
CPE 150
Atlas Copco Group
Chicago Pneumatic
HANKOOK SERVICE CENTER LIMITED
No: 28B, CASA Grande Futura, Singaperumal Kovil Road, Sriperumbudur
Kanchipuram, Tamil Nadu 602105 | E MAIL: team@hksc.in
High-performance products.
Designed for you!
Chicago Pneumatic

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(Type Ⅰ)

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(Type Ⅰ)

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(Type Ⅱ)

17. CPVS VSD Model series

(Type Ⅱ)

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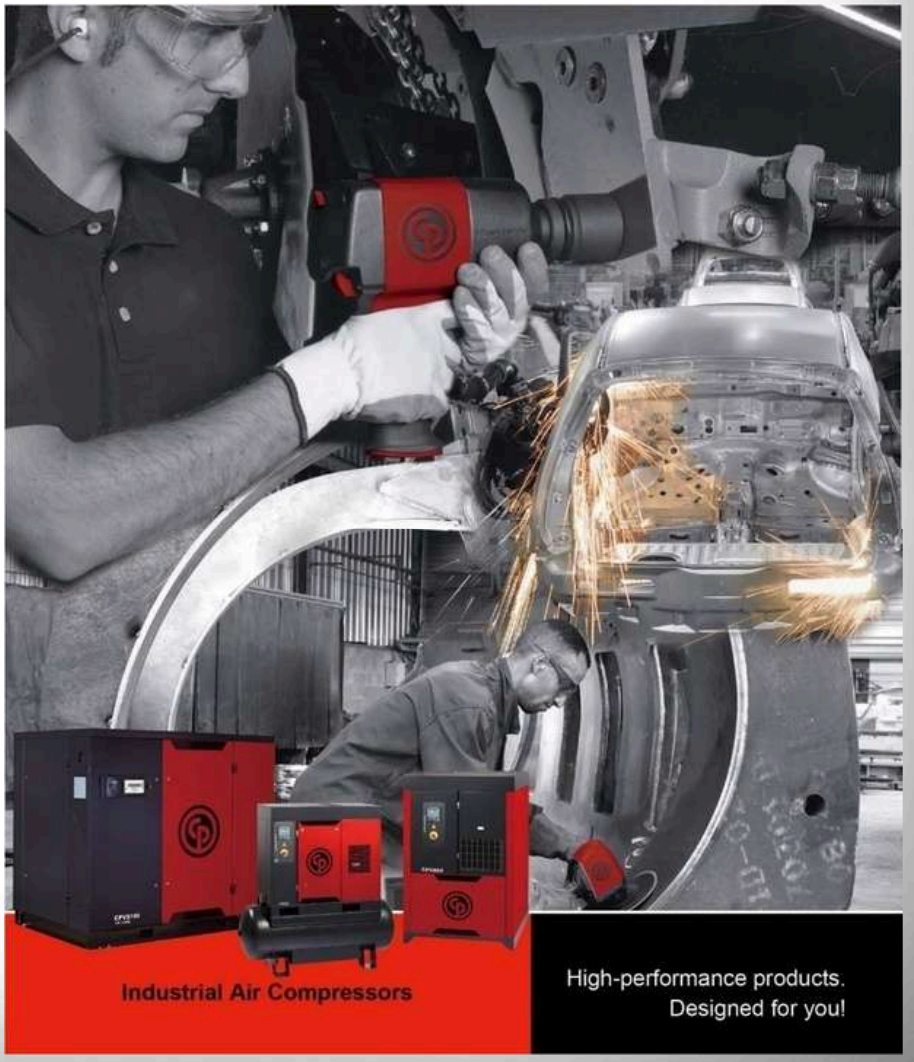


Atlas Copco Group

아트라스콥코는 압축기, 익스팬더 및 후단 부대설비, 건설 및 광산용 장비, 전동 공구 및 어셈블리 시스템 분야에서 세계시장을 주도하는 다국적 산업 그룹입니다. 혁신적인 제품과 서비스로 아트라스콥코는 지속적인 생산성 (**Sustainable productivity**)을 위한 솔루션을 제시하고 있습니다.

아트라스콥코제조한국은 스웨덴 스톡홀름에 본사를 두고 있으며 140년의 역사를 가진 Atlas Copco AB그룹에 속해 있습니다.

전세계적으로 39,800 명의 아트라스콥코 직원이 근무하고 있으며 170여개국의 시장에 진출해 있습니다.
아트라스콥코의 제품은 에어.가스 컴프레셔(공기 압축기)를 비롯하여 건설, 도로, 광산, 굴착 장비 및 산업용 공구 등이 있습니다.

