replace a damaged or severely worn wheel guard.

Automatic Shut-off Lever

Some grinder models feature an automatic throttle shut-off lever design.

Integral Spring-loaded Throttle Latch

Most pneumatic tools shut off when the trigger lever is released. Some grinder models feature an integral spring-loaded latch that also prevents the tool from running if it's accidentally dropped or laid on the lever.

Safe Grinding Techniques

Even properly handled, mounted, and guarded grinder wheels can fail and cause injury if they're used incorrectly or carelessly.

The work area must be uncluttered and ventilated. Make sure all co-workers are a safe distance away.

Never carry or drag a tool by the air hose. Avoid accidental starting by keeping your hand away from the trigger until you're ready to use the tool.

Be sure you have good footing and a balanced posture. Secure the work in place using clamps or a vice. Never clamp a hand-held grinder in place or grind above anyone else, or above your head. Avoid sending sparks upward.

Begin grinding by slowly applying pressure to the work surface until the grinder wheel gradually warms up. Make smooth contact with the surface and avoid excessive pressure, which can overload the wheel and cause catastrophic failure.

Never grind using the flat side of cut-off wheels. Use a wheel and/or grinder designed for that specific application.

Never put a running grinder down on your bench, work surface, or floor. When finished grinding, let the wheel come to a halt while it's still in contact with the work surface.

Keep the grinder wheel away from any contact with fluids, such as water or oil. A wheel can quickly absorb enough liquid to cause it to become dangerously imbalanced.

Other Resources

Every new Ingersoll Rand tool comes with an accompanying Product Safety Information manual. These manuals cover important safety topics, as well as other user information. You should take the time to review this information before using the tool. You can print copies of any Ingersoll Rand Product Safety Information manual, or other product information manuals from our website, ingersollrandproducts.com.

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" (0.17 mm) 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 one-third 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.


	<p>WARNING</p> <p>Always wear eye protection when operating or performing maintenance on this tool.</p>
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	<p>WARNING</p> <p>Operate at 90 psig (6.2 bar / 620 kPa) Maximum air pressure.</p>
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	<p>WARNING</p> <p>Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool.</p>
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	<p>WARNING</p> <p>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.</p>
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	<p>WARNING</p> <p>Always wear hearing protection when operating this tool.</p>
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	<p>WARNING</p> <p>Keep body stance balanced and firm. Do not overreach when operating this tool.</p>
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	<p>WARNING</p> <p>Do not carry the tool by the hose.</p>
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	<p>WARNING</p> <p>Do not use damaged, frayed or deteriorated air hoses and fittings.</p>
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