



Howmet Fastening Systems

HUCK®

Tooling Catalog



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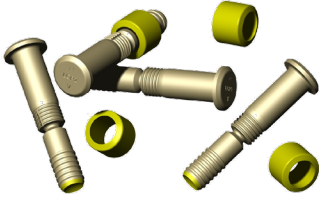


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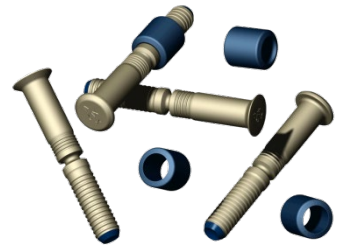


Fasteners Supported by HUCK® Tools

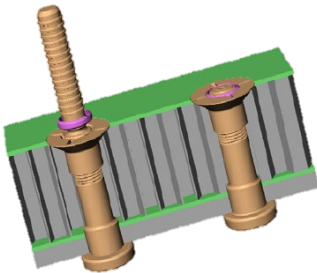
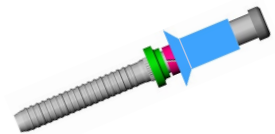


LGP® Lockbolt & GP® Lockbolt: LGP® lockbolts and GP® lockbolts product lines offered by HFS are available in both inch and metric applications, from $1/8$ " to $1/2$ ".

XPL® Lockbolt: XPL® lockbolts are eXtended Performance lockbolts with double grip capability. They use the same tools as LGP® lockbolts, but with a diameter range from $5/32$ " to $5/8$ ".



Blind rivets/bolts: Blind rivets and blind bolts are reliable and easy to use products that are ideal for structures with limited access. Blind rivets and blind bolts include NAS1919/21, MS21140/41, EN6122/27/28/29, and others from $1/8$ " to $1/2$ ".



ASP® Fastener: ASP® fasteners are specifically designed for honeycomb applications where damage prevention is critical. HFS installation tools are dedicated for ASP® fastener installation with a diameter range from $3/16$ " to $5/16$ ".

We offer a variety of installation and grip gages for multiple applications, you can find these in Product Bulletins "**PB162 Grip Gage**" and "**PB509 Pin Position-Swage Gage Index**". Please contact customer service for any additional questions or information.



HUCK Tool Types



Pneudraulic:

Pneudraulic tools are designed to be lighter weight with an ergonomic handle to help reduce operator fatigue. These tools are powered by compressed air and, at 90 PSI, can efficiently install fasteners up to $\frac{3}{8}$ ". Pneudraulic tools feature a unique oil reservoir which allows for reduced maintenance frequency.

Battery Powered:

Battery Powered installation tools can install both lockbolt and blind fasteners up to $\frac{1}{4}$ ". This platform uses the latest generation of 18V Li-Ion batteries offering an extended lifetime and quick charge capability. With no external power source required, the battery-powered tool is the ideal solution when air or electric supply is not available. Additionally, eliminating the need for hoses or wires improves the ergonomics of the tool.



Hydraulic:

Hydraulic tools are capable of handling high production rates while installing fasteners from $\frac{1}{8}$ " to $\frac{5}{8}$ " in diameter. Utilizing a max pressure of 8700 PSI, the Hydraulic tool options are lighter and smaller than pneudraulic tools. These tools will require a Powerig® Hydraulic Power source.



Powerig® Hydraulic Power Source

940 Powerig® Hydraulic Power Source

The 940 is an HFS standard Powerig® Hydraulic Power Source used in pull-in or swaging applications for fasteners up to $\frac{5}{8}$ " in diameter. Adjustable pressure settings allow the unit to reach a max pull pressure of 8,400 PSI and a return pressure of 6,100 PSI, with the capability to adjust pressures separately if needed. This Powerig® family comes standard with a two-stage pump that can output a flow rate of 70 cubic inches per minute or 1.15 liters per minute at a pressure above 1,000 PSI and a higher flow rate while working below 1,000 PSI. The 940 Powerig® is available in both single-phase 120 Volts or 220 Volts.

968 Powerig® Hydraulic Power Source

The 968 is an HFS standard Powerig® Hydraulic Power Source that has many of the same features as the 940 but utilizes an air motor instead of electric. The 968D model comes with an optional dolly assembly for convenient portability.



940 Powerig® Hydraulic Power Source: 120 Volts or 220 Volts, 50-60Hz, Single Phase.

Standard Nose Assemblies



Inline:

Available in Short, Standard and Long configurations for most lockbolts, blind rivets, blind bolts, and ASP® fasteners.



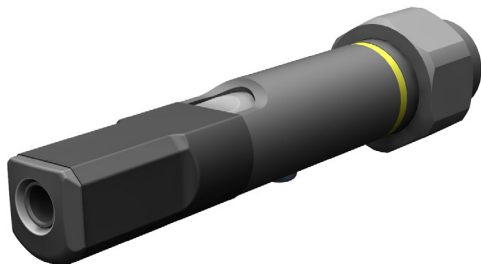
Sharkbite:

Available for GP® lockbolts and LGP® lockbolts.



Offset:

Available in Standard, Extended, Straddle and Clearance configurations for most lockbolts, blind rivets, blind bolts, and ASP® fasteners.



Whalebite:

Available for LGP® lockbolts.

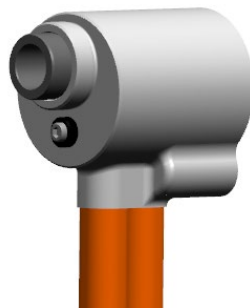


How to Use This Catalog

A chart similar to the one below is shown for each fastener family. It displays available noses and installation tools for each fastener diameter. The background colors on the table indicate the connection style. Tools with increased stroke length can be used for specific reduced stroke applications with the addition of an adapter or stroke limiter. Please consult HFS Engineering for special requests regarding tools.

Howmet Diameter	Dia. Inch / mm	Inline					Offset					
		Noses		Tools			Noses				Tools	
		Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Straddle		Pneudraulic	Hydraulic
					Offset (OR)	Offset + (OL)	Offset (ZR)	Offset + (ZL)				
5	.1640" 4.16 mm	99-2501	99-2502	(-)BV4500-118()	244X	2480	99LGP-05-ORAD	99LGP-05-OLAD	99LGP-05-ZRAD	99LGP-05-ZLAD	244OSX	206-500
6	.1900" 4.8 mm	99-2507	99-2508				99LGP-06-ORAD	99LGP-06-OLAD	99LGP-06-ZRAD	99LGP-06-ZLAD		
7	.2187" 5.55 mm	99-2675	99-2676				99LGP-07-ORAD	99LGP-07-OLAD	99LGP-07-ZRAD	99LGP-07-ZLAD		
8	.2500" 6.35 mm	99-2513	99-2514				99LGP-08-ORAD	99LGP-08-OLAD	99LGP-08-ZRAD	99LGP-08-ZLAD		
10	.3125" 7.9 mm	99-2519	99-2520		254	2583	99-3719	99-3719-1	99-17360G		254OS	208-625
12	.3750" 9.5 mm	99-2522	99-2523				99-3754	99-3754-1				
14	.4375" 11.1 mm	99-2657					99-3790					
16	.5000" 12.7 mm	99-2669										

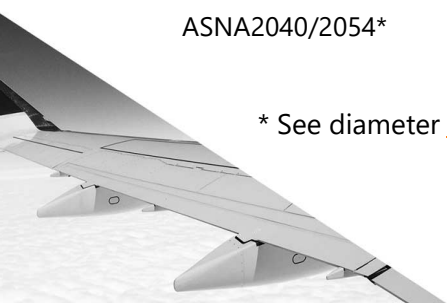
Did you know that HFS offers clearance models of their tool line?



Fastener Family – Lockbolt (Inch)

Cust. Pin P/N	Cust. Collar P/N	HFS Pin P/N	HFS Collar P/N	Tooling Selection List
ABS0548 / 0549* ASNA2391 / 2392* ASNA2043 / 2048* MBBN4481*	ASNA2025*	LGPL4SC/SP LGPL2SC/SP	3SLC-C	LGP® Lockbolt
ASNA2041/2042* ABS0095/ABS1781*	ASNA2045*	LGPL4/7/8/9SP/SC- V()B	SLFC-MV	
EN6050/6100/6120*	EN6051/6054*	LGPL2/4SP/SCEB	3SLC-F/G	
BACB31D / E / F	BACC30CT	ALP 7/8/12	ASF-LV	
B0206072 / B0206071 BACB31P6 / BACB31N6		ALC8SC-VC ALC12SP-VC		
ABS0998*	ABS0999*	XPL8BP	XBF-LV	XPL® Lockbolt
ABS0995/1504/1506*	ABS1505*	XPL4/8MC/MP	XMC-LV	
ABS0268/0269	ABS0270/0644	GPL8TC/TP-V	2TC-C/FTC-C	GP® Lockbolt
ASNA2040/2054*	ASNA2044*	GPL7TC/TP-EU	2TC-M	

* See diameter [conversion chart](#) to define Howmet diameter code



Interference Fit – Pull-In

Cust. P/N

HFS P/N

**Tooling
Selection List**

ABS0548/0549*
ABS0995/1506*

LGPL()S()-V()L
XPL()M()-V()L

B0206072 / B0206071
BACB31P6 / BACB31N6

ALC()S()-VC

Pull-In

Fastener Family – ASP®

ASNA2705*

ASP()()

ASP® Fastener

* See diameter [conversion chart](#) to define Howmet diameter code



Fastener Family – Lockbolt (Metric)

Cust. Pin P/N	Cust. Collar P/N	HFS Pin P/N	HFS Collar P/N	Tooling Selection List
35655 35656 35657	35665	MGPL6/7/8TP/TC-TX	M2TC-C	MGP® Lockbolt
JN0028 JN0029	JN0024	MGPL28/29 TP/TC	M2TC-C	
35660 35661	35666	MLGPL6/9 CTX	MSLFC-MV	MLGP® Lockbolt
JN0026 JN0027	JN0023	MLGPL2/22 SC/SP V	M3/4SLC-C	
JN0030 JN0031	JN0025	MLGPL28/29 SC/SP	MSLFC-MV	
EN4172 EN4173 EN4401 EN4402	EN4175 ECS6102	MLGPL28/29 SC/SP	MSLFC-MV	
DIN65548 DIN65549	DIN65355	MLGPL28/29 SC/SP	MSLFC-MV	
JN0177 JN0179	JN0201	MLGPL22/22 SC/SP EB	M3/4SLC-G	