1981년 창립 이후, 지난 30년간 아트라스콥코제조한국은 한국의 성장과 함께 놀라운 발전을 해왔으며 한국의 눈부신 경제 성장과산업화과정의일부를담당해온 것을영광스럽게생각합니다.

아트라스콥코의 경영철학은 신뢰할 수 있는 좋은 제품과 최상의 서비스를 고객에게 제공하고, 직원들이 자기계발을
통해 역량을 키울 수 있는 근무 환경을 조성하며, 회사의 주주들을 위한 책임을 다 하는 것입니다.
저희아트라스콥코는핵심가치인혁신(Innovation), 약속(Commitment), 상호작용(Interaction)을통해,아트라스콥코의브랜드약속인
지속가능한 생산성 향상(Sustainable Productivity)을 위해 항상 노력하고 있습니다.

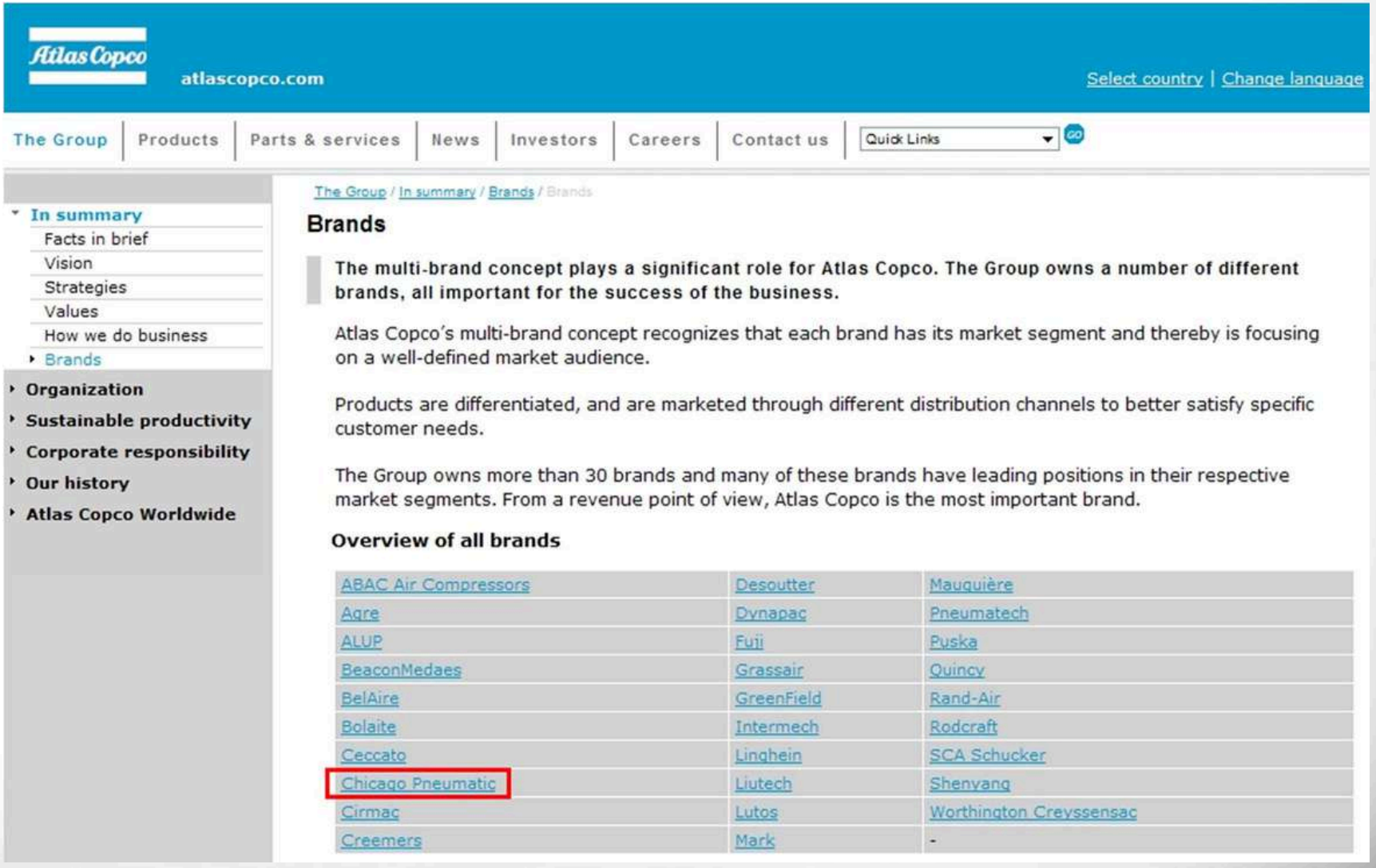
아트라스콥코는 1873년 스웨덴 스톡홀름을 거점으로 하여 창립되었으며 전 세계 170여 국가에 이르는 글로벌 시스템을 형성하고 있습니다.
2012년 기준으로 아트라스콥코와 멀티브랜드는 약 40,000 명의 직원이 전 세계에 걸쳐 분포하고 있습니다.

