

PSA Plant Maintenance Toolkit Inventory

Booster Compressors

Date published: 30 April 2024

1. Introduction

Oxygen Booster Compressor Toolkit (Rix Industries): This toolkit is specific to Rix Industries brand compressors (models 2PS and 2V3B). These tools are required for the plant operator to effectively service and/or troubleshoot the Rix compressor.







Oxygen Booster Compressor Toolkit (NOVAIR): This toolkit is specific to NOVAIR brand HP series compressors. These tools are required for the plant operator to effectively service and/or troubleshoot the NOVAIR compressor.







Oxygen Booster Compressor Toolkit (Bailian): This toolkit is specific to Bailian brand compressors (models GOW- $\frac{3}{4}$ -150, GOW-2/2-120, GOW-1/4-200, and similar). These tools are required for the plant operator to effectively service and/or troubleshoot the Bailian compressor.







All toolkits should be used exclusively for the oxygen system and should be kept free of grease and dirt at all times.

2. Oxygen booster compressor toolkit: Rix Industries





Applicable to models 2PS and 2V3B

#	Item Description	Qty	Photo	Requirements/Alternatives	Tool Purpose
1	3/8 Inch Drive x 1/2 Inch Deep 6-Point Socket SHD13013	1			Used to tighten or loosen PSA plant equipment fasteners for internal repairs and maintenance
2	Plastic Non Marring Pick with Blunt Tip	1		This tool is typically used for laptop and smartphone repair.	Used to push out the piston, reed valves, or other metal pieces without causing scratches.
3	3/8-Inch Drive Click Torque Wrench (5-80 ft.-lb.)	1			Used to tighten nuts and bolts to a specific intensity. This avoids over or under tightening, and keeps pressure equal.
4	Deep Socket, SAE, 3/8-Inch Drive, 9/16-Inch, 6-Point (CMMT43334)	1			Used to tighten or loosen PSA plant equipment fasteners for internal repairs and maintenance
5	1/2-inch Combination Wrench, 12 Point, SAE	2			Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
6	5/32" Allen key T handle	1		T-handle, not a kit	Used for tightening and loosening hexagonal bolts

#	Item Description	Qty	Photo	Requirements/Alternatives	Tool Purpose
7	5/64" Allen key T handle	1		T-handle, not a kit	Used for tightening and loosening hexagonal bolts
8	High Precision Stainless Steel Lab Tweezers	1			Used for small precision movements and grabbing while doing maintenance inside of the booster compressor.
9	Professional Dental Scraper Tool	1			Used for small precision movements; specifically removing ryder and compression rings.
10	9/16" x 11/16" Open End Wrench	1			Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
11	Clean wipes/rags	1		Should be lint free.	Used to create a clean oxygen safe working environment. Also to wipe down dirty equipment.
12	Painters tape	1			Used for keeping open ends of piping & hoses protected from debris entering.







#	Item Description	Qty	Photo	Requirements/Alternatives	Tool Purpose
13	Synthetic lubricant grease (2 fl oz)	1		Krytox or generic brand with equivalent specifications	Primarily lubricates o-rings; causes them to stay in place and seals from air passing.
14	Nitrile Gloves	1			Personal Protective Equipment (PPE). Protects technicians' hands and keeps Oxygen Cleaned parts & tools oil free.
15	Zippered Tool Bag with pockets	1		Approx. 18in.	Used to hold all tools and keep them organized and accounted for
16	Flat head screwdriver	1		For 2V3B	Used to insert or remove screws to access PSA Plant equipment for internal maintenance or repair
17	Phillips head screwdriver	1		No. 1	Used to insert or remove screws to access PSA Plant equipment for internal maintenance or repair
18	7/16" Combination Wrench	1			Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair






Additional tools required for maintenance that should be provided with the booster compressor by the manufacturer.






#	Item Description	Qty	Photo	Requirements/Alternatives	Tool Purpose
19	Piston adjustment tool	1		#88-A8037. Must be procured from manufacturer	For setting the piston height
20	Sleeve Tool, 3rd Stage, 2V3B	1		#X63-C1148-5. Must be procured from manufacturer	
21	Sleeve Tool, 2nd Stage, 2V3B	1		#X63-A10773. Must be procured from manufacturer	
22	Sleeve Tool, 2nd stage, 2PS	1		#X63-A5549. Must be procured from manufacturer	

3. Oxygen booster compressor toolkit: NOVAIR



Applicable to all models in the HP series.

#	Item Description	Qty	Photo	Requirements/Alternatives	Tool Purpose
1	Crescent wrench No. 19	1		metric	Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
2	Crescent wrench No. 17	1		metric	Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
3	Crescent wrench No. 14	1		metric	Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
4	Crescent wrench No. 10	1		metric	Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
5	SAE/Metric Folding Hex Key Set (3-Piece)	1		metric and SAE	Used to turn bolts or screws with hexagonal sockets to access PSA plant equipment for internal maintenance or repair. Also known as "Hex keys"
6	Plastic Non Marring Pick with Blunt Tip	5			Used to push out the piston, reed valves, or other metal pieces without causing scratches.

