

AIR DIFFUSION SYSTEMS A JOHN HINDE COMPANY

**CLEAN WATER SYSTEMS
(Lakes, Reservoirs & Canals)**

OPERATION & MAINTENANCE MANUAL

3964 Grove Avenue
Gurnee, Illinois 60031
U.S.A.

Phone 847-782-0044
Fax 847-782-0055

www.airdiffusion.com

"ADS" Clean Water System Maintenance

The following services are part of our normal maintenance schedule. Depending on your system configuration, there may be additional services that need to be provided.

1. General Compressor and Air Manifold inspection and maintenance.
 - A. Filter inspection, cleaning and replacement as required.
 - B. Leak test all fittings and connections, with "Snoop" Leak Detector or a solution of soap and water. Repair and retest so no leaks are present.
 - C. Vacuum out compressor enclosure or shelter floor area. Keep it dust free.
 - D. Check compressor air flow output by reading single or multiple flowmeters.
 - E. Check single or multiple Pressure Gauges on each manifold.
 - F. Test Pressure Relief Valve by releasing air to see if it works.
 - G. Set ventilation fan(s) to operate whenever indoor temperature is above 85° to 90°F or operate them continuously.

2. General Aeration System inspection and maintenance
 - A. Inspect Feeder Tubing, Aeration Tubing and Fittings for air leakage, repair or replace as required.
 - B. Inspect for consistent air pattern, restore aeration pattern as required, by liquid cleaning or mechanical roller-flexing all aeration tubing, normally every year.
 - C. Buried, collapsed, cut or blocked "ADS" tubing lines must be repaired to function properly.

3. Fill out the "ADS" System Maintenance Log Sheet and mail a copy to "ADS" every 6 to 12 weeks.

Clean Water Operation & Maintenance Instructions

A. CONCEPT

The "ADS" Clean Water System is designed to gently circulate and transfer oxygen from the bottom water to the surface, so that all water is aerobic, making all water liveable.

B. NORMAL MAINTENANCE

1. Daily inspection for proper air surface pattern. This is a visual inspection, to verify that the aeration pattern is visible.
2. Weekly walk the aeration system and inspect the aeration system for air leaks. Small leaks add up and waste electrical energy.
3. The heart of your "ADS" Aeration System is the Oil-Less Air Supply System. This equipment may be Piston Compressor(s) or Positive Displacement Blower(s).

Be sure to check your filters at least once per month.

Whatever unit or units you have, make sure you maintain them in strict accordance with the manufacturers recommendations. In the case of compressors pay close attention to the inlet filter(s). If you system was supplied with Positive Displacement Blowers, watch the oil level, grease as required and check the inlet filter(s).

C. SYSTEM PRESSURE (Pressure Gauge Reading)

The Air Supply System (Compressor or Blower) are specifically engineered to deliver all the air continuously at a specified pressure. The system pressure is determined by the sum of all line loses and the water depth. "ADS" engineers have already calculated the estimated overall pressure and then selected the proper unit to deliver the required air flow.

C. SYSTEM PRESSURE (Continued):

Below is an example of the overall friction loss in the system:

1. Each foot of water depth above the aeration tubing will equal 0.433 pounds (PSI).
2. The air supply manifold will create approximately 1.0 PSI.
3. The "ADS" Weighted Feeder Tubing will create 1.0 PSI per 100 feet of tubing.
4. The "ADS" Weighted Aeration Tubing will create 4.0 pounds for 200 to 250 feet of tubing.

Example: Water depth above the aeration tubing = 13.5 feet average. The longest feeder tube is 250 feet.

Typical estimated pressure as above

1. Water depth (13.5 feet) x 0.433	=	5.8 PSI
2. Manifold	=	1.0 PSI
3. 250 feet Weighted Feeder Tubing	=	2.5 PSI
4. 250 feet Weighted Aeration Tubing	=	<u>4.0 PSI</u>
TOTAL PSI	=	13.3 PSI

NOTE: When larger diameter Feeder Piping is required, see the "ADS" Engineers notes and Air Flow Nomograph for actual large pipe line losses.

Pressure's will vary and the system is designed to work effectively within a range. Keep the following key points in mind when checking the pressures.

1. Low pressure is better than high pressure. High pressure is only a problem when the Pressure Relief Valve is blowing.
2. If the Pressure Relief Valve is blowing, call Air Diffusion Systems at 847-782-0044. Be prepared to give us the following information:
 - A. Your "ADS" System Number or Project Name.
 - B. Current pressure reading.
 - C. Water depth of your system.

TROUBLE SHOOTING		
Problem	Cause	Remedy
Compressor will not start.	Loss of electricity, blown fuse, breaker has tripped, or the unit is too hot	Check the outlet, fuse or breaker to see that it is live! Check the compressor unit to see if it's hot. Reset and try again.
Compressor or blower pressure relief valve is discharging air.	Valve has been incorrectly adjusted, crimped air lines, blockage in piping or tubing, or valve is closed.	Readjust the pressure relief valve in accordance to maximum design pressure for the system. Inspect JACO Union Connectors to see if any restrictions
Weak air pattern at the surface.	Worn internal compressor(s) parts.	Rebuild compressor(s) annually. Rebuild Kits available from "ADS".
Elevated pressures and weak air pattern.	Precipitation build up at the air releases.	Liquid clean or Mechanical Roller-Flexing. Call "ADS" for further instructions.