Multi-Brands

아트라스콥코에 있어 멀티 브랜드는 상당히 중요한 역할을 차지하고 있습니다. 아트라스콥코 그룹은 비즈니스 성공을 위해 모두 중요한 수많은 타 브랜드를 소유하고 있습니다. 아트라스콥코의 멀티 브랜드 개념은 각 브랜드가 마켓 구역을 갖고 이에 따라 명확한 마켓 대상에 초점을 두고 있음을인지하는것입니다.

각 제품은 차별화되어 더 나은 고객만족을 충족시키도록 다른 유통 체계를 통하여 마켓에 정착됩니다. 아트라스콥코그룹은미국의시카고뉴매틱(Chicago Pneumatic)을비롯하여프랑스의워싱턴크레이센색(Worthington Creyssensac), 이탈리아의 체카토 (Ceccato), 스페인의 푸스카 (Puska), 네덜란드의 그래스에어 (Grass Air) 등 30개가 넘는 멀티 브랜드를 소유하고 있으며 이 모든 브랜드는 그들 고유의 마켓 구역에서 주도적인 역할을 수행하고 있습니다. 매출 창출의 관점에서 아트라스콥코는 가장 중요한
브랜드입니다.




Atlas Copco
atlascopco.com
Select country | Change language
The Group
Products
Parts & services
News
Investors
Careers
Contact us
Quick Links
GO
In summary
Facts in brief
Vision
Strategies
Values
How we do business
Brands
Organization
Sustainable productivity
Corporate responsibility
Our history
Atlas Copco Worldwide
The Group / In summary / Brands / Brands
Brands
The multi-brand concept plays a significant role for Atlas Copco. The Group owns a number of different brands, all important for the success of the business.
Atlas Copco's multi-brand concept recognizes that each brand has its market segment and thereby is focusing on a well-defined market audience.
Products are differentiated, and are marketed through different distribution channels to better satisfy specific customer needs.
The Group owns more than 30 brands and many of these brands have leading positions in their respective market segments. From a revenue point of view, Atlas Copco is the most important brand.
Overview of all brands
ABAC Air Compressors
Agre
ALUP
BeaconMedaes
BelAire
Bolaite
Ceccato
Chicago Pneumatic
Cirmac
Creemers
Desoutter
Dynapac
Fuji
Grassair
GreenField
Intermech
Linghein
Liutech
Lutos
Mark
Mauguière
Pneumatech
Puska
Quincy
Rand-Air
Rodcraft
SCA Schucker
Shenyang
Worthington Creyssensac
-

Atlas Copco

History | atlascopco.com

The Evolution of Atlas Copco | Presidents | Significant People | Innovations | Contact us

- 1873: Founding of a company
- 1891: Restructuring years
- 1917: Merger and international expansion
- 1950: Focus on design and development
- 1970: Growth through acquisitions
- 1984: A multi-brand company
- 1997: Expanding the scope
- 2002: Focus on Profitable growth
- 2008: Adapting to change

The Evolution of Atlas Copco / 1984: A multi-brand company / A multi-brand company

A multi-brand company

1984-1996: Development of the tools business



In addition to the two heavy weight operations, Mining and Construction Technique and Airpower, both world leaders in their fields, there was the relatively small tools business area. Wachtmeister considered this third leg of Atlas Copco's operations to have a lot of potential.

In 1984 Michael Treschow was appointed General Manager of Atlas Copco Tools AB. Treschow quickly laid the groundwork for powerful expansion in the up-and-coming Industrial Technique business area. Via strategic acquisitions, Atlas Copco´s position was strengthened in the American, French, and British markets.

In 1987 the Chicago Pneumatic Tool Co. was acquired. Chicago Pneumatic had a very strong position in American industry and automotive workshops, and Atlas Copco became the world's largest manufacturer of compressed air tools and assembly systems. The following year, French-based SA Ets Georges Renault, a manufacturer of industrial tools – in particular grinding and sanding machines, as well as small assembly systems - was acquired.