Fastener Family – Blinds

Cust. P/N	HFS P/N	Tooling Selection List
NAS1919/1921S (U)	SMLS100/SMLSP (U)	Blind Rivets (U)
NAS1919/1921S	SMLS100/SMLSP	Blind Rivets
ASNA0077/0078 NAS9303/9304	HC3212/3213 HCXXXX / HRXXXX	HuckMAX® Blind Rivet
MS21140/21141 (W) MS90353/90354 (W) ASNA0026/0027(S) ASNA0341/0342/0363 A297/298/299	S/UPB/UB100 EU (W) S/UBP/UB100 T (W) S/UPB/100/130 MV (W)	Blind Bolts (W)
EN6122/6127/6128/6129	UABP/100/130/6127	UAB™ Blind Bolt



Lockbolt Diameter Correspondence

		Airbus				Bombardier Inc The Boeing Company Airbus SE
HFS Dia Code	Dia inch / mm	0095 0548 2041 0549 2042 0995 2043 0998 2048 1504 2054 1506 2391 1745 2392 1778 2705 1781	ABS 0268 ASNA 0269	MBBN 4481	6050 EN 6100 6120	B 206071 BAC 31P 206072 B 31N
5	5/32" 4.16 mm	2	5	4	040	5
6	3/16" 4.8 mm	3	6	5	050	6
7	7/32" 5.55 mm	3A	7		060	7
8	1/4" 6.35 mm	4	8	6	080	8
10	5/16" 7.9 mm	5	10			10
12	3/8" 9.5 mm	6	12			12
14	7/16" 11.1 mm	7				14
16	1/2" 12.7 mm	8				
18	9/16" 14.3 mm	9				
20	5/8" 15.9 mm	10				

All equipment listed in this catalog refers to a Howmet diameter code.
Metric and blind fastener diameter codes are nominal; no conversion is required.



LGP® Lockbolt Installation Tool Selection Chart

Howmet Diameter	Dia. Inch / mm	Inline					Offset				Tools	
		Noses		Tools			Noses					
		Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Straddle		Pneudraulic	Hydraulic
5	.1640" 4.16 mm	99-2501	99-2502	()-BV4500-118()	244X	2480	99LGP-05-ORAD	99LGP-05-OLAD	99LGP-05-ZRAD	99LGP-05-ZLAD	244OSX	206-500
6	.1900" 4.8 mm	99-2507	99-2508				99LGP-06-ORAD	99LGP-06-OLAD	99LGP-06-ZRAD	99LGP-06-ZLAD		
7	.2187" 5.55 mm	99-2675	99-2676				99LGP-07-ORAD	99LGP-07-OLAD	99LGP-07-ZRAD	99LGP-07-ZLAD		
8	.2500" 6.35 mm	99-2513	99-2514				99LGP-08-ORAD	99LGP-08-OLAD	99LGP-08-ZRAD	99LGP-08-ZLAD		
10	.3125" 7.9 mm	99-2519	99-2520	254	2583	99-3719	99-3719-1	99-1736DG	254OS	208-625		
12	.3750" 9.5 mm	99-2522	99-2523			99-3754	99-3754-1					
14	.4375" 11.1 mm	99-2657	2600-16-12	2600-16-12	99-3790	2600-16-12	2600-16-12	2600-16-12	2600-16-12	2600-16-12		
16	.5000" 12.7 mm	99-2669										

Colors in chart indicate nose connection style.

LGP® lockbolt noses are identified by a yellow color; a stripe on anvil for inline, a dot on face of nose for offset.

Items in Italics are made to order.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind Rivets & Bolts

→ ASP® Fastener



XPL® Lockbolt Installation Tool Selection Chart

Howmet Diameter	Dia Inch / mm	Inline					Offset					
		Noses		Tools			Noses				Tools	
		Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Straddle		Pneudraulic	Hydraulic
						Offset (OR)	Offset + (OL)	Offset (ZR)	Offset + (ZL)			
5	.1640" 4.16 mm	99-2501	99-2502	(-)BV4500-118()	244X	2480	99LGP-05-ORAD	99LGP-05-OLAD	99LGP-05-ZRAD	99LGP-05-ZLAD	244OSX	206-500
6	.1900" 4.8 mm	99-2507	99-2508				99LGP-06-ORAD	99LGP-06-OLAD	99LGP-06-ZRAD	99LGP-06-ZLAD		
7	.2187" 5.55 mm	99-2675	99-2676				99LGP-07-ORAD	99LGP-07-OLAD	99LGP-07-ZRAD	99LGP-07-ZLAD		
8	.2500" 6.35 mm	99-2513	99-2514				99LGP-08-ORAD	99LGP-08-OLAD	99LGP-08-ZRAD	99LGP-08-ZLAD		
10	.3125" 7.9 mm	99-2519	99-2520		254	2583	99-3719	99-3719-1	99-1736DG***		254OS	208-625
12	.3750" 9.5 mm	99-2522	99-2523		256		99-3754-XPL	99-3754-1XPL				208-750
14	.4375" 11.1 mm	99-2657										
16	.5000" 12.7 mm	99-2669										
18	.5625" 14.3 mm	99-2632LGP										
20	.6250" 15.9 mm	99-2634LGP										

Colors in chart indicate nose connection style.

All XPL® lockbolt tools will also work with LGP® lockbolt fasteners.

Items in *Italics* are made to order.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind Rivets & Bolts

→ ASP® Fastener



GP® Lockbolt Installation Tool Selection Chart

GP® Lockbolt Installation Tool

Howmet Diameter	Dia Inch / mm	Inline					Offset			
		Noses		Tools			Noses		Tools	
		Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Pneudraulic	Hydraulic
							Offset	Offset +		
4	.1250" 3.18 mm	99-2651								
5	.1640" 4.16 mm	99-2549T	99-2550T	(-)BV4500-118()	244X	2480	99GP-05-ORAD	99GP-05-OLAD	244OSX	206-500
6	.1900" 4.8 mm	99-2555	99-2556				99GP-06-ORAD	99GP-06-OLAD		
7	.2187" 5.55 mm	99-2681	99-2682				99GP-07-ORAD	99GP-07-OLAD		
8	.2500" 6.35 mm	99-2564	99-2565		254	2583	99GP-08-ORAD	99GP-08-OLAD		206-XPL-08
10	.3125" 7.9 mm	99-2567	99-2568				99-1720DG		254OS	208-625
12	.3750" 9.5 mm	99-2570			256		99-1756DG			

Colors in chart indicate nose connection style.
Items in Italics are made to order.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind Rivets & Bolts

→ ASP® Fastener



MGP® Lockbolt Installation Tool Selection Chart

Metric MGP® Lockbolt Installation Tool

Howmet Diameter	Inline					Offset					
	Noses		Tools			Noses				Tools	
	Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Straddle		Pneudraulic	Hydraulic
						Offset	Offset +	Offset	Offset +		
4 mm	99-2573	99-2574	()-BV4500-118()	244X	2480	99-3706	99-3706-1	99-3748		244OSX	206-500
5 mm	99-2579	99-2580				99-3707	99-3707-1	99-3749			
6 mm	99-2585	99-2586				99-3708	99-3708-1	99-3750			
8 mm	99-2591			254	2583	99-1722DG				254OS	208-625
10 mm	99-2594			256							

Colors in chart indicate nose connection style.

MGP® Lockbolt noses are identified by a blue color, a stripe on anvil for inline, a dot on face of nose for offset.

Items in Italics are made to order.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind Rivets & Bolts

→ ASP® Fastener



MLGP® Lockbolt Installation Tool Selection Chart

Metric MLGP® Lockbolt Installation Tool

Howmet Diameter	Inline					Offset					
	Noses		Tools			Noses				Tools	
	Standard	Long	Electric	Pneudraulic	Hydraulic	Std		Straddle		Pneudraulic	Hydraulic
						Offset	Offset +	Offset	Offset +		
4 mm	99-2525	99-2526	()BV4500-118()	244X	2480	99-3709	99-3709-1	99-3743		244OSX	206-500
5 mm	99-2531	99-2532				99-3710	99-3710-1	99-3744			
6 mm	99-2537	99-2538				99-3711	99-3711-1	99-3745			
8 mm	99-2543			254	2583	99-1721DG				254OS	208-625
10 mm	99-2546										

Colors in chart indicate nose connection style.

MLGP® Lockbolt noses are identified by a red color, a stripe on anvil for inline, a dot on face of nose for offset.

Items in Italics are made to order.

→ Inch Lockbolt

→ Metric Lockbolt

→ Blind Rivets & Bolts

→ ASP® Fastener



Pull-in GP® /LGP® /XPL® /MGP® /MLGP® /ALC®

Howmet Dia. code Inch fasteners	Metric fasteners dia.	Inline				Offset					
		Noses		Tools		Noses		Tools			
		Standard	Long	Pneudraulic		Hydraulic	Standard	Extended	Pneudraulic		Hydraulic
		Tool	Press. Regulator	Tool	Press. Regulator						
5	4 mm	<i>99-1825</i>	<i>99-1825-1</i>	202	127308-4	2480	<i>99-1833</i>	<i>99-1833-1</i>	244OSX	127308-3	206-500
6	5 mm	<i>99-1826</i>	<i>99-1826-1</i>		127308-6		<i>99-1834</i>	<i>99-1834-1</i>		127308-5	
7	N/A	<i>99-1824</i>	<i>99-1824-1</i>		127308-6		<i>99-1853</i>	<i>99-1853-1</i>		127308-5	
8	6 mm	<i>99-1827</i>	<i>99-1827-1</i>		127308-10		<i>99-1835</i>	<i>99-1835-1</i>		127308-9	
10	N/A	<i>99-1831</i>	<i>99-1831-1</i>	2057	127308-11	2583	<i>99-1836</i>		254OS	127308-7	208-750
12		<i>99-1832</i>	<i>99-1832-1</i>		127308-15		<i>99-1837</i>			127308-10	

Colors in chart indicate nose connection style.