**SUBJECT: INSTRUCTIONS FOR LIQUID ACID INJECTION TO CLEAN "ADS"
DIFFUSER TUBING**

CAUTION:

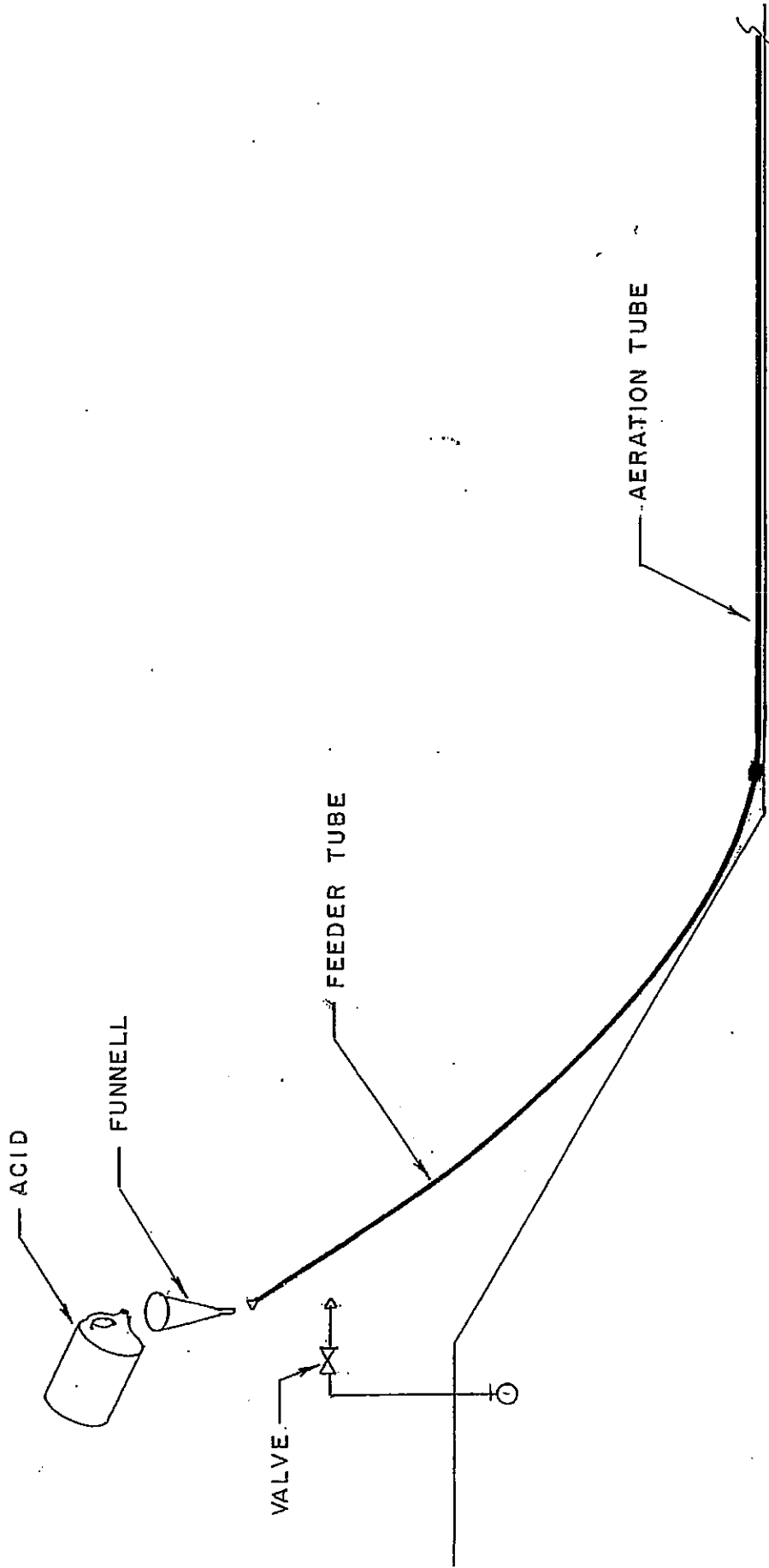
HCl liquid (Muriatic Acid) is mild strength acid. However it must be treated and handled like all acids. (See caution label on each bottle of muriatic acid.)

Necessary Equipment:

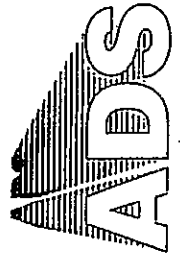
- One (1) Gallon Muriatic Acid per 1,000 feet of diffuser tubing.
- Acid resistant goggles, gloves, and apron. ("ADS" can supply above safety equipment).
- Acid resistant funnel.

Steps for Injection:

1. Turn off air and wait for two to four minutes.
2. Disconnect 1/2" Weighted Feeder Line. (Unclamp)
3. Wait two to four minutes or until all pressure is out of line.
4. Insert funnel inside feeder line.
5. Pour one pint (16 ounces) of muriatic acid into funnel.
6. Reconnect feeder line, and clamp.
7. Turn air on and wait five to ten minutes.
8. Repeat again above steps (Total Muriatic Acid per each line total 32 ounces).
9. After second injection is complete, flush with one gallon water.
10. Record before and after pattern and blower PSI.



ACID FEED DETAIL



AIR DIFFUSION SYSTEMS
A JOHN HINDE CO.

