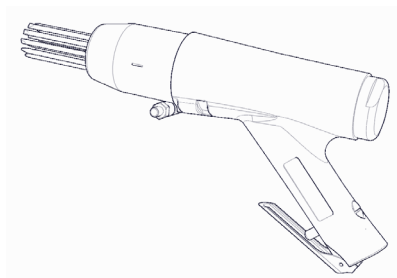
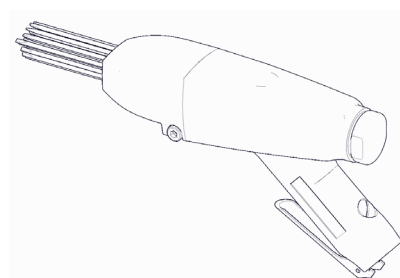




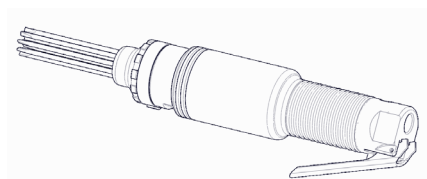
Operation and Maintenance Guide



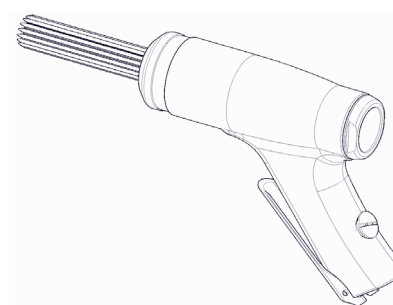
N-28 / HN-28



N-24 / HN-24



SN20ST



SN16PG

Models	Descriptions	IMPA Code
N-28	Pistol Grip Pneumatic Needle Scalers (polished)	59 04 64
HN-28	Pistol Grip Pneumatic Needle Scalers (painted)	
N-24	Pistol Grip Pneumatic Needle Scalers (polished)	59 04 63
HN-24	Pistol Grip Pneumatic Needle Scalers (painted)	
SN20ST	In-line Pneumatic Needle Scalers	59 04 62
SN16PG	Pistol Grip Pneumatic Needle Scalers	59 04 61

Read this manual carefully before installing, operating or servicing this equipment. It's the responsibility of the employer to ensure this manual is read by the operator. Please preserve this manual.

This document is issued with Product Serial No

Table of Contents

3	Introduction
3	Technical Data
3	Safety Instructions
4	Operating Instructions
5	Suggested Lubricants
6	Diassembly and Re-assembly for N-28 / HN-28
7	Bill of Materials for N-28 / HN-28
8	Exploded View for N-28 / HN-28
9	Diassembly and Re-assembly for N-24 / HN-24
10	Bill of Materials for N-24 / HN-24
11	Exploded View for N-24 / HN-24
12	Diassembly and Re-assembly for SN 20ST
13	Bill of Materials for SN 20ST
14	Exploded View for SN 20ST
15	Diassembly and Re-assembly for SN 16ST
16	Exploded View for SN 16 ST
17	Bill of Materials for SN 16 PG
19	Eu Declaration Of Conformity
20	Warranty Certificate

Introduction

Teryair needle guns are rugged tools. They are designed to be easy to use and maintain. They are ideal for removing layers of paint, corrosion and chemical coatings etc. from metal and non metal surfaces. These tools work well on irregular surfaces and in crevices and corners. The needles are heat treated and are quickly replaceable.

Technical Data

Models	IMPA Number equivalent	Maximum operating pressure	Air Consumption (No Load)		Blows per min	Sound Power Level (Load)	Vibration Level	Mass (Weight)	Thread Size of Air Inlet	Needles
			CFM	m ³ /min						
N-24 (polished) / HN-24 (painted)	59 04 63	6kg/cm ² (90 psi)	9.5	0.27	4000	104	28	2.7	3/8"	3mm x 23 Nos.
N-28 (polished) / HN-28 (painted)	59 04 64		12	0.34	4500	106	17.5	3.5	3/8"	3mm x 28 Nos.
SN16PG	59 04 61		5	0.14	4000	101	11.5	1.4	3/8"	2mm x 29 Nos.
SN20ST	59 04 62		7.00	0.20	4000	103	15.5	2.4	3/8"	3mm x 12 Nos.

Intended Use

- Marine and Offshore industries
- Removal of Coatings
- Hold cleaning, general deck and surface cleaning, removal of heavy rust on tankers and dry dock
- applications
- Tank descaling, Descaling of structures prior to painting.
- Paint removal
- Other industrial coating removal from floors and other surfaces
- Removal of concrete residue from re-bar
- Cleaning cement from plant and vehicles
- Weld cleaning

Prohibitive use

- Any use in an explosive atmosphere is prohibited
- Use on materials containing asbestos is prohibited

- Use by an underage, untrained or person who is under the influence of drugs or alcohol.
- Use with non-genuine spare parts or accessories is prohibited

Safety Instructions

Following symbols are used through out this manual.

Warning

- ⚠ This manual must be read and the operating instructions carefully followed.