Pull-in noses will be identified by a white color; a stripe on anvil for inline, a dot on face of nose for offset.

Pull-in tools are for interference fit applications and require appropriate pintail length on fasteners. To adjust the pressure of pneudraulic tools, refer to the pressure setting chart for preset air pressure regulator part numbers. To adjust the pressure supplied to hydraulic tools, a T-124833CE Pressure Gauge can be used in conjunction with a Powerig® Hydraulic Power Source to set pressures for all applications. To adjust pressure to the appropriate level, reference the pressure settings chart.

Items in Italics are made to order.

→ Inch Lockbolt

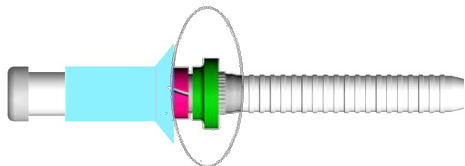
→ Metric Lockbolt

→ Blind Rivets & Bolts

→ ASP® Fastener



U Code Blind Rivet With Drive Anvil Washer



Blind rivets NAS1919/1921 U (with drive anvil washer)

Diameter code	Inline					Offset / 90°					
	Nose assy		Tool			Nose assy		Tool			
	Standard	Long	Electric	Pneudraulic	Hydraulic	Offset	90°	Pneudraulic	Hydraulic		
4			(-)BV4500 -118()	2012	2480	99HCM-MD-ORAC-46	99HCM-MD-RRAC-46				
5	99-3458-202	99-3459-202									
6								99-3717U			
8	99-2743U	99-2744U		2025		99-3718U		244OSX	206-500		

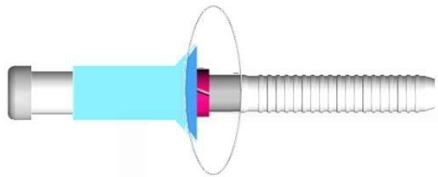
Colors in chart indicate nose connection style.
Items in *Italics* are made to order.



- Inch Lockbolt
- Metric Lockbolt
- Blind Rivets & Bolts
- ASP® Fastener



Blind Rivets Without Drive Anvil Washer



NAS1919/1921 Installation Tool

Diameter Code	Inline					Offset			
	Nose assy		Tool			Nose assy		Tool	
	Standard	Long	Electric	Pneudraulic	Hydraulic	Standard	Extended	Pneudraulic	Hydraulic
4	99-2725	99-2726	()-BV4500 -118()	2012	2480	99-3715	99-3715-1	244OSX	206-500
5	99-2731	99-2732				99-3716	99-3716-1		
6	99-2737	99-2738				99-3717	99-3717-1		
8	99-2743	99-2744				99-3718	99-3718-1		

Colors in chart indicate nose connection style.

The nose assemblies above come available with a blunt face for NAS with drive anvil washer by adding a "U" at the end of the part number.

For a blunt face nose nose assembly for the NAS with drive anvil washer, add a "U" at the end of the nose assembly part number.



→ Inch Lockbolt

→ Metric Lockbolt

→ Blind Rivets & Bolts

→ ASP® Fastener



HuckMAX® Blind Rivets

HuckMAX® & CherryMAX® Blind Rivets

Diameter code	Standard connection						Cherry* style connection				
	Nose assy				Tool			Nose assy			Tool
	Inline		Offset	90°	Electric	Pneudraulic	Hydraulic	Inline	Offset	90°	
	Standard	Long									Pneudraulic
4											
5	99-3458-202	99-3459-202	99HCM-MD-ORAC-46	<i>99HCM-MD-RRAC-46</i>	()-BV4500-118()**	2012	2480	99-3442	99-1333 or 99-1336	99-1334	2013
6											

CherryMAX® is a trademark of Cherry® Aerospace

* Cherry® style noses can be installed on Cherry® tools, and 2013 tool can be used with Cherry noses
Colors in chart indicate nose connection style.

99-1333 offers better accessibility in terms of center to edge distance compared to 99-1336. However, a reduced lifetime shall be expected due to single jaw design that limits pintail engagement.

Items in Italics are made to order.

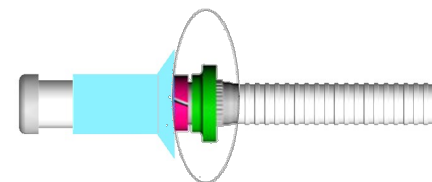


Blind Bolts

Blind Bolt Installation Tools (All except UAB™ Blind Bolt)

Diameter Code	Material	Inline					Offset			
		Nose assy		Tool			Nose assy		Tool	
		Standard	Long	Electric	Pneudraulic	Hydraulic	Standard	Extended	Pneudraulic	Hydraulic
4	All	99-2725(U)	99-2726(U)	(-)BV4500-118()	202	2480	99-3715(U)	99-3715-1(U)	244OSX	206-500
5		99-2701(W)	99-2702(W)				99-3712(W)	99-3712-1(W)		
6		99-2707(W)	99-2708(W)				99-3713(W)	99-3713-1(W)		
8	A286, Ti	99-2713(W)	99-2714(W)	2025	99-3714(W)	99-3714-1(W)				
	+ Steel	99-2716(W)	99-2717(W)	254	2583					
10	All	99-2719(W)	99-2720(W)							
12	Ti	99-2722(W)	99-2723(W)	256						
	+ A286									
	+ Steel									

Colors in chart indicate nose connection style.
 "W" between parenthesis is for fasteners with drive anvil washer. These tools will be used if fastener part numbers end with a "W".
Items in Italics are made to order.



Optional drive anvil washer shown in green

- Inch Lockbolt
- Metric Lockbolt
- Blind Rivets & Bolts
- ASP® Fastener



UAB™ Blind Bolt

UAB installation tools EN6122/6127/6128/6129

Diameter Code	Inline				Offset			
	Nose assy	Tool			Nose assy		Tool	
	Standard	Electric	Pneudraulic	Hydraulic	Standard	Extended	Pneudraulic	Hydraulic
5	99-2782	()-BV4500-118()	202 or 2025	2480	99-3764	99-3764-1	244OSX	206-500
6					99-3765	99-3765-1		
7	99UAB-MD-IRAC-78	2025						
8					99-3766	99-3766-1		
9	99UAB-MD-IRAG-90		254	2583				
10								

Colors in chart indicate nose connection style.
Items in Italics are made to order.

- Inch Lockbolt
- Metric Lockbolt
- Blind Rivets & Bolts
- ASP® Fastener

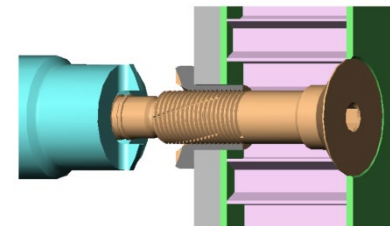


ASP® Fastener

ASP® Fastener Installation Tools

Diameter	Driver	Inline				Offset		
		Nose assy	Tool			Nose assy	Tool	
			Standard	Electric	Pneudraulic		Hydraulic	Standard
3/16"	106524	99-2642	(-)BV4500 -118()	2012	2480	99-3728	244OSX 206-500	
1/4"	106525	99-2645		202		99-3729		
5/16"	107735	99-2648				99-3730		






Colors in chart indicate nose connection style.
 Driver is to be used to tighten the sleeve. It is equipped with a 1/4" square recess. Torque is defined by the customer, according to the joint material, and level of performance required.
 Tools are to be used for swaging the lock ring.



- Inch Lockbolt
- Metric Lockbolt
- Blind Rivets & Bolts
- ASP® Fastener



Lockbolt Collar Cutters Type & Selection

		<i>Collar Cutter Compatibility per Collar Part Number</i>				
		Manual	Pneudraulic	Hydraulic		
						
105 Series	546/548	HCC – Series Cutters	CCFT Collar Cutters	CC-XBF Collar Cutters		
LGP	3SLC-C <small>ASNA2025</small>					
	SLFC-MV <small>ASNA2045</small>			<i>Coming Soon</i>		
XPL	XMC-LV <small>ABS1505</small>					
	XBF-LV <small>ABS0998</small>					

Note: SLFC-MV Collar Cutters coming soon.

Blue cell indicates cutter compatibility for each collar part number.
For non listed collars, contact HFS



Lockbolt Collar Cutters Type & Selection

Part Number per Diameter									
	-05 4.16 mm / 5/32"	-06 4.8 mm / 3/16"	-08 6.35 mm / 1/4"	-10 7.9 mm / 5/16"	-12 9.5 mm / 3/8"	-14 11.1 mm / 7/16"	-16 12.7 mm / 1/2"	-18 14.3 mm / 9/16"	-20 15.9 mm / 5/8"
Manual (Non-flanged)	105-5	105-6	105-8	105-10	105-12				
Pneudraulic 546/548 (Aluminum HuckBolt®)	548-05	546	548	548-10					
Hydraulic for SLFC-MV	5CCFT	6CCFT	8CCFT	10CCFT	12CCFT	14CCFT			
HCC Series (3Al-2.5V Ti)			HCC-08	HCC-10	HCC-12				
Hydraulic XBF Collars						14CC-XBF	16CC-XBF	18CC-XBF	20CC-XBF



Collar Removal – Power Source

Tool Mounted Collar Cutters *Tooling Compatibility*



546/548 collar cutters are designed to work with **244X** pneudraulic tools.