SYSTEM OPERATOR'S WEEKLY MAINTENANCE LOG SHEET

OPERATOR: _____ DATE: _____
 BLOWER SIZE: _____ SERIAL #: _____ START UP: _____

DAY OF THE WEEK:							
DATE:							

AIR PRESSURE							
CLEAN FILTERS							
CHECK OIL & GREASE							
CHANGE OIL							
CHECK BELT TENSION							
GREASE MOTOR BEARINGS							
CHECK FLEXIBLE CONNECTOR							
INSPECT CHECK VALVE							
CHECK PRV VALVE							
CHECK PRESSURE GAUGE							
PSI BEFORE HCI CLEANING							
PSI AFTER HCI CLEANING							

COMMENTS:

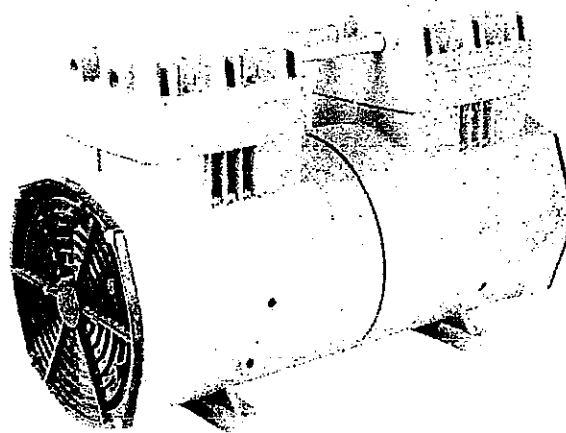
WOB-L™



2807 SERIES

MODELS

Standard models
2807CE72
2807CGH72 (220v)
2807CGH72 (230v)



FEATURES

- Oil-less, non-lube piston and cylinder
- Permanently lubricated bearings
- Stainless steel valves and aluminum valve plate
- Lightweight die cast aluminum components
- Long-life, high performance piston seal
- Thin wall, hard-coated aluminum cylinder for maximum heat transfer
- Twin fans provide cool air through and around motor and cylinders
- Low noise design
- Inlet filter
- All wetted aluminum parts treated for corrosion protection
- All other wetted parts stainless steel
- Eight foot cord and plug
- Balanced for smooth, low vibration operation
- Field Service capability
- CE approval on all standard 220-240-50 Hz models
(consult factory for non-standard models)

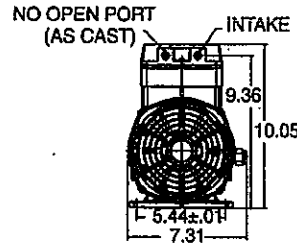
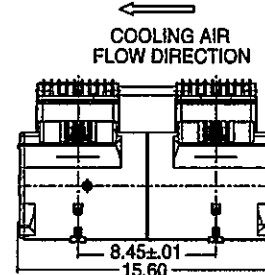
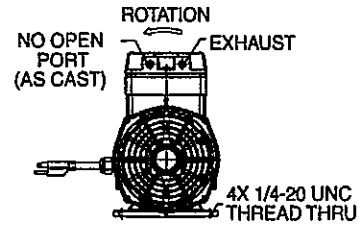
Consult factory for custom applications

ISO 9001
CERTIFIED

THOMAS
A Gardner Denver Product

2807 Series Performance Data

		Standard		Standard	
MODEL NUMBER		2807CE72		2807CGH72	
HEAD CONFIGURATION		Pressure/Vacuum		Pressure/Vacuum	
STROKE		.720 Inches		.720 Inches	
PRESSURE		Flow @ 115v		Flow @ 220v/230v	
CFM @ PSI	LPM @ bar				
PSI	bar	CFM	LPM	CFM	LPM
0	0	6.60	186.9	5.48 / 6.60	155.2 / 186.9
10	.5	6.20	178.7	5.15 / 6.20	148.3 / 178.7
20	1.0	5.90	171.7	4.90 / 5.90	142.6 / 171.7
30	1.5	5.55	165.2	4.60 / 5.55	137.2 / 165.2
40	2.0	5.13	157.2	4.26 / 5.13	130.6 / 157.2
50	3.0	4.65	141.4	3.86 / 4.65	117.4 / 141.4
60	5.0	4.35	112.5	3.61 / 4.35	93.4 / 112.5
70	7.0	4.07	84.9	3.38 / 4.07	70.4 / 84.9
80		3.75		3.11 / 3.75	
90		3.38		2.81 / 3.38	
100		3.05		2.53 / 3.05	
110		2.75		2.28 / 2.75	
120		2.45		2.02 / 2.45	
MAX. CONTINUOUS PRESSURE		52,450.0 PSI	3.4bar	50.0 PSI	3.4 bar
MAX. INTERMITTENT PRESSURE		120.0 PSI	8.3 bar	120.0 PSI	8.3 bar
VACUUM		Flow @ 115v		Flow @ 220v/230v	
CFM @ IN. hg	LPM @ mbar (gauge)				
IN. hg	mbar (gauge)	CFM	LPM	CFM	LPM
0	0	6.60	186.9	5.48 / 6.60	155.2 / 186.9
5	-100	3.60	136.7	3.66 / 3.60	125.0 / 136.7
10	-200	2.66	97.1	2.21 / 2.66	96.1 / 97.1
15	-400	1.80	66.5	1.41 / 1.80	54.4 / 66.5
20	-600	.88	36.8	.56 / .88	26.8 / 36.8
MAX. VACUUM		25.0" hg	-848 mbar	25.0" hg	-848 mbar
MAX. AMBIENT AIR TEMP.		104° F	40°C	104° F	40°C
MIN. AMBIENT START TEMP.		50° F	10°C	50° F	10°C
MAX. RESTART PRESSURE		100 PSI	6.9 bar	100 PSI	6.9 bar
MAX. RESTART VACUUM		0 "hg	0 mbar	0 "hg	0 mbar
MOTOR VOLTAGE/FREQUENCY		115/60/1		220/50/1-230/60/1	
MOTOR TYPE		Permanent Split Capacitor		Capacitor Start	
CURRENT AT RATED LOAD (AMPS)		8.5		5.0 / 4.8	
POWER AT RATED LOAD (WATTS)		902		948 / 929	
STARTING CURRENT (LOCKED ROTOR, AMPS)		44.0		20.0	
CAPACITOR VALUE		30 mfd		30 mfd	
MIN. FULL LOAD SPEED (RPM)		1700		1425	
THERMAL PROTECTOR		Yes		Yes	
NET WEIGHT		39 lbs.	17.7 kg	39 lbs.	17.7 kg