Warning

- ⚠ Safety and protective clothing, eyewear, head-gear, ear protection, gloves and footwear to be worn during operation of this Pneumatic Needle Scaler. Please see Table A at end of this section.

Warning

- ⚠ Operators under 18 not allowed to operate this Pneumatic Needle Scaler. Operators must be made familiar with the instructions in this manual before attempting to operate the Pneu-

matic Needle Scaler. Ensure that job site is clear of bystanders

Caution



Use only genuine Teryair or Teryair approved accessories.

Warning



This Pneumatic Needle Scaler is not designed for use in an explosive environment.

Caution



Completely turn off the Pneumatic Needle Scaler and disconnect air supply line before attempting any service. Read Assembly and Disassembly instructions.

Warning



Take care not to exceed the maximum 6 bar (90 psi) supply air pressure. Use a filter and regulator and lubricator as close to the Pneumatic Needle Scaler inlet as operation will allow ensuring a clean and regulated and lubricated air flow.

Caution



Do not exert excessive pressure against the work surface. Keep hoses in good condition. Check hoses for signs of wear, cracks & bulges and ensure that they are secure. Accidental disconnection while hose is pressurized makes the hose whip and can be a safety hazard.

Caution



- Please check the hose connection prior to starting Needle Scaler.
- Be aware that these Pneumatic Needle Scalers can create dust & flying debris.
- Keep hands & clothing away from moving parts.
- Store these Pneumatic Needle Scalers in secure & dry environment.
- Do not allow the Pneumatic Needle Scaler to run unattended.
- Do not modify this Pneumatic Needle Scaler in any way as this will invalidate the warranty and could lead to serious injury.
- Do not allow the Pneumatic Needle Scaler to run continuously whilst not in contact with the surface being prepared.
- Do not hold the exposed needles whilst the Pneumatic Needle Scaler is in use this could cause vibration damage to the

hands.

- Do not drag this Pneumatic Needle Scaler by air hose.

Warning



Do not use the Pneumatic Needle Scaler in potentially explosive environments.

Operating Instructions

- Eye and face and ear protection must be worn at all times during operation of the Pneumatic Needle Scaler. There is a chance of flying debris from the jobsite and the quality of wear should be such to protect against such flying debris such as flakes of the removed layer.
- Suitable gloves must be worn at all times during operation.
- Safety Shoes with toe cap protection are a must during operation.
- Scalers are rugged dependable tools designed to give you years of satisfactory service. Follow the instructions mentioned here to enhance life and performance of your scalers.

Daily Before Operating

Disconnect and pour in 1 to 2 ounces of recommended oil into the Pneumatic Needle Scaler and reconnect hose after blowing out any accumulated dirt in the hose line before connection

Lubrication Requirements

Always install a line lubricator on the air line as close to the Pneumatic Needle Scaler as possible. A Filter Regulator Lubricator unit (FRL) is strongly recommended. Keep the lubricator bowl topped up with recommended grade of oil and check that the oil is reaching the Pneumatic Needle Scaler. Running the Pneumatic Needle Scaler without lubrication is likely to cause damage to the components causing premature replacement.

Air Supply

The Scalers work best at 6.2 bar (90 psi) air pressure. The air should be clean, dry and lubricated. Install a FRL unit as close as operation will permit.

Hoses

Daily before operation check the hoses, especially the high pressure hoses for damage or leaks. Use genuine Teryair spares and if possible mention the serial number of the Pneumatic Needle Scaler when ordering spares. Use genuine Teryair spares and if possible mention the serial number of the Pneumatic Needle Scaler when ordering spares.

Suggested Lubricants

Brand	Above 27°C / 80°F	5°C to 27°C / 41°F to 80°F	Below 5°C / 80°F
Shell	Toona R 72	Toona R 41	Toona R 27
Mobil	Almo 529	Almo 527	Almo 525
Esso	--	Arox EP.65	Arox EP.45
Caltex	Rando Oil 100	Rando Oil 100	Rando Oil 46
Cp	--	--	Airolene Tool Oil
Texaco	Regal Oil F (R&O)	Regal Oil PE(P&E)	Regal Oil PE(R&O)
Daltron	Silkolene 881	Silkolene 548/T	Silkolene 733
Burmah Castrol	Castrol RD Oil 3	Castrol RD Oil Light	Megna SPX
Duckham	Garnet 7	Garnet 6	Zero Fio 5
Sternol	Merlin 87	Merlin 71	Merlin 54
Petrolina	Purifoc 53	Purifoc 46	Purifoc 32
Chevron	Vistac Oil 18X	Vistac Oil 19X	Vistac Oil 9X
Indoil	Servo Spyn -22	--	--