Hydraulic Collar Cutters *Powerig® Hydraulic Power Source Option*



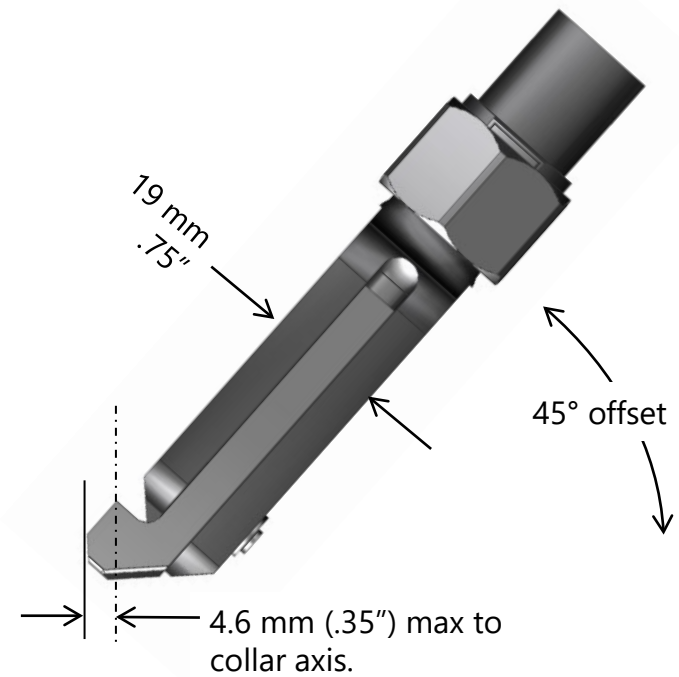
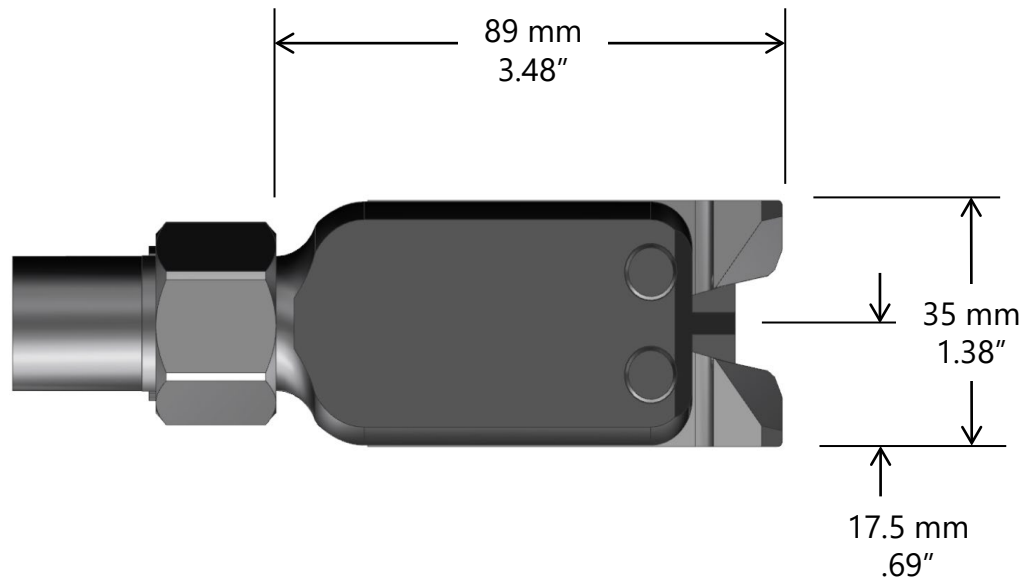
940 Powerig® Hydraulic Power Source



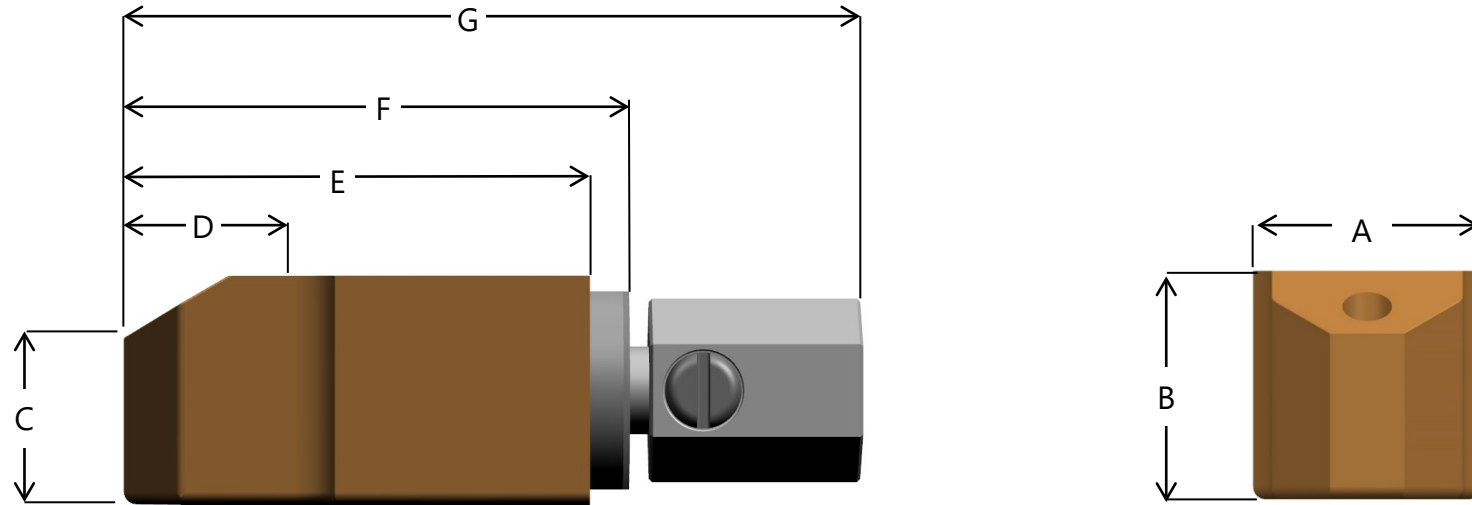
HCC- Series



546/548 Collar cutters



HCC Collar Cutters

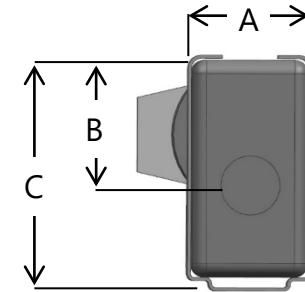
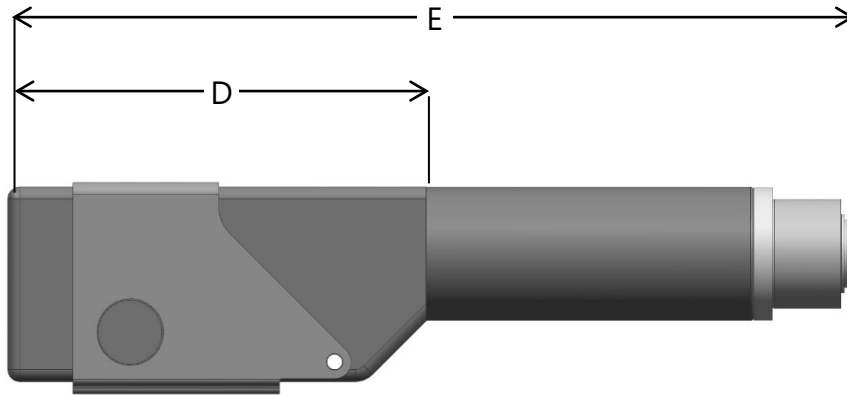


Dimensions in Inches/Millimeters							
	A	B	C	D	E	F	G
HCC-08	1.07 (27.18)	1.07 (27.18)	.784 (19.92)	N/A	2.19 (55.53)	2.38 (60.38)	3.47 (88.18)
HCC-10	1.43 (36.37)	1.43 (36.37)	1.143 (29.04)	.90 (22.86)	2.53 (64.36)	2.72 (69.11)	7.62 (193.62)
HCC-12	1.43 (36.37)	1.43 (36.37)	1.143 (29.04)	.849 (21.57)	2.58 (65.63)	2.77 (70.38)	7.72 (196.16)



CCFT Collar Cutters

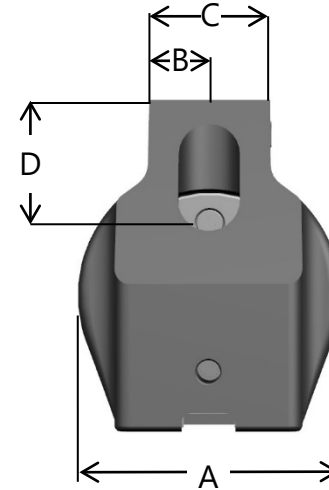
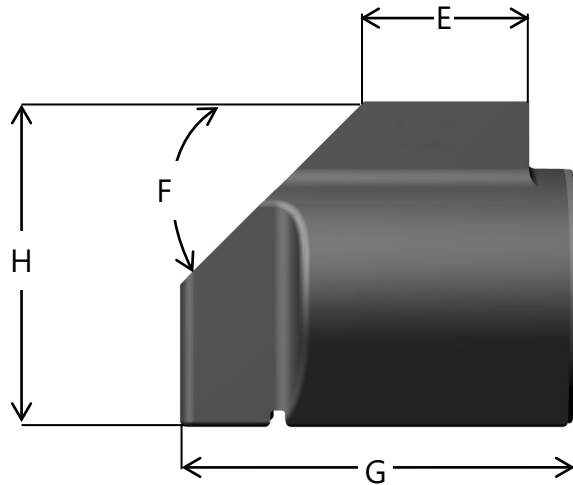
C Collar Cutters



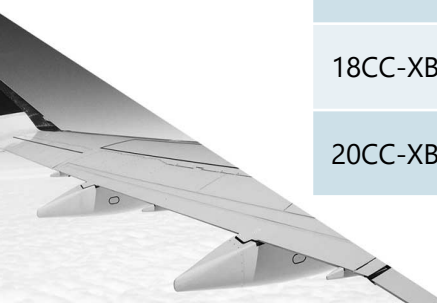
Dimensions in Inches/Millimeters					
	A	B	C	D	E
5CCFT	1.00	.94	1.85	2.85	6.24
6CCFT	(25.4)	(23.9)	(47.0)	(71.1)	(158.5)
8CCFT	1.00	1.20	1.85	3.00	6.24
	(25.4)	(30.5)	(47.0)	(76.2)	(158.5)
12CCFT	1.13	1.20	2.17	4.17	8.77
	(28.7)	(30.5)	(55.12)	(105.9)	(222.8)



CC-XBF Collar Cutters



Dimensions in Inches/Millimeters								
	A	B	C	D	E	F	G	H
14CC-XBF	2.00 (50.8)	.75 (19.1)	1.50 (19.1)	.93 (19.1)	.85 (19.1)	41°	2.69	3.56
16CC-XBF	2.70 (68.6)	.93 (23.6)	1.00 (19.1)	1.30 (19.1)	1.46 (19.1)	41°	3.38	4.08
18CC-XBF	2.12 (53.8)	1.06 (26.9)	2.12 (19.1)	.938 (19.1)	2.17 (19.1)	50°	3.81	5.30
20CC-XBF	3.13 (79.5)	1.06 (26.9)	2.12 (19.1)	1.57 (19.1)	1.56 (19.1)	45°	3.81	5.30



Tool Drawings & Specifications



**HOWMET
AEROSPACE**



LGP Lockbolt Pull-In Fastener Insertion System

Specifications

Note: The Pull-In system is affected by several variables, pin-break, tool pull capacity, interference fit dimensions for hole, and grip. The following pinbreak information is for titanium (V) material fasteners only.