The information presented in this material is based on technical data and test results of nominal units. It is believed to be accurate and reliable and is offered as an aid to help in the selection of Thomas products. It is the responsibility of the user to determine the suitability of the product for his intended use and the user assumes all risk and liability whatsoever in connection therewith. Thomas Industries does not warrant, guarantee or assume any obligation or liability in connection with this information.

NOTE: Models pictured are representative of the series and do not represent a specific model number. Consult factory for detailed physical description.

THOMAS
A Gardner Denver Product

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Phone: (920) 457-4891
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www.rtpumps.com/she



THOMAS[®]
PUMPS & COMPRESSORS

1419 ILLINOIS AVE., SHEBOYGAN, WI 53082
(920) 457-4891 www.thomasind.com

MODEL NUMBERS:

2807CGHI72 2807CE72 2807CS72 2807CG72 2807CGH72

Read and understand the follow information and instructions included with this product before using. This information is for your safety and to prevent damage to this product.

⚠ CAUTION: To reduce risk of electrical shock..

1. Do not disassemble. Disassembly or attempted repairs if accomplished incorrectly can create electrical shock hazard. Refer servicing to qualified service agencies only.
2. If this plug is supplied with a three pronged plug, connect unit to a properly grounded outlet only.

⚠ WARNING: To reduce risk of electrocution ...

1. This product should never be left unattended when plugged in.
2. Always unplug this product immediately after using and store in dry place.
3. Do not use this product in or near area where it can fall or be pulled into water or other liquids.
4. Do not reach for this product if it has fallen into liquid. Unplug immediately.
5. Never operate this product outdoors in the rain or in a wet area.

⚠ DANGER: To reduce risk of explosion or fire...

1. Do not use this product in or near explosive atmospheres or where aerosol (spray) products are being used.
2. Do not pump anything other than atmospheric air.
3. Do not pump combustible liquids or vapors with this product or use in or near an area where flammable or explosive liquids or vapors may exist.
4. Do not use this product near flames.

Failure to observe the above safety precautions could result in severe bodily injury, including death in extreme cases.

SAVE THESE INSTRUCTIONS

⚠ Warning: Thomas compressors are precision-made, and carefully assembled and wired. Do not disassemble or attempt to repair these products. Repair service should be performed by qualified personnel only. ⚠

IMPORTANT NOTICE TO PURCHASER: WARRANTY AND EXCLUSIVE REMEDIES

Thomas finished OEM products, when properly installed and under normal conditions of use, are warranted by Thomas to be free from defects in material and workmanship at time of shipment. Warranty claims regarding OEM limited products must be asserted within 13 months (the "warranty period") from date of manufacture encoded on the product (unless otherwise agreed in writing or specified in a Thomas OEM Quotation). The customer's exclusive remedy against Thomas for a warranty claim or otherwise, shall be limited to repair or replacement of the subject OEM finished product if it is shown to have been defective in material and workmanship at time of shipment, and then only if the claim is asserted during the warranty period. Thomas maximum liability under this exclusive remedy shall never exceed the cost of the subject product and Thomas reserves the right, at its sole discretion, to refund the purchase price in lieu of repair or re placement. Except for such warranty and exclusive remedy as stated (and except for the express warranty of title) THOMAS DISCLAIMS ALL OTHER WARRANTIES WITH RESPECT TO ITS OEM FINISHED PRODUCTS, WHETHER IMPLIED, AND SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL THOMAS

BE LIABLE TO CUSTOMER OR THIRD PARTIES IN WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, FOR ANY DAMAGES, WHETHER INCIDENTAL OR CONSEQUENTIAL, WHICH ARE ALLEGED TO HAVE BEEN CAUSED BY ONE OR MORE OF OUR PRODUCTS BEYOND THE COST TO THE CUSTOMER OF THE SUBJECT PRODUCT OR PRODUCTS. THE EXCLUSIVE REMEDY FOR ANY CLAIM HAVING BEEN LIMITED TO REPAIR OR REPLACEMENT AS AFORESAID.

Because Thomas OEM warranties and remedies extend only to our direct customers, the customer is not authorized to extend warranties on our behalf to anyone. Unauthorized extensions of warranties by the customer shall remain customer's responsibility.

CUSTOMER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF OUR PRODUCTS FOR CUSTOMER'S USE OR RESALE, OR FOR INCORPORATING THEM INTO OBJECTS OR FOR APPLICATIONS WHICH CUSTOMER DESIGNS, ASSEMBLES, CONSTRUCTS OR MANUFACTURES.

⚠ CAUTION: To prevent Injury...

1. Close supervision is necessary when this product is used near children or invalids. Never allow children to operate unit.
2. Never operate this product if it has a damaged cord or plug If it is not working properly. If it has been dropped or damaged. Or if it has fallen into water, return the product to a service center for examination and repair.
3. Keep the cord away from heated surfaces.
4. Never block any air openings (inlet) of this product or place it on a soft surface where the openings may be blocked Keep all air openings free of lint, dirt and other foreign objects.
5. Never use while sleeping or drowsy.
8. Never drop or insert fingers or any other object into openings.
7. Do not operate this product where oxygen is being administered.
8. This unit may be thermally protected and can automatically restart when the protector resets. Always disconnect power source before servicing.
9. Wear safety glasses or goggles when operating this product.
10. Use only in well ventilated areas.
11. Do not use any tools or attachments without first determining maximum air pressure for that tool or attachment.
12. Never point any air nozzle or air sprayer toward another person or any part of the body.
13. All electrical products generate heat. To avoid serious burns never touch unit during or immediately after operation.