Diassembly and Re-assembly for N-28 / HN-28

- a. Shut off air supply and allow residual Pressure to bleed off.
- b. Unscrew Clamp Bolt (2) from Needle Guide (1) to remove Needle guide (1)
- c. Remove Safety Band (9) from Stop Ring (3). Now Unscrew Stop Ring (3) from Cylinder (10) and replace it with new one. (If found damaged/worn-out)
- d. Remove Needle Supporter (4) with Needles (5) & Throttle Anvil (6) from Cylinder (10). Now remove Needles (5) from Needle Supporter (4).
- e. Unscrew the Rear Bolt (18) with Rear Washer (14) & Piston (7) from Cylinder (10). Now remove Cylinder Lock Pin (11) from Housing (13) and replace it with new one. (If found damaged/Worn-out).
- f. Remove Cylinder (10) from Housing (13)
- g. Remove Front Washer (12), O-ring Cylinder (8) and from Cylinder (10) and replace it with new one.
- h. Now remove Lever Pin (20) from Throttle lever (19) to remove Throttle lever (19) from Housing (13) and replace it with new one. (If found damaged/Worn-out)
- i. Unscrew Valve Cap (17) with Valve Packing (16) from Housing (13). Now remove Throttle Valve Assembly (15) from Housing (13) and replace with new ones. (If found damaged/worn-out)
- j. Coat parts with the recommended light oil before re-assembling. Now follow the above steps in reverse manner to reassemble the Needle Scalers...

Bill of Materials for N-28 / HN-28

Illustration Number	Part Number	Description	N 28
1	022 90 35	NEEDLE GUIDE	1
2	022 90 62	CLAMP BOLT	1
3	022 90 01	STOP RING	1
4	022 90 03	NEEDLE SUPPORTER (3MM)	1
-	022 90 05	NEEDLE SUPPORTER (4MM)	1
-	022 90 07	NEEDLE SUPPORTER (2MM)	1
5	022 90 04OL	NEEDLE (3MM X 180MM)	28
-	022 90 06	NEEDLE (4MM X 180MM)	14
-	022 90 08	NEEDLE (2MM X 180MM)	65
6	022 90 09	THROTTLE ANVIL	1
7	022 90 11	PISTON	1
8	022 90 12	O -RING CYLINDER	2
9	022 90 13	SAFETY BAND	1
10	022 90 14	CYLINDER	1
11	022 90 23	CYLINDER LOCK PIN	1
12	022 90 17	FRONT WASHER	1
13	022 90 45	HOUSING	1
14	022 90 21	REAR WASHER	1
15	022 90 29A	THROTTLE VALVE ASSEMBLY.	1set
16	022 90 27	VALVE PACKING	1
17	022 90 25	VALVE CAP	1
18	022 90 47	REAR BOLT	1
19	022 90 31	THROTTLE LEVER	1
20	022 90 33	LEVER PIN	1