Minimum Pinbreak Load

Use the correct pinbreak in the tooling computation to have the fastener properly installed when using a swage nose assembly for the final installation step.

Diameter	Fastener	Mm. Pinbreak lbs.
5/32"	LGPL2S()-V05-()	1600
	LGPL4S()-V05-()	1600
3/16"	LGPL2S()-V06-()	2200
	LGPL4S()-V06-()	2200
1/4"	LGPL2S()-V08-()	3400
	LGPL4S()-V08-()	3400
5/16"	LGPL2S()-V10-()	5350
	LGPL4S()-V10-()	5350
3/8"	LGPL2S()-V12-()	7700
	LGPL4S()-V12-()	7700

Hydraulic Tool Pull Capacities

Tool	Pull Capacity	Operating Pressure
206-500	5825	5700
208-625	10071	5400
2581	8240	8400
2582	10850	8400
2583	10850	8400
2480	5380	8400

Pneudraulic Tool Pull Capacities

Tool	Pull Capacity	Operating Pressure
2022	3477	90
244X	4606	90
254	8620	90
2057	4830	90

Note: Minimum pinbreak and tool capacity are used to calculate the air and hydraulic pressures that the tools must be set at to pull in the fastener and not break the pintail off.

Hydraulic Tooling

To select the proper Powerig hydraulic unit pull pressure setting

for hydraulic tools, use the following formula:

$$\frac{\text{min pinbreak} \times .85}{\text{tool pull capacity}} \times \text{operating pressure} = \text{pressure setting}$$

Example:

2400 tool pull capacity = 5710 lbs. at 8400 psi

3/16 LGPL2S()-V06-() fastener = 2200 min. pinbreak

$$\frac{2200 \times .85}{5710} \times 8400 = 2750 \text{ pull pressure}$$

Use T124833 set-up gauge, with manual, to set the proper pull pressure.

Pneudraulic Tooling

To select the proper pre-set regulator for pneudraulic tools, use the following formula:

$$\frac{\text{min pinbreak} \times .85}{\text{tool pull capacity}} \times 90 = \text{pre-set regulator size}$$

Example:

245 tool pull capacity = 7500 lbs. at 90 psi

3/16 LGPL2S()-V06-() fastener = 2200 min. pinbreak

$$\frac{2200 \times .85}{7500} \times 90 = 22.44$$

Air Pressure Regulators for Pneudraulic Tooling

Regulator Part No.	Calculated Preset Value (PSI)	Regulator Part No.	Calculated Preset Value (PSI)
127308-1	12 +/--1	127308-9	54 +/--3
127308-2	16 +/--1	127308-10	61 +/--3
127308-3	22 +/--2	127308-11	68 +/--3
127308-4	26 +/--2	127308-12	75 +/--3
127308-5	32 +/--2	127308-13	82 +/--3
127308-6	38 +/--2	127308-14	89 +/--3
127308-7	43 +/--2	127308-15	97 +/--3
127308-8	48 +/--2	127308-16	58 +/--2

Note: For more information on using the Pull-In system and detailed specifications on minimum pinbreaks for other material fasteners, consult your local Howmet representative.

BV4500-118

Specs:

Capacity: .1875 in (.476 cm) - .25 in (.635 cm)

Min Stroke: 1.18 in (2.99 cm)

Weight of BV4500-118 w/ 1.5 Ah Battery: 4.8 lbs (2.18 kg)

Weight of BV4500-118 w/ 5Ah Battery: 5.5 lbs (2.5 kg)

Pull Capacity: 4500 lbs (20 kN)

Battery Pack: 18V/Li-ion/5 Ah

Recharge Time: Approximately 45 minutes

Options:

BV4500-118K0: Tool and Carrying Case

BV4500-118K2: Tool, Two Batteries, One Charger, Carrying Case

BV4500 Electric installs all LGP and XPL fasteners up to ¼" (6,35 mm) diameter. 244X noses are cross compatible with this tool.

BV4500 will also install blinds up to ¼".

Underlined characters are to be used for kit part numbers construction and will define configuration of tool shipped in tool.

An optional heavy duty pintail collection system is available for that tool, see description in accessory section of that catalog. It may also be included in the kit.



2012

Specs:

Min Stroke: .650 in (1.65 cm)

Air Pressure: 90 psi (6.2 bar)

Speed/Cycles: 20 per minute

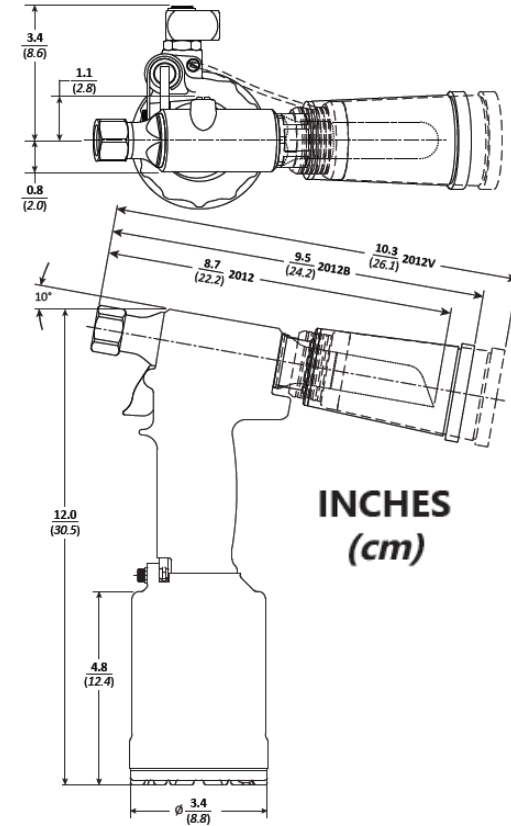
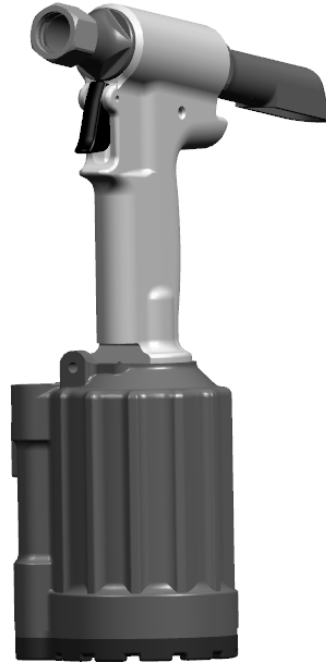
Max Flow Rate: 2.9 scfm (170 l/min)

Weight of 2012: 4.4 lbs (1.99 kg)

Weight of 2012B & 2012V: 4.7 lbs (2.13 kg)

Pull Capacity: 2670 lbs @ 90 psi (11.88 kN @ 6.2 bar)

Max Operating Temp: 125° F (51.7° C)



2013

Specs:

Min Stroke: .650 in (1.65 cm)

Air Pressure: 90 psi (6.2 bar)

Speed/Cycles: 20 per minute

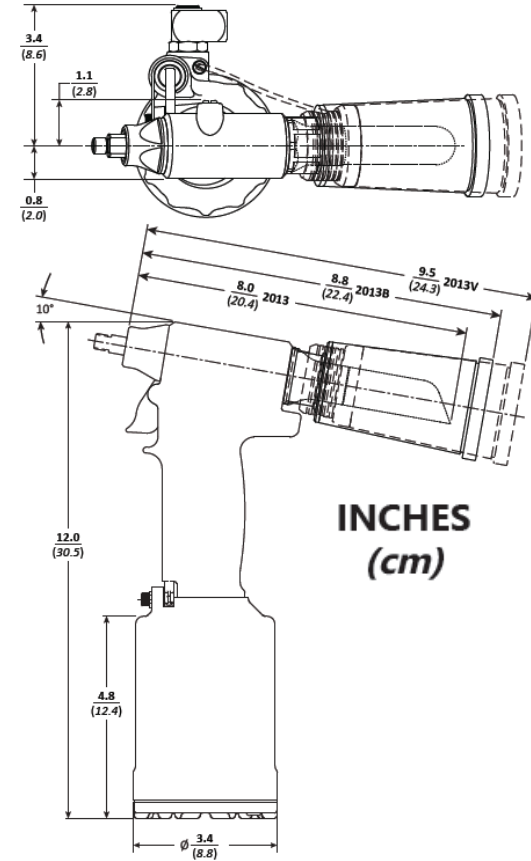
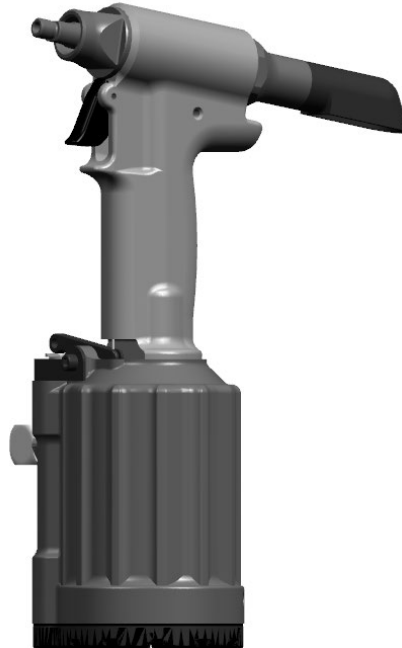
Max Flow Rate: 2.9 scfm (170 l/min)