#	Item Description	Qty	Photo	Requirements/Alternatives	Tool Purpose
7	3/8-Inch Drive Click Torque Wrench (5-80 ft.-lb.)	1			Used to tighten nuts and bolts to a specific intensity. This avoids over or under tightening, and keeps pressure equal.
8	Thread locking paste	1		Weicon lock AN 302-60 or alternative with equivalent properties: nonflammable and temperature limit of 150C or higher	An adhesive, applied to the threads of fasteners such as screws and bolts to prevent loosening, leakage, and corrosion.
9	Sandpaper	1		3000 grit	To buffer clean the valves
10	Wipes	1		Lint free	Used to create a clean oxygen safe working environment. Also to wipe down dirty equipment.
11	Zippered Tool Bag with pockets	1		Approx. 14in.	Used to hold all tools and keep them organized and accounted for








#	Item Description	Qty	Photo	Requirements/Alternatives	Tool Purpose
12	Right Angle Metal Pick	1		90 deg angle	Used for small precision movements; specifically removing ryder and compression rings.
13	Threaded Hex bolt	1		m4 threaded hex bolt	For extracting valve assemblies for stage 2 during service
14	Threaded Hex bolt	1		m6 threaded hex bolt	For extracting valve assemblies for stage 1 during service
15	Retracting-Blade Utility Knife	1			Used for opening spare parts packages.
16	12-Point Socket Deep, Chrome Plated, 3/8" Square Drive, 17mm Size	1			Used to tighten or loosen nuts and bolts on the booster compressor







Additional tools required for maintenance that should be provided with the booster compressor by the manufacturer.






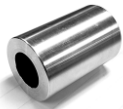

#	Item Description	Qty	Photo	Requirements / Alternatives	Tool Purpose
17	Insertion tool HP45	1		Must be procured from manufacturer	Used to help insert piston back into sleeve and to place compression rings back onto piston.
18	Centralizing bolt HP45	1		Must be procured from manufacturer	To ensure piston and piston housing alignment.

4. Oxygen booster compressor toolkit: Bailian

Applicable to models GOW-¾-150, GOW-2/2-120, GOW-1/4-200, and similar

#	Item Description	Qty	Photo	Requirements/Alternatives	Tool Purpose
1	Non-ratcheting, open-ended combination wrench	1		10 mm	Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
2	Non-ratcheting, open-ended combination wrench	1		14 mm	Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
3	Non-ratcheting, open-ended combination wrench	1		16 mm	Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
4	Non-ratcheting, open-ended combination wrench	1		18 mm	Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
5	Non-ratcheting, open-ended combination wrench	1		19 mm	Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
6	12" Chrome-Plated Adjustable Wrench	1			Used to turn or loosen nuts and bolts for access to PSA Plant equipment for internal maintenance or repair
7	Phillips head screwdriver	1			Used to insert or remove screws to access PSA Plant equipment for internal maintenance or repair

#	Item Description	Qty	Photo	Requirements/Alternatives	Tool Purpose
8	Flat head screwdriver	1			Used to insert or remove screws to access PSA Plant equipment for internal maintenance or repair
9	Ball-End Hex L-Key, 6 mm Size	1			Used to turn bolts or screws with hexagonal sockets to access PSA plant equipment for internal maintenance or repair. Also known as "Hex keys"
10	Synthetic lubricant grease (2 fl oz)	1		Krytox or generic brand with equivalent specifications	Primarily lubricates o-rings; causes them to stay in place and seals from air passing.
11	High Precision Stainless Steel Lab Tweezers/Forceps with Straight Broad Strong Point (6 in.)	1			Used for small precision movements and grabbing while doing maintenance inside of the booster compressor.
12	Professional Dental Scraper Tool	1			Used for small precision movements; specifically removing ryder and compression rings.
13	Sandpaper	1		3000 grit	To buffer clean the valves

#	Item Description	Qty	Photo	Requirements/Alternatives	Tool Purpose
14	Nitrile gloves	1			Personal Protective Equipment (PPE). Protects technicians' hands and keeps Oxygen Cleaned parts & tools oil free.
15	Wipes	1		Lint free	Used to create a clean oxygen safe working environment. Also to wipe down dirty equipment.
16	Zippered Tool Bag with pockets	1		Approx. 12in.	Used to hold all tools and keep them organized and accounted for
17	Tight-Clearance Offset Socket, 3/8" Square Drive, 18 mm	1			Used to tighten and loosen nuts that are difficult to access with a standard wrench
18	Wobble Socket Extension with 3/8" Square Drive	1			Used to tighten and loosen nuts that are difficult to access with a standard wrench
19	4th piston ring install tool	1			Used to help insert the final stage piston back into the sleeve and to place compression rings back onto the piston.
20	Piston rod protective sleeve tool	1			Protects piston rod and compression / rider rings from being damaged during insertion