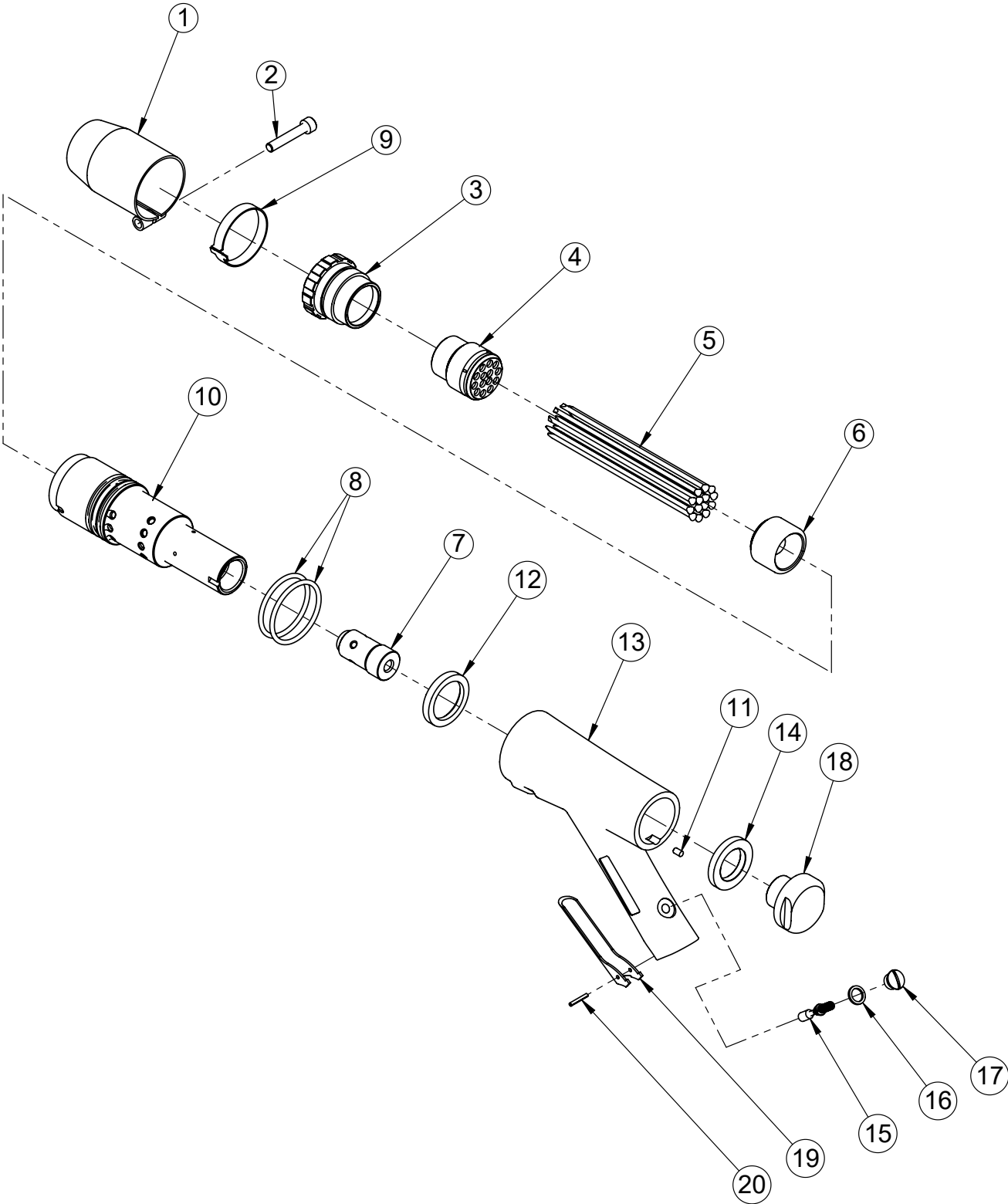
Standard Accessories

Part No	Description	Qty
022 40 52	HOSE NIPPLE (FOR QC FITTING OF 30SH,30SM & 30SF)	1

Optional Accessories

Part No	Description	Qty
022 90 43	HOSE NIPPLE	1
022 90 41	REDUCER	1

Exploded View for N-28 / HN-28



Diassembly and Re-assembly for N-24 / HN-24

- a. Shut off air supply and allow residual Pressure to bleed off.
- b. Unscrew Clamp Bolt (2) from Needle Guide (1) to remove
- c. Now Unscrew Stop Ring (2) from Cylinder (8) and replace it with new one. (If found damaged/Wornout)
- d. Remove Needle Supporter (6) with Needles (5) & Throttle anvil from Cylinder (8). Now remove Needles (5) from Needle Supporter (6).
- e. Unscrew the Rear Plug (18) with Rear Washer (17) & Piston (16) from Cylinder (8). Now remove Cylinder Lock Pin (9) from Housing (12). Replace the worn-out/damaged parts with new one.
- f. Remove Cylinder (8) from Housing (12).
- g. Remove Front Washer (10) from Cylinder (10) and replace it with new one. (If found damaged)
- h. Now remove O-ring (11) from Housing (12) and replace it with new one.
- i. Now remove Lever Pin (20) from Throttle lever (19) to remove Throttle lever (19) from Housing (12) and replace it with new one. (If found damaged)
- j. Unscrew Valve Cap (15) with Valve Packing (14) from Housing (12). Now remove Throttle Valve Assembly (13) from Housing (12) and replace with new ones. (If found damaged/worn-out)
- k. Coat parts with the recommended light oil before re-assembling. Now follow the above steps in reverse manner to reassemble the Needle Scalers...

Bill of Materials for N-24 / HN-24

Illustration Number	Part Number	Description	N 24
1	022 40 01	NEEDLE GUIDE	1
2	022 40 17	STOP RING	1
3	022 90 63	HEX. NUT	1
4	022 90 61	CLAMP BOLT	1
5	022 90 04OL	NEEDLE (3mm X 180mm)	23
—	022 90 08	NEEDLE (2mm x 180mm)	53
6	022 4045	NEEDLE SUPPORTER (3mm)	1
—	022 40 47	NEEDLE SUPPORTER (2mm)	1
7	022 40 19	"THROTTLE ANVIL SCALER"	1
8	022 40 02	CYLINDER	1
9	022 90 23	CYLINDER LOCK PIN	1
10	022 40 05	"FRONT WASHER"	1
11	022 40 03	O' RING HOUSING	1
12	022 40 07	HOUSING	1
13	022 90 29A	THROTTLE VALVE ASSEMBLY	1
14	022 90 27	VALVE PACKING	1
15	022 90 25	VALVE CAP	1
16	022 40 09	PISTON	1
17	022 40 11	"REAR WASHER"	1
18	022 40 13	REAR PLUG	1
19	022 90 31	THROTTLE LEVER	1
20	022 90 33	LEVER PIN	1