Weight of 2013: 4.4 lbs (1.99 kg)

Weight of 2013B & 2013V: 4.7 lbs (2.13 kg)

Pull Capacity: 2670 lbs @ 90 psi (11.88 kN @ 6.2 bar)

Max Operating Temp: 125° F (51.7° C)



202

Specs:

Min Stroke: .750 in (1.90 cm)

Air Pressure: 90 psi (6.2 bar)

Speed/Cycles: 20 per minute

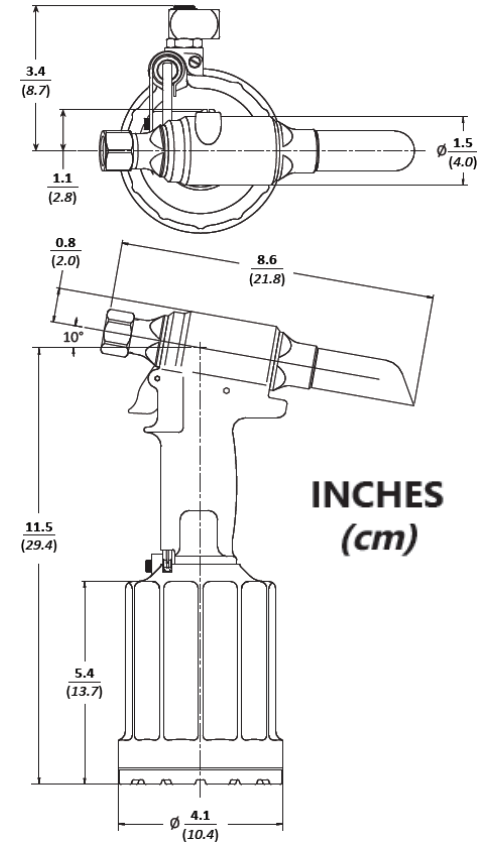
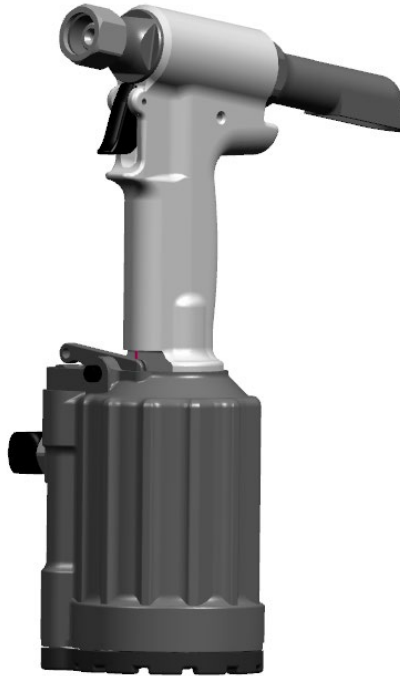
Max Flow Rate: 8.5 scfm (241 l/m)

Weight of 202 & 202L: 5.1 lbs (2.31 kg)

Weight of 202B, 202V, & 202LV: 5.4 lbs (2.45 kg)

Pull Capacity: 3889 @ 90 psi (17.3 kN @ 6.2 bar)

Max Operating Temp: 125° F (51.7° C)



2025

Specs:

Min Stroke: .675 in (1.715 cm)

Air Pressure: 90 psi (6.2 bar)

Speed/Cycles: 30 per minute

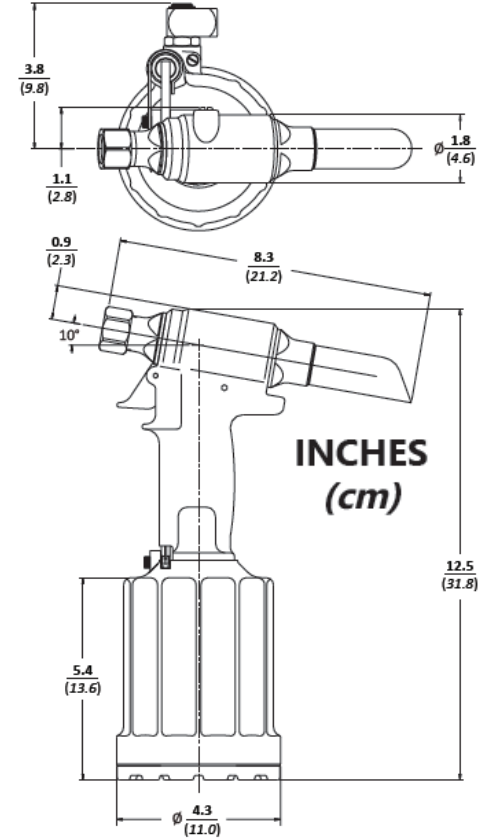
Max Flow Rate: 8.5 scfm (241 l/min)

Weight of 2025: 5.75 lbs (2.61 kg)

Weight of 2025S & 2025SL: 7.25 lbs (3.29 kg)

Pull Capacity: 5290 lbs @ 90 psi (23.531 kN @ 6.2 bar)

Max Operating Temp: 125° F (51.7° C)



2057

Specs:

Min Stroke: .875 in (2.22 cm)

Air Pressure: 100 psi (6.9 bar)

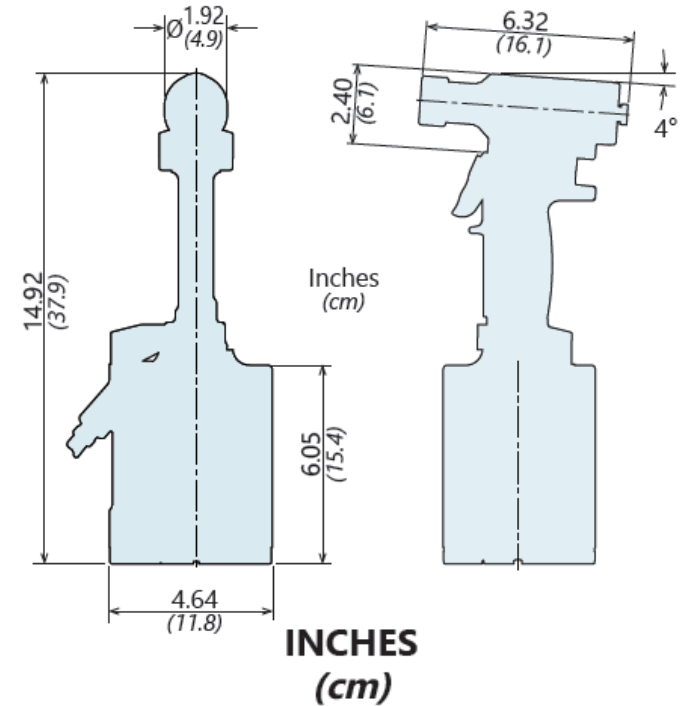
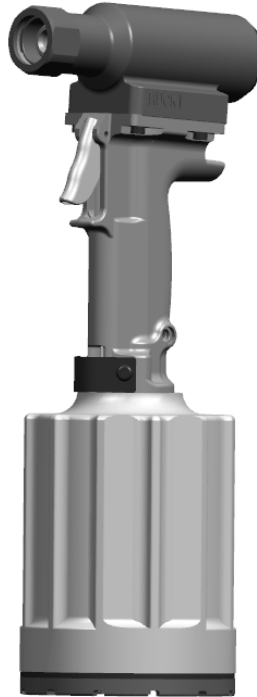
Speed/Cycles: 30 per minute

Max Flow Rate: 11.5 scfm (500 l/min)

Weight of 2057: 8.8 lbs (3.99 kg)

Pull Capacity: 4830 lbs @ 90 psi (21.8 kN @ 6.2 bar)

Max Operating Temp: 125° F (51.7° C)



244X

Specs:

Min Stroke: .562 in (1.43 cm)

Air Pressure: 90 psi (6.2 bar)

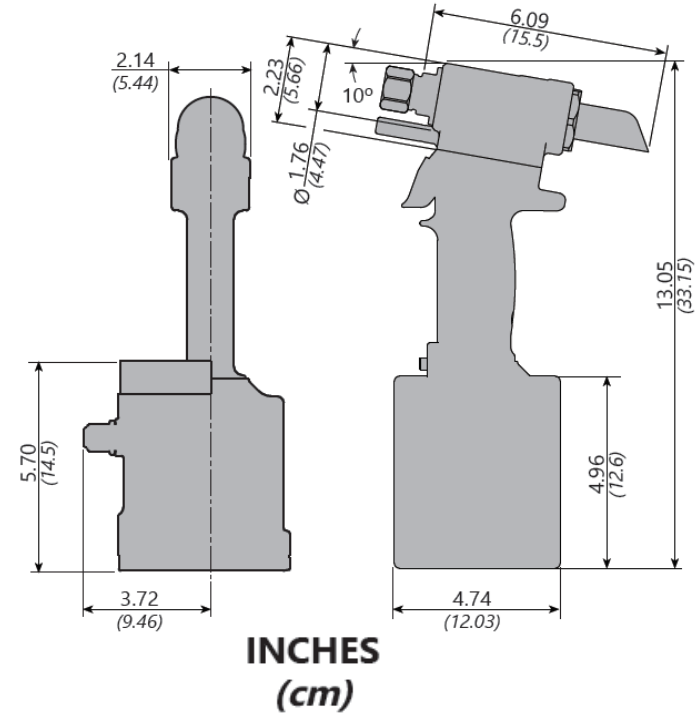
Speed/Cycles: 30 per minute

Max Flow Rate: 6.3 scfm (178 l/min)

Weight of 244X: 5.68 lbs (2.58 kg)

Pull Capacity: 4606 lbs @ 90 psi (20.49 kN @ 6.2 bar)

Max Operating Temp: 125° F (51.7° C)



244OSX

Specs:

Min Stroke: 0 - .562 in (1.43 cm)