ADVERTENCIA: Los compresores de aire de potencia eléctrica son fabricados con precisión, son armados y alambrados con cuidado. Por lo tanto, no desarme o trate de reparar estos productos. Únicamente personal capacitado deberá efectuar el servicio de reparación.



Lea y entienda la información siguiente y las instrucciones incluidas con este producto antes de usarlo. Esta información es por su seguridad y para prevenir daños a este producto.

PRECAUCIÓN: Para reducir el riesgo de un shock eléctrico...

1. No desensamble. Si se ha desmontado o se ha tratado de hacer un reparo esto puede causar un shock eléctrico. Refiera estos servicios a agencias de servicios calificados solamente.
2. Si este producto viene con un enchufe de tres patas, conecte esta unidad a su enchufe correcto solamente.

ADVERTENCIA: Para reducir el riesgo de electrocución.

1. Este producto nunca se debe dejar sin asistencia cuando está enchufado.
2. Siempre desconecte este producto inmediatamente después de usarlo y guárdelo en un sitio seco.
3. No use este producto en áreas o en áreas cercanas de donde se puede caer, halar al agua o cualquier otra clase de líquidos.
4. No recoja este producto si este se ha caído en un líquido. Desconecte inmediatamente.
5. Nunca opere este producto afuera en la lluvia o en áreas mojadas.

PELIGRO: Para reducir el riesgo de explosión o incendio

1. No use este producto en o cerca de atmósferas explosivas o en lugares donde se estén usando productos rociados de aerosol.
2. No bombee nada más, sino aire atmosférico.
3. No bombee combustibles líquidos o vaporizantes con este producto. No use en o en áreas cercanas donde explosivos líquidos o vapores inflamables pueden existir.
4. No use este producto cerca a llamas.

PRECAUCIÓN: Para prevenir heridas...

1. Una supervisión cerca es necesaria cuando este producto se usa cerca a los niños o invalidos. Nunca permita que un niño opere esta unidad.

2. Nunca opere esta unidad si el cable tiene un daño o el enchufe está dañado. Si no trabaja correctamente. Si se ha dejado caer o si está dañado. Si se ha caído en el agua, devuelva el producto a un centro de reparos para una examinación y su reparo.
3. Mantenga el cable alejado de superficies calientes.
4. Nunca bloquee ninguna salida (entradas) de aire de este producto ni lo ponga en una superficie suave donde las aberturas se puedan bloquear. Mantenga todas las entradas de aire limpias de hilachas, sucios y otros objetos extraños.
5. Nunca use mientras duerme o se sienta con sueño.
6. Nunca deje caer ningún objeto extraño o metas los dedos en ninguna de las aberturas.
7. No opere este producto donde se este administrando oxígeno.
8. Esta unidad se puede proteger térmicamente y puede empezar automáticamente cuando el protector se monta de nuevo. Siempre desconecte la unidad antes de repararla.
9. Use gafas de protección cuando se opere esta unidad.
10. Use en áreas ventiladas solamente.
11. No use ninguna herramienta sin antes determinar cual es la presión máxima de esa herramienta.
12. Nunca apunte una boquilla de aire o un rociador de aire hacia otra persona o cualquier otra parte del cuerpo.
13. Todos los productos eléctricos producen calor. Para prevenir quemaduras graves nunca toque la unidad durante su funcionamiento o inmediatamente después de su funcionamiento.

DESCUIDO DE OBSERVAR LAS PRECAUCIONES DE SEGURIDAD PUEDE RESULTAR EN HERIDAS GRAVES AL CUERPO, HASTA MUERTE EN CASOS EXTREMOS.

GUARDE ESTAS INSTRUCCIONES



AVERTISSEMENT: Les compresseurs Thomas sont des appareils de précision qui ont été montés et dont les fils ont été posés avec soin. Par conséquent, ne les démontez pas et n'essayez pas de les réparer. Les réparations doivent être effectuées uniquement par un personnel qualifié.



Avant d'employer ce produit, lire et assimiler les renseignements suivants ainsi que les instructions incluses. Ces renseignements vous sont fournis pour votre sécurité et pour empêcher de cause des dommages à cet appareil.

ATTENTION: Pour éviter les risques de chocs électriques

...

1. Ne pas démonter. En démontant ou en essayant de réparer l'appareil incorrectement vous pouvez créer des dangers de chocs électriques. Ne faire réparer votre appareil que par un réparateur qualifié.
2. Si cet appareil est équipé d'une fiche avec prise de terre ne brancher l'appareil qu'à une prise de courant avec prise de terre.

AVERTISSEMENT: Pour éviter les risques d'électrocution

...

1. Cet appareil ne doit jamais être laissé sans surveillance lorsqu'il est branché.
2. Cet appareil doit toujours être immédiatement débranché après avoir été employé et range dans un endroit sec.
3. Cet appareil ne doit pas être employé dans des endroits où il pourrait tomber ou être poussé dans l'eau ou autres liquides.
4. Ne jamais essayer de retraper cet appareil s'il est tombé dans un liquide. Le débrancher immédiatement.
5. Ne jamais se servir de cet appareil dehors lorsqu'il pleut ou dans des endroits humides.