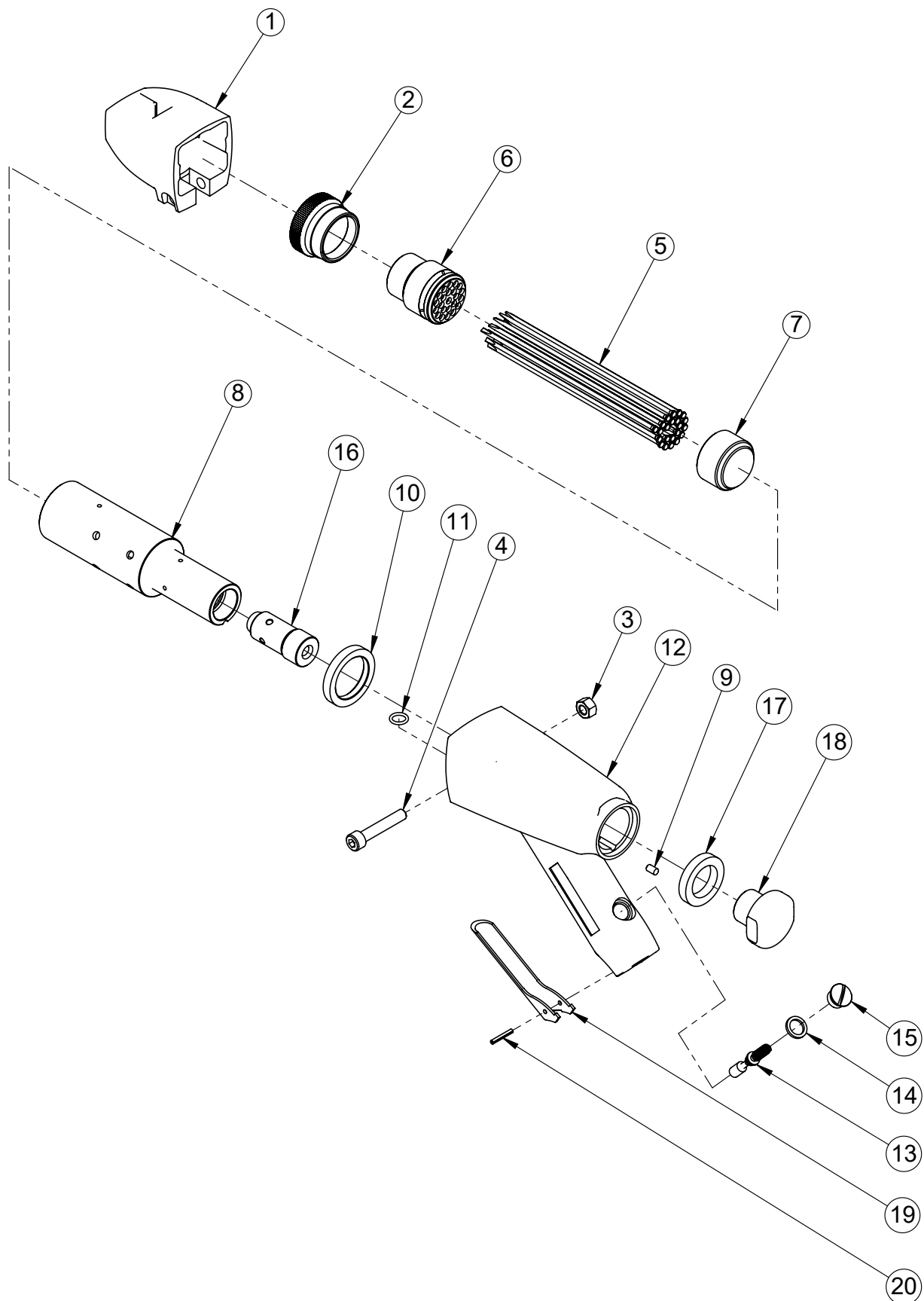
Standard Accessories

Part No	Description	Qty
022 40 52	HOSE NIPPLE (FOR QC FITTING OF 30SH,30SM & 30SF)	1

Optional Accessories

Part No	Description	Qty
022 90 43	HOSE NIPPLE	1
022 90 41	REDUCER	1

Exploded View for N-24 / HN-24



Diassembly and Re-assembly for SN 20ST

- a. Shut off air supply and allow residual Pressure to bleed off.
- b. Remove Safety Band (5) from Stop Ring (1).
Now Unscrew Stop Ring (1) from Cylinder (6) and replace it with new one. (If found damaged/Worn-out)
- c. Remove Needle Supporter (2) with Needles (3), spring (20) & Throttle Anvil (4) from Cylinder (6). Now remove Needles (3) from Needle Supporter (2).
- d. Now unscrew the Control Body (11) from Cylinder (6). Now remove Piston (7), Cover for Cylinder (9) & Front Washer (8).
- e. Remove O-ring (10) from Control Body (11) and replace it with new one.
- f. Remove internal Circlip (16) from Control Body (11) using Circlip pliers. Now remove Valve cap (14) with O-ring (15), spring (19) and Throttle valve (17) with O-ring (18) from Control Body (11) and replace it with new one. (If found damaged/Worn-out)
- g. Now remove O-ring (15) from Valve Cap (14) and O-ring (18) from Throttle Valve (17) and replace it with new one.
- h. Remove Lever Pin (13) from Control Body (11) & remove throttle Lever (12).
- i. Coat parts with the recommended light oil before re-assembling. Now follow the above steps in reverse manner to reassemble the Needle Scalers...