Air Pressure : 90 psi (6.2 bar)

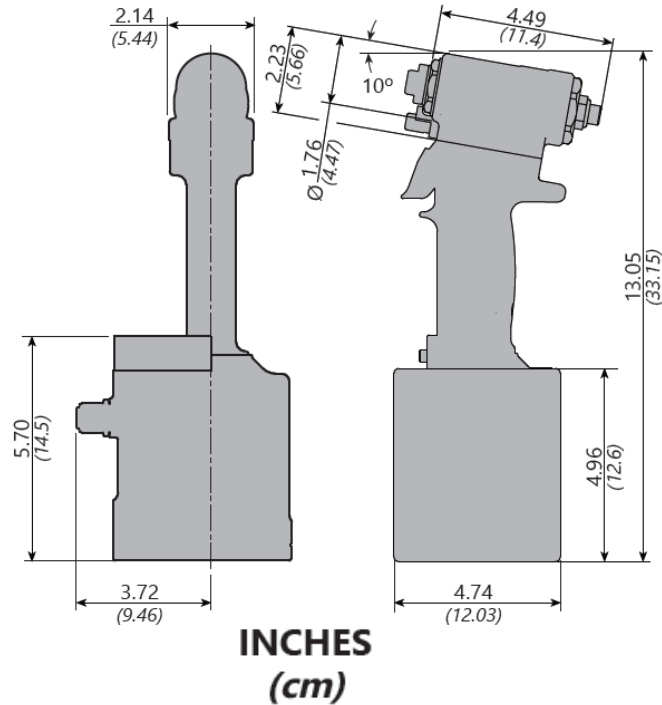
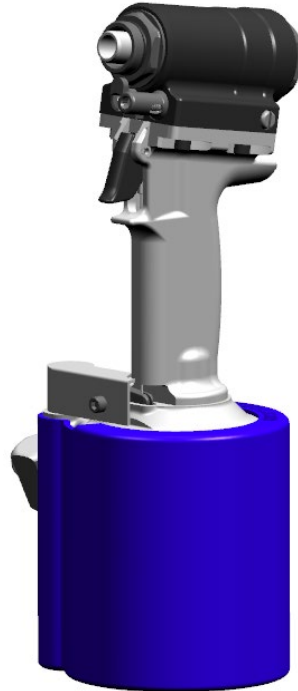
Speed/Cycles: 30 per minute

Max Flow Rate: 6.3 scfm (178 l/min)

Weight of 244OSX: 5.68 lbs (2.58 kg)

Pull Capacity: 4606 lbs @ 90 psi (20.49 kN @ 6.2 bar)

Max Operating Temp: 125° F (51.7° C)



254

Specs:

Min Stroke: .565 in (1.43 cm)

Air Pressure: 90 psi (6.2 bar)

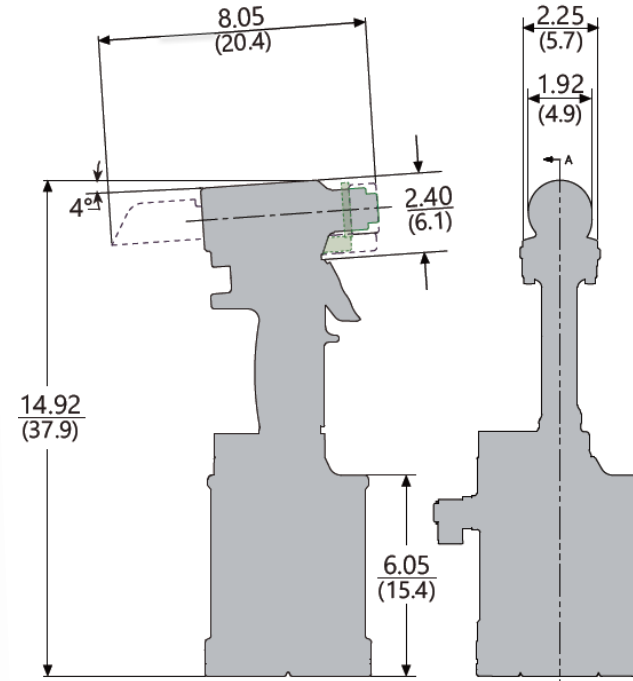
Speed/Cycles: 30 per minute

Max Flow Rate: 3.5 scfm (382.28 l/min)

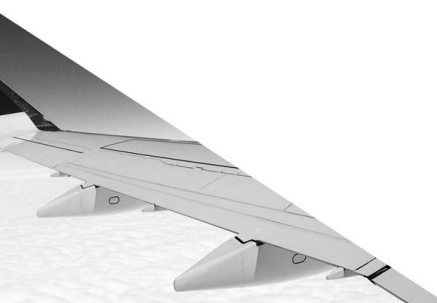
Weight of 254: 8.67 lbs (3.9 kg)

Pull Capacity: 8620 lbs @ 90 psi (38.34 kN @ 6.2 bar)

Max Operating Temp: 125° F (51.7° C)



INCHES
(cm)



2540S

Specs:

Min Stroke: .565 in (1.43 cm)

Air Pressure: 90 psi (6.2 bar)

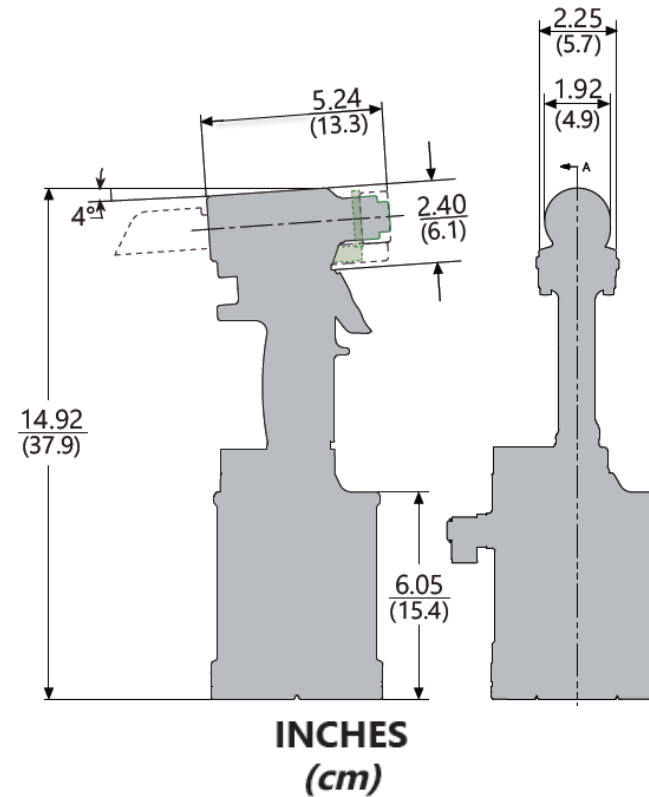
Speed/Cycles: 30 per minute

Max Flow Rate: 3.5 scfm (382.28 l/min)

Weight of 2540S: 8.67 lbs (3.9 kg)

Pull Capacity: 8620 lbs @ 90 psi (38.34 kN @ 6.2 bar)

Max Operating Temp: 125° F (51.7° C)



256

Specs:

Min Stroke: .875 in (2.22 cm)

Air Pressure: 110 psi (6.2 bar)

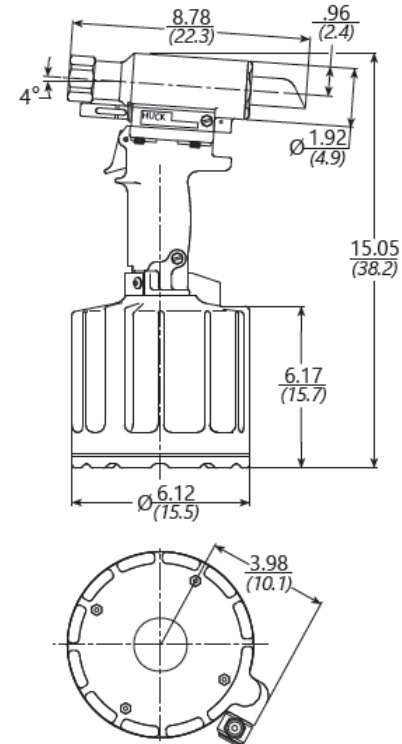
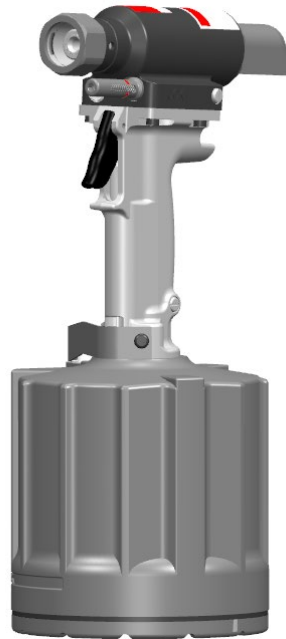
Speed/Cycles: 30 per minute

Max Flow Rate: 22.4 scfm (634 l/min)

Weight of 256: 11.1 lbs (5.03 kg)

Pull Capacity: 9986 lbs @ 90 psi (44.42 kN @ 6.2 bar)

Max Operating Temp: 125° F (51.7° C)



INCHES
(cm)



2480

Specs:

Min Stroke: .875 in (22.2 mm)

Pull Pressure: 8400 psi (580 bar)

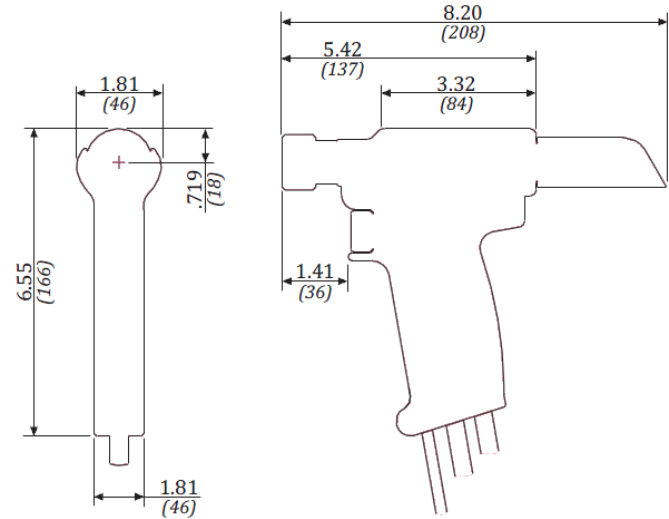
Return Pressure: 3200 psi (220 bar)