DANGER: Pour réduire les risques d'explosion ou d'incendie...

1. Cet appareil ne doit pas être employé à proximité de produits explosifs ou dans des endroits où des produits vaporisés (des bombes) sont employés.
2. Ne jamais rien pomper d'autre que de l'air atmosphérique.
3. Ne pas pomper de liquides ou de vapeurs inflammables avec cet appareil et ne pas employer cet appareil dans des endroits ou à proximité d'endroits où des vapeurs ou liquides explosifs sont présents.
4. Ne pas employer cet appareil à proximité de flammes.

ATTENTION: Pour éviter les blessures...

1. Soyez très attentif si l'appareil est utilisé à proximité d'enfants ou d'invalides. Ne laissez jamais des enfants employer cet appareil.
2. N'employez jamais cet appareil si le fil ou la prise sont endommagés, s'il ne fonctionne pas correctement, s'il est tombé ou a été endommagé ou s'il est tombé dans l'eau. Portez-le chez un réparateur pour le faire examiner et réparer.

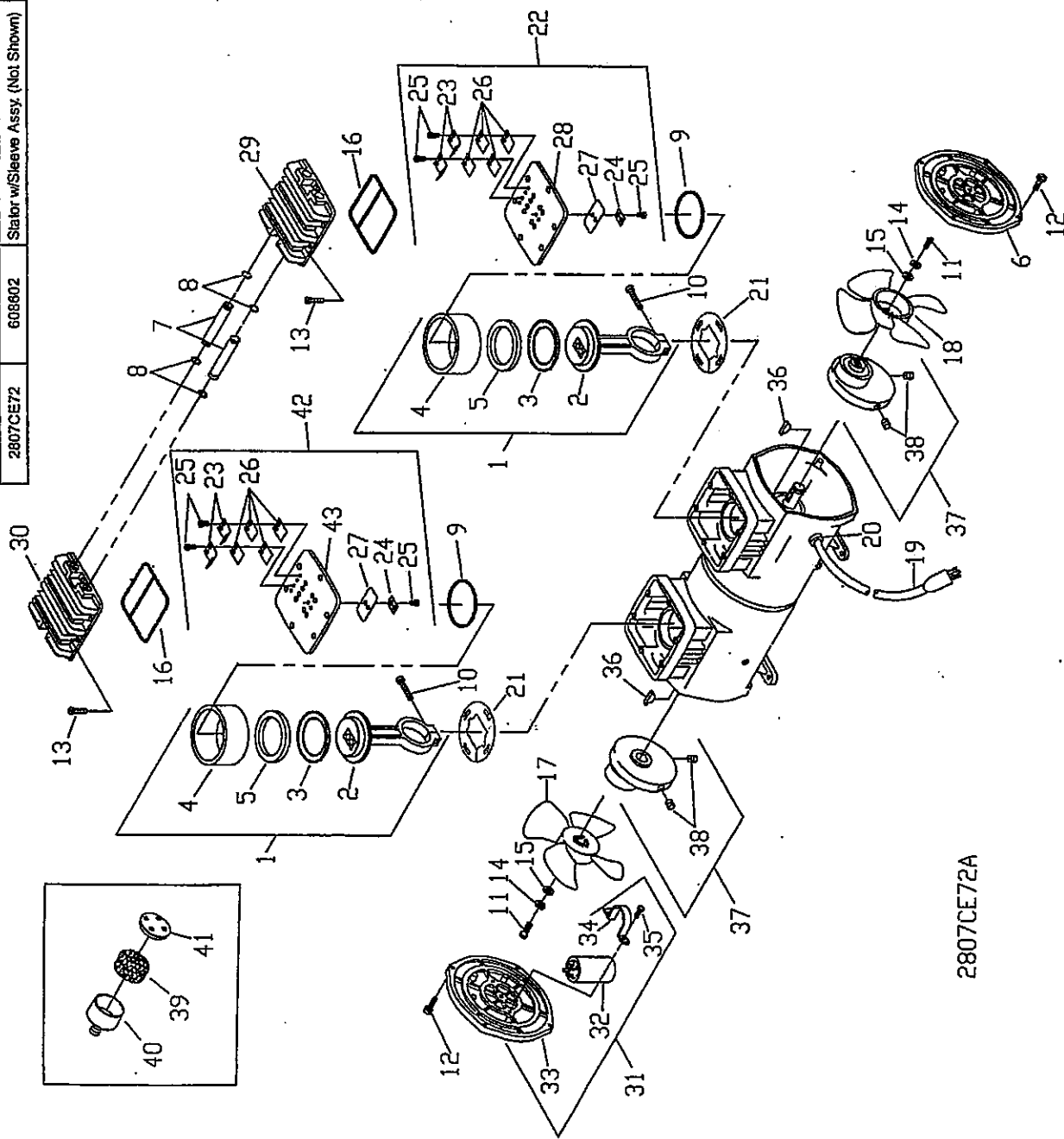
3. Ne laissez pas reposer le fil électrique sur des surfaces chaudes.
4. Ne bouchez jamais les trous d'admission d'air (prise d'air) de cet appareil et ne le placez jamais sur des surfaces molles qui pourraient obstruer ces prises d'air. Veiller à ce que ces ouvertures restent propres et ne s'encrassent pas de peluches, de poussière ou d'autres corps étrangers.
5. Ne laissez jamais marcher cet appareil pendant que vous dormez ou sommelez.
6. Ne mettez jamais les doigts et ne laissez jamais tomber d'objets dans aucune des ouvertures de cet appareil.
7. N'employez pas cet appareil en présence d'un dispositif administrant de l'oxygène.
8. Il est possible que cet appareil soit équipé d'un dispositif de protection thermique et qu'il se remette en marche automatiquement quand la température sera descendue. Déconnectez toujours l'électricité avant d'entreprendre la moindre réparation.
9. Portez des lunettes de protection lorsque vous utilisez cet appareil.
10. N'employez cet appareil que dans des endroits très bien aérés.
11. Avant d'employer des outils ou des accessoires vérifiez d'abord la pression d'air limite de ces outils ou accessoires.
12. Ne pointez jamais un ajutage d'air ou un jet d'air dans la direction d'une personne ou de n'importe quelle partie du corps.
13. Tout appareil électrique produit une certaine quantité de chaleur. Pour éviter de sérieuses blessures ne touchez jamais l'appareil pendant qu'il marche et juste après l'avoir employé.