Bill of Materials for SN 20ST

Illustration Number	Part Number	Description	SN 20 ST
1	140 21 01	STOP RING	1
2	140 21 02	NEEDLE SUPPORTER (3 MM)	1
3	022 90 04OL	NEEDLE (Ø3 X 180)	12
4	140 21 03	THROTTLE ANVIL	1
5	140 51 12	SAFETY BAND	1
6	140 21 04	CYLINDER	1
7	140 21 05	PISTON	1
8	140 40 08	FRONT WASHER	1
9	140 40 09	COVER FOR CYLINDER	1
10	140 40 10	O' RING FOR CONTROL BODY	1
11	140 21 06	CONTROL BODY	1
12	022 90 31	THROTTLE LEVER	1
13	100 50 19	LEVER PIN	1
14	140 21 07	VALVE CAP	1
15	140 40 11	O' RING FOR VALVE CAP	1
16	140 90 13	INTERNAL CIRCLIP (LIGHT B-12)	1
17	022 90 29	THROTTLE VALVE	1
18	022 90 30	O' RING FOR THROTTLE VALVE	1
19	022 90 40	SPRING FOR THROTTLE VALVE	1
20	140 51 01	SPRING	1

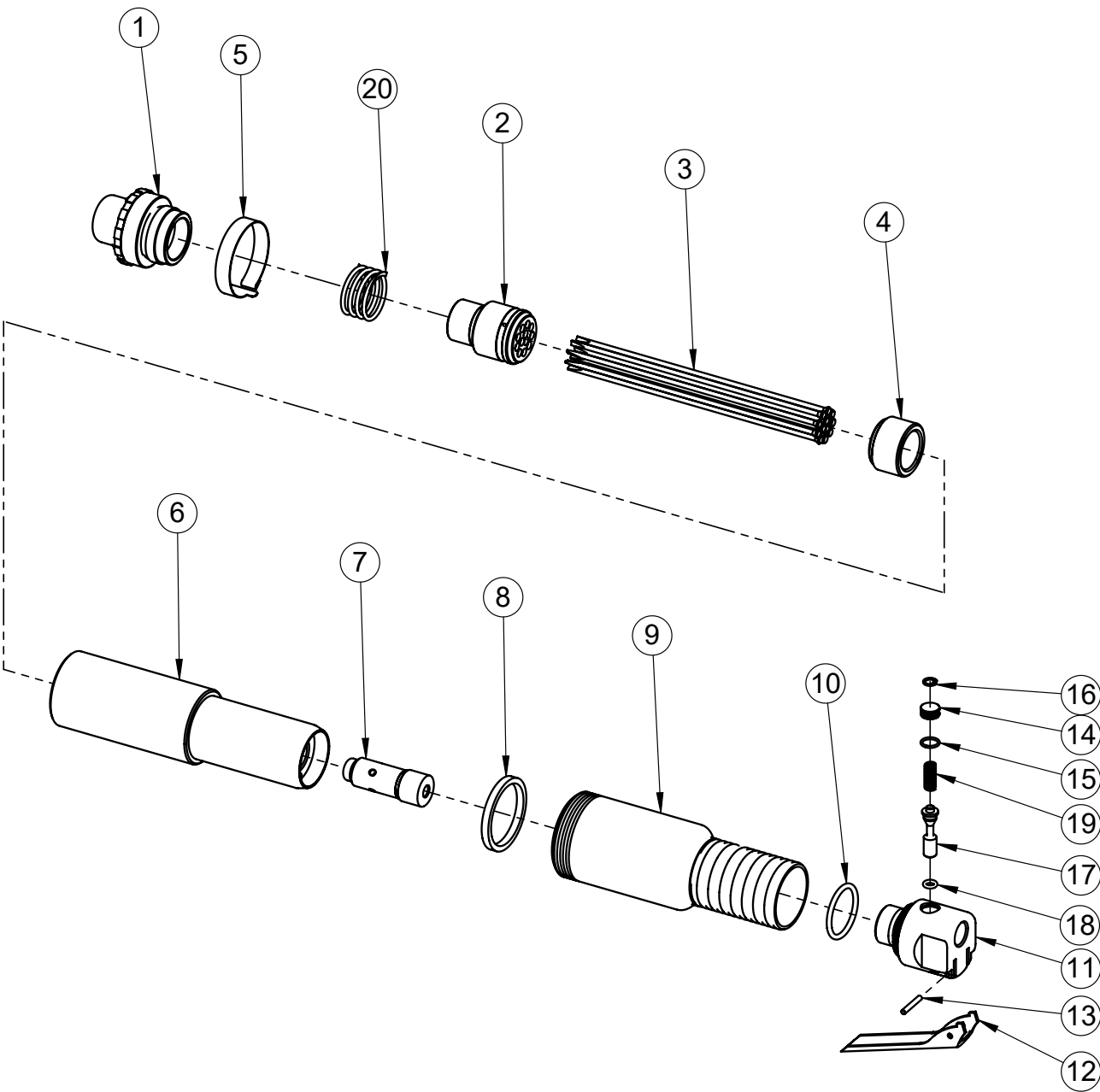
Standard Accessories

Part No	Description	Qty
022 40 52	HOSE NIPPLE (FOR QC FITTING OF 30SH,30SM & 30SF)	1