Max Flow Rate: 2 gpm (7.5 l/min)

Weight of 2480: 2.2 lbs (1 kg)

Pull Capacity: 5380 lbs @ 8400 psi (24 kN @ 580 bar)

Max Operating Temp: 125° F (51.7° C)



Inches
(mm)



206-500

Specs:

Min Stroke: .500 in (1.27 cm)

Pull Pressure: 5700 psi (393 bar)

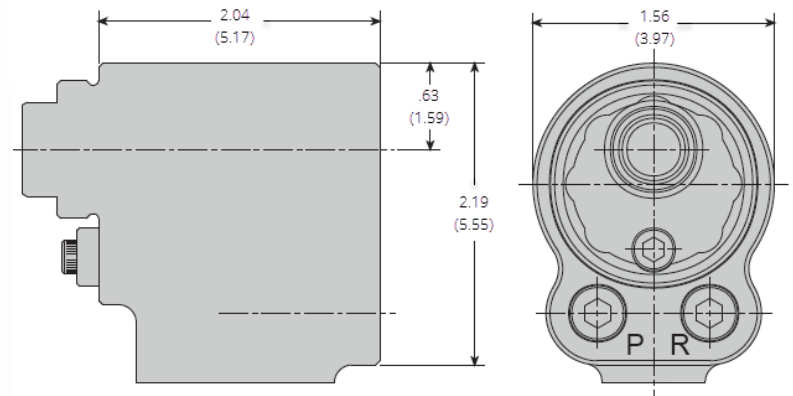
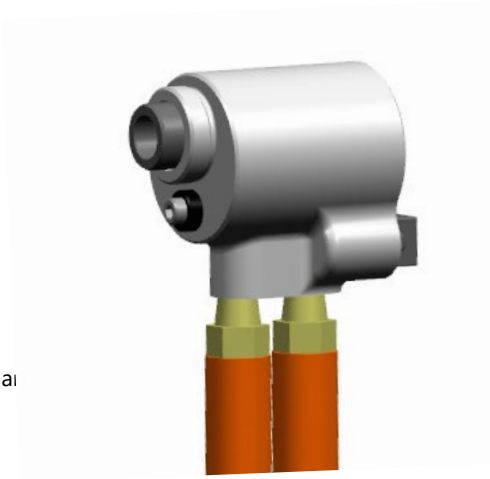
Return Pressure: 2400 psi (165 bar)

Max Flow Rate: 2 gpm (7.5 l/min)

Weight of 206-500: 3.5 lbs (1.6 kg)

Pull Capacity: 5825 lbs @ 5700 psi (25.9 kN @ 393 bar)

Max Operating Temp: 125° F (51.7° C)



INCHES
(cm)



2583

Specs:

Min Stroke: 1.50 in (3.81 cm)

Pull Pressure: 8400 psi (580 bar)

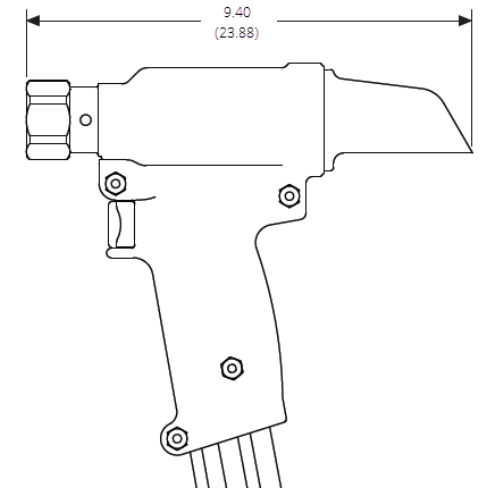
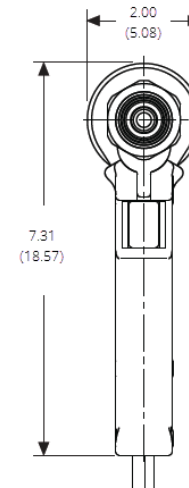
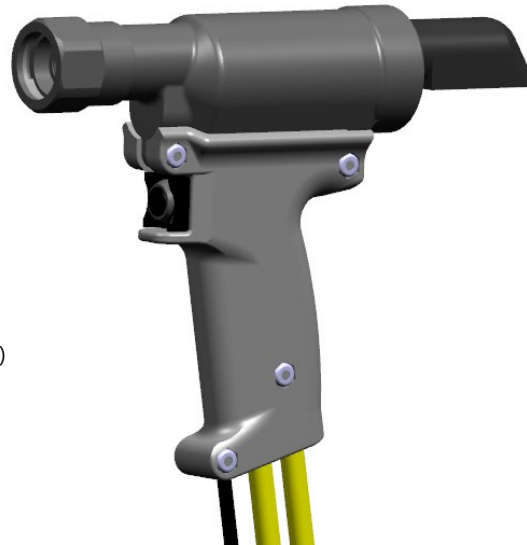
Return Pressure: 3200 psi (220 bar)

Max Flow Rate: 2 gpm (7.5 l/min)

Weight of 2583: 4.6 lbs (2.09 kg)

Pull Capacity: 10,850 lbs @ 8400 psi (48.3 kN @ 580 bar)

Max Operating Temp: 125° F (51.7° C)



INCHES
(cm)



208-625

Specs:

Min Stroke: .625 in (1.58 cm)

Pull Pressure: 5700 psi (393 bar)

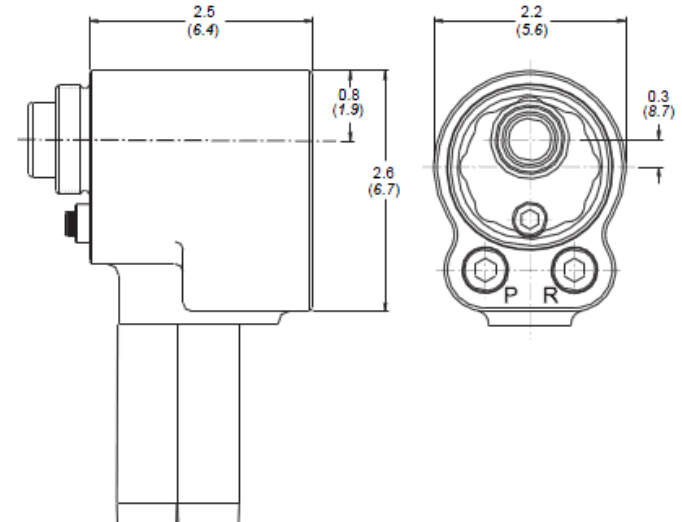
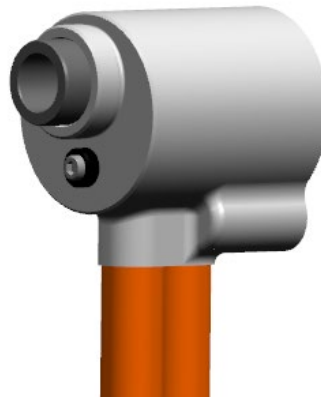
Return Pressure: 2400 psi (165 bar)

Max Flow Rate: 2 gpm (7.5 l/min)

Weight of 208-625: 3.96 lbs (1.8 kg)

Pull Capacity: 10000 lbs @ 5700 psi (44.5 kN @ 393 bar)

Max Operating Temp: 125° F (51.7° C)



INCHES
(cm)



2600-16-12

Specs:

Min Stroke: 1.25 in (3.18 cm)

Pull Pressure: 7400 psi (510 bar)

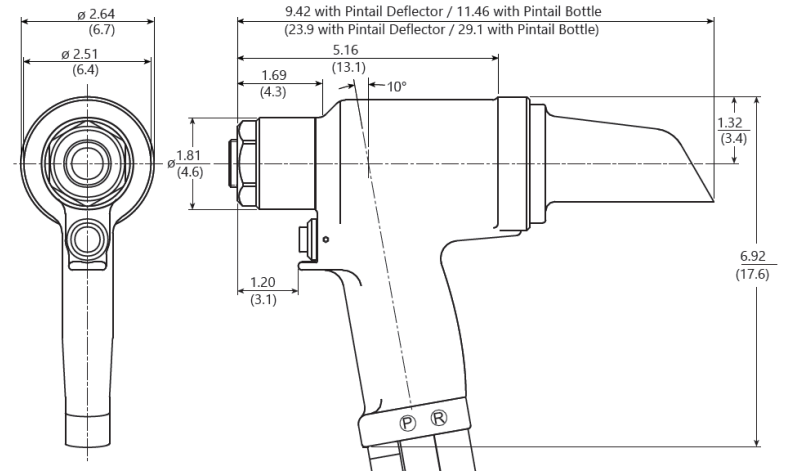
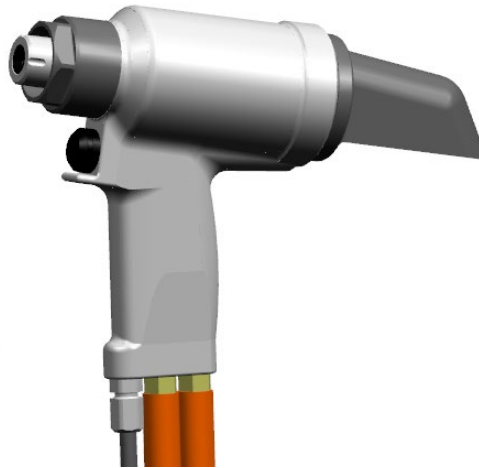
Return Pressure: 3200 psi (220 bar)

Max Flow Rate: 2 gpm (7.5 l/min)

Weight of 2600-16-12: 7.3 lbs (1.86 kg)

Pull Capacity: 13,840 lbs @ 5700 psi (61.56 kN @ 580 bar)

Max Operating Temp: 125° F (51.7° C)



INCHES
(cm)





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