L'inobservation des précautions de sécurité indiquées cidessus pourrait causer de sérieuses blessures et même la mort dans les cas extrêmes.

CONSERVEZ CES INSTRUCTIONS

DRAWING AND PARTS LIST

Model No.	Part No.	Description
2807CS72	608650	Stator w/Sleeve Assy. (Not Shown)
2807CG72	608630	Stator w/Sleeve Assy. (Not Shown)
2807CGH72	608630	Stator w/Sleeve Assy. (Not Shown)
2807CE72	608602	Stator w/Sleeve Assy. (Not Shown)



Key	Part No.	Component Part	Description	Qty.
1	666988		Connecting Rod Assy.	2
2		607206	Connecting Rod	2
3		614557	Piston Cup	2
4		618110	Piston Sleeve	2
5		626521	Retainer-Piston Cup	2
6		614509	Front Cover	2
7		625623	Connector Tube	2
8		623122	O-Ring - Connector Tube	4
9		623638	O-Ring - Valve Plate	2
10		625114	Screw - Connecting Rod	2
11		625354	Screw - Fan	2
12		625448	Screw - Front Cover	8
13		625646	Screw - Head	12
14		626509	Lockwasher - Fan	2
15		626563	Washer - Fan/Cap. Brkt	4
16		638760	O-Ring Gasket - Head	2
17		633718	Fan - White	2
18		933810	Fan - Black	1
19		633903	Cord Assembly	1
20		633904	Strain Relief	1
21		638415	Dust Shield	2
22		662526-504	Valve Plate Assy.	1
23			Valve Flapper Restraint	4
24		617135	Valve Keeper Strip	2
25		625446	Screw - Valve Flapper	12
26		656708	Valve Flapper - Exhaust	8
27		656887	Valve Flapper - Intake	2
28		662519-504	Valve Plate	1
29		651117-504	Head	1
30		661118-504	Head	1
31		662369	Front Cover Assembly	1
32			Capacitor - 30 Mfd	1
33		603159	Front Cover	1
34		614639	Capacitor Bracket	1
35		617434	Screw - Bracket	2
36		625434	Woodruff Key	2
37		626618	Ecc. & Bearing Assy.	2
38		667174	Set Screw - Eccentric	2
39		641010	Filler	1
40		660776	Filler Body	1
41		660803	Filler Body Cap	1
42		656284-504	Valve Plate Assy.	1
43		662214-504	Valve Plate	1

2807CE72A



SMALL COMPACT FILTER SILENCERS

With PATENTED Filter Element

"FS" Series 0.25" – 1" BSPT

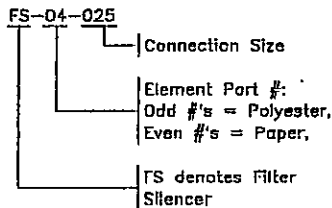
"Solberg, where the best is in store for you!"

APPLICATIONS

- * Blowers – Side channel & Roots
- * Piston Compressors
- * Screw Compressors
- * Hydraulic Breathers
- * Engines
- * Industrial Duty
- * Construction
- * Workshop
- * Medical
- * Hobby
- * Pneumatic Conveying
- * Waste Water Aeration

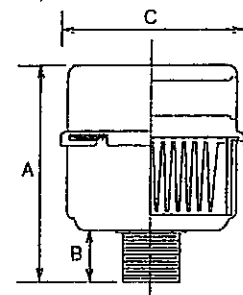
OPTIONS (Inquires Encouraged)

- * Various elements available – See Element Bulletin
- * Epoxy coated housings
- * Hot dipped galvanized housings
- * Special connections
- * NPT Available
- * Stainless Steel Available



FEATURES

- * 99%+ filter efficiency std. at 10 micron
- * PATENTED high grade filter element
- * Fully drawn weatherhood – no welds to rust or vibrate apart
- * Tubular silencing design – tubes positioned to maximize attenuation and air flow while minimizing pressure drop
- * Durable carbon steel construction with baked enamel finish
- * Interchangeable elements: Polyester Paper, Hepa
- * Ability to mount vertically, horizontally



"FS" POLYESTER ELEMENT	"FS" PAPER ELEMENT	BSPT INLET	DIMENSIONS—mm			Suggested Rated Flow m ³ /hr			# OF TUBES	WEIGHT kg
			A	B	C	PISTON	SCREW, BLOWER, FAN	ELEMENT RATING		
05-025	04-025	0.250"	68	16	64	10	13	13	1	0.25
05-038	04-038	0.375"	68	16	64	10	13	13	1	0.25
05-050	04-050	0.500"	76	24	64	10	13	13	1	0.25
07-038	06-038	0.375"	100	16	83	15	20	20	1	0.45
07-050	06-050	0.500"	108	24	83	17	20	20	1	0.45
07-075	06-075	0.750"	116	32	83	20	20	20	1	0.45
11-050	10-050	0.500"	105	24	108	20	20	60	1	0.70
11-075	10-075	0.750"	114	32	108	35	45	60	1	0.70
11-100	10-100	1.000"	114	32	108	45	60	60	1	0.70

Dimension Tolerance: ±3mm

SOLBERG International, Ltd.