Optional Accessories

Part No	Description	Qty
022 90 43	HOSE NIPPLE	1
022 90 41	REDUCER	1

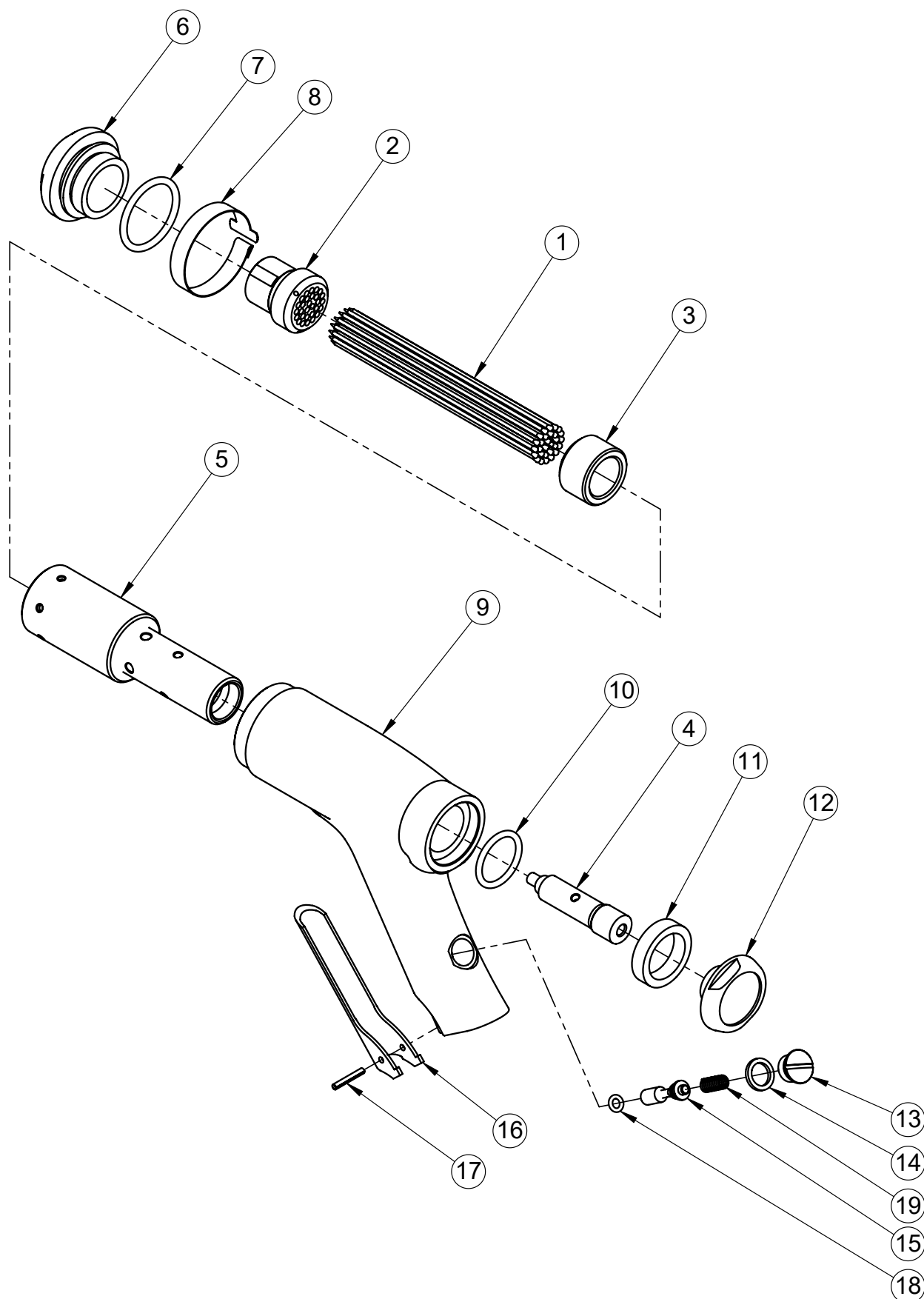
Exploded View for SN 20ST



Diassembly and Re-assembly for SN 16PG

- a. Shut off air supply and allow residual Pressure to bleed off.
- b. Remove Safety Band (5) from Stop Ring (1).
Now Unscrew Stop Ring (1) from Cylinder (6) and replace it with new one. (If found damaged/Worn-out)
- c. Remove Needle Supporter (2) with Needles (3), spring (20) & Throttle Anvil (4) from Cylinder (6). Now remove Needles (3) from Needle Supporter (2).
- d. Now unscrew the Control Body (11) from Cylinder (6). Now remove Piston (7), Cover for Cylinder (9) & Front Washer (8).
- e. Remove O-ring (10) from Control Body (11) and replace it with new one.
- f. Remove internal Circlip (16) from Control Body (11) using Circlip pliers. Now remove Valve cap (14) with O-ring (15), spring (19) and Throttle valve (17) with O-ring (18) from Control Body (11) and replace it with new one. (If found damaged/Worn-out)
- g. Now remove O-ring (15) from Valve Cap (14) and O-ring (18) from Throttle Valve (17) and replace it with new one.
- h. Remove Lever Pin (13) from Control Body (11) & remove throttle Lever (12).
- i. Coat parts with the recommended light oil before re-assembling. Now follow the above steps in reverse manner to reassemble the Needle Scalers...

Exploded View for SN 16 PG



Bill of Materials for SN 16 PG

Illustration Number	Part Number	Description	SN 16 PG
1	135 51 11OL	NEEDLE (DIA 2 X 150)	29
2	135 21 06	NEEDLE SUPPORTER	1
3	135 21 02	THROTTLE ANVIL	1
4	135 21 03	PISTON	1
5	135 21 04	CYLINDER	1
6	135 21 05	STOP RING	1
7	135 40 08	O' RING	1
8	140 51 12	SAFETY BAND	1
9	135 10 01	HOUSING	1
10	135 40 09	O' RING FOR CYLINDER	1
11	135 40 10	REAR WASHER	1
12	135 21 07	REAR BOLT	1
13	022 90 25	VALVE CAP	1
14	022 90 27	VALVE PACKING	1
15	022 90 29	THROTTLE VALVE	1
16	022 90 31	THROTTLE LEVER	1
17	022 90 33	LEVER PIN	1
18	022 90 30	O' RING FOR THROTTLE VALVE	1
19	022 90 40	SPRING FOR THROTTLE VALVE	1

Standard Accessories

Part No	Description	Qty
022 40 52	HOSE NIPPLE (FOR QC FITTING OF 30SH,30SM & 30SF)	1

EU DECLARATION OF CONFORMITY

We hereby certify that the Listed Product stipulated below comply with all relevant provisions of the machinery directive (2006/42/EC) and the national laws and regulations adopting this directive.

Description :

Model Number :

Date :

Serial Number :

Is in conformity with the provisions of the following European Directives: (2006/42/EC) Machinery Safety and Harmonized standards

ISO 12100-1: 2010: Safety of Machinery –general Principles for Design –Risk Assessment and Risk Reduction.

Registered Office : 416 Gundecha Industrial Complex, Akuril Road,
Kandivali East, Mumbai – 400101, Maharashtra, India.

Web site : www.teryair.com

Works : A-1, Tirupati Udyog Nagar, Sativali Road, Vasai East,
Palghar – 401208, Maharashtra, India.

CE certification registration no – C E 16832

Issued by – BMQR Certifications Pvt Ltd.
www.cemarking-india.com

Valid Till – 03/11/2021

Signed for and on behalf of



TERYAIR EQUIPMENT PVT. LTD.

Place of Issue:

Date:



Warranty Certificate

Every product manufactured by Teryair
is built to meet the highest standards of quality.

Teryair warrants that the Products, accessories and parts manufactured or supplied by the company be free from defects in material and workmanship for a period of six months from date of Teryair authorized dealer invoice to customer, or one year from date of Teryair invoice to dealer, whichever is earlier. Failure due to normal wear, misapplication, or abuse is, of course, excluded from this warranty.

Since the use of Teryair products and parts is beyond our control, Teryair cannot guarantee the suitability of any product or part for a particular application and Teryair shall not be liable for any consequential damage or expense arising from the use or misuse of its products on any application. Teryair does not warranty bought out products or components such as electric motors and hardware but will assist in directing warranty queries to the dealer/manufacturer responsible. Teryair responsibility is limited solely to replacement or repair of defective Teryair products or components.

Dealer/End User shall have no right or remedy and Teryair shall have no liability or obligation under the warranty, if:

- (i) a Product is altered, changed, modified or tampered with in any way;
- (ii) a Product is damaged after deposit with the transporter for shipment;
- (iii) a Product is not properly preserved, packaged, stored, processed or handled after receipt;
- (iv) a Product is not used and maintained in accordance with Teryair's recommended operating and maintenance manuals, instructions and procedures, if any;
- (v) a Product is not properly incorporated or installed in, or not properly combined with, an Other Product;
- (vi) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, a failure, substandard performance or other issue with another product, material, component or part not supplied by Teryair;
- (vii) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, compliance with any design, specification or other specific requirement of Dealer/End User;
- (viii) a Product is used in a manner, with a substance or for a purpose other than the normal manner, substance and purpose for which it is intended or is otherwise subjected to abnormal use or service;
- (ix) a Product is subjected to a power surge, brown out or other similar occurrence;
- (x) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, normal wear and tear of such Product (including, without limitation, things such as worn seals, diaphragms, balls, O rings, gaskets, chisels, cutters, hoses and other such wearing components);
- (xi) the issue with a Product is directly or indirectly

Dated :

Product Model Number :

Product Serial Numbar :

Ajay Bhagat, Q.A. Manager

(Company Seal)

This page is intentionally
Left blank.