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 SLOVAKIA Tel: +42 (0)88/737065 BENELUX, FRANCE Tel: +32 (0)3/2540567

ATTENTION: READ CAREFULLY BEFORE ATTEMPTING TO INSTALL OR SERVICE THE CONTROL DEVICES NON-CODE SAFETY VALVE. RETAIN FOR FUTURE REFERENCE.

PRODUCT DESCRIPTION

The model NC25 valve is a field adjustable safety valve used to protect pressure containing components from exceeding a safe level of pressure.

CAUTION

THIS VALVE IS NOT TO BE USED TO PROTECT AN ASME PRESSURE VESSEL.

PRODUCT SPECIFICATIONS

Pressure Range	25-200 PSIG
Max Temperature	250° F
Inlet Pipe Connection	1/4 NPT
Height	1.60-1.75 in.
Wrenching Hex	9/16 in.
Weight	1.5 oz.

Materials of Construction:

Body, Adjustment Screw, Jam Nut, Cup - Brass
Springs - Stainless Steel
Seal - Silicone Rubber

INSTALLATION & SET PRESSURE ADJUSTMENT

The following items will be needed for the installation and adjustment of the safety valve:

9/16" and 5/8" wrenches or adjustable wrench
Pipe thread sealant (Teflon® tape, pipe dope, etc.)
Pressure gage
Source of air pressure

The safety valve can be set either after installation or it can be set on a separate pressure vessel which has a pressure gage installed. If the valve is set on a separate pressure vessel, the maximum working pressure of the pressure vessel must be greater than the pressure required to set the safety valve.

WARNING

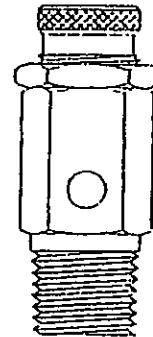
BEFORE ATTEMPTING TO INSTALL THE SAFETY VALVE INTO ANY PRESSURE CONTAINING COMPONENT, ALWAYS TURN OFF AIR SUPPLY AND DEPRESSURIZE SYSTEM PRESSURE.

Adjusting the Set Pressure

1. Select the correct spring for the desired set pressure. See Table 1 for spring pressure ranges.
2. With correct spring in valve, install valve into pressure vessel.

MAINTENANCE

The only maintenance required is the occasional verification of the set pressure of the safety valve. This should be done both to ensure that the set pressure has not changed and to ensure that the valve has not been contaminated or exposed to extreme temperatures causing it to stick in the closed position.



3. Apply pressure to vessel while observing pressure gage. Note pressure at which valve pops.
4. If the valve pops below the desired set pressure, turn the adjustment screw clockwise to increase the set pressure. If it pops above the desired set pressure, turn the adjustment screw counterclockwise to decrease the set pressure.
5. Repeat steps 3 and 4 until valve pops at desired set pressure.
6. Tighten the jam nut down against the body to lock the set pressure into place.

Spring	Pressure Range
Yellow	25-50 psi
Red	51-100 psi
Silver	101-150 psi
Blue	151-200 psi

Table 1. Spring Pressure Ranges

Installing the Safety Valve

1. Apply pipe thread sealant to inlet pipe thread.
2. Install valve into 1/4 NPT opening and tighten to approximately 15 foot pounds torque.

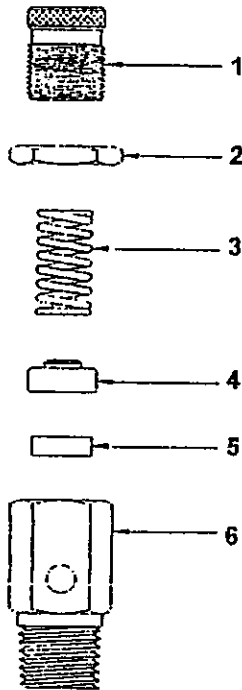
This verification can be performed by installing the valve into a pressure vessel and applying pressure to the vessel as described above. The valve should be popped at least three times to determine a stabilized set pressure. If the set pressure has drifted it should be readjusted to the desired pressure.

MAINTENANCE (cont.)

If the valve fails to pop at all or until a much higher pressure, the valve has probably been contaminated or

damaged by high temperatures. In this case, the seal or the entire valve should be replaced.

REPLACEMENT PARTS LIST



Ref. No.	Part No.	Description
1	NC2503	Adjustment Screw
2	M20011	Jam Nut
3	See Table 3	Spring
4	NC2505	Cup
5	NC2507	Seal
6	NC2501	Body

Table 2. Replacement Parts List

Color	Part No.	Pressure Range
Yellow	NC2511	25-50 psi
Red	NC2509	51-100 psi
Silver	NC2515	101-150 psi
Blue	NC1516	151-200 psi

Table 3. Spring List

**ORDER REPLACEMENT PARTS BY
CALLING TOLL FREE
1-800-323-0620**

Please provide the following information:

- Model Number
- Part Description and Part Number as shown in Replacement Parts List

Address parts correspondence to:

Parts Company of America
1657 Shermer Road
Northbrook, IL 60062-5362



control devices inc.

711 Hanley Industrial Court • P.O. Box 20021 • St. Louis, Missouri 63144
Phone (314) 781-6022 • Fax (314) 781-7859