In 1990 Desoutter Brothers Plc was acquired. Desoutter has a broad base in industrial tools and assembly units and it brought about synergy in technical development, manufacturing and distribution.

The electric tool manufacturers AEG Elektrowerkzeuge and Milwaukee Electric Tools were acquired in 1992 and 1995, respectively.

Managing multibrands

The newly acquired companies all had well-known brand names in their home markets and Atlas Copco's management wanted to preserve the value of the different brands. Therefore the acquired companies were encouraged to maintain their own profiles to give customers the widest range of choices in the same market segment. The Industrial Technique business area was developed with a conscious multi-brand strategy.

The New Chicago Pneumatic

시카고 뉴매틱 (Chicago Pneumatic)은 미국의 세계적인 산업 및 자동차 정비용 공구 제조사로서 1901년 Chicago Pneumatic Tool Company로 창설되어오늘날의Chicago Pneumatic으로이르렀습니다.시카고뉴매틱은아트라스콥코그룹의멀티브랜드정책에편승하여지난1987년 전신 Chicago Pneumatic Tool Company가 아트라스콥코 그룹에 합병, 기술혁신 도모로 오늘날 아트라스콥코가 세계 최대의 압축공기 공구 및 어셈블리 시스템 제조사로 우뚝 서는데 일조하였습니다. 시카고 뉴매틱은 100년이 넘은 장대한 배경을 발판으로 끊임 없는 연구와 노하우를 접목하여 건설산업용 공구 뿐만 아니라 건설현장 이동식 압축기 (Portable compressor)와 산업용 스크류 압축기 (Industrial stationary compressor) 분야의 새로운 강자로 세계 시장을 개척하고 있습니다.













CP 소개& 연혁 (Brand & History)

Introduction



Your ultimate tool on compressed air

고객 여러분께 시카고 뉴매틱 공기 압축기를 소개 드리게 되어 기쁘게 생각합니다. 지난 수십 년 이래로 시카고 뉴매틱은 일반 산업에 대한 열의를 갖고 순수 압축공기 및 애프터 마켓 솔루션과 함께 고객 여러분의 기대치에 부응하고있습니다.

시카고뉴매틱의역사와다양한제품군으로하여금고객여러분께브랜드의가치를제공함과원리와기술력부분을통해압축공기의실용적 측면을습득하실수있습니다. 이는고객여러분의비즈니스를한단계승격시킬수있는정확한노하우와확신을제시합니다.

시카고뉴매틱은피스톤및스크류압축기에서드라이어및필터에이르기까지완벽한압축공기제품과관련한핵심적인품목들로구성되어 있습니다.고객여러분께필수적인제품정보와기술데이터를제공함으로써원하시는수요에정확히일치하게됨을발견하실수있습니다.

어떠한 압축공기임과 관계 없이 시카고 뉴매틱의 정확한 Reference point는 가능한 모든 방법 안에서 여러분의 비즈니스를 지원하여 드림을 약속드립니다.

History

Decades of innovation

시카고뉴매틱창립 싱글밸브타입공기압해머최초개발	1901
전동공구및철도속도기록장치개발	1904
록 드릴 (Rock drill, 착암기) 개발	1910
차량및트럭용엔진개발	1911
심플레이트밸브개발	1912
압축기용2행정세미디젤엔진개발	1912
로타리 유정 굴차 (oil-well) 장비 개발	1925
엔진제조	1925
임팩트렌치최초개발	1939

100 여 년 전 창설된 장대한 역사를 바탕으로 시카고 뉴매틱은 오늘그리고내일도고객들의요구를충족시키기위한새로운 연구를지속하고있습니다.

1889년 John W. Duntley는 특별히 건설 작업자들이 이용가능하지 않던많은공구에대한필요성을갖고있었음을인지하였습니다. 그는 Chicago Pneumatic Tool Company를 창설하였고 모든 형태의산업과기업들에게성공을위해필요한공구를제공할수 있도록장기적인계획을수립하였습니다.

수십 년간 Duntley는 항시 제품의 품질과 신뢰성을 중시하면서 제품의 혁신을 통해 기업을 성장시켰습니다. 시카고 뉴매틱 상표는 어려운작업을손쉽게처리하고특수한수요를충족시키도록 설계된내구성이뛰어나고신뢰적인공구로서전세계 작업자들에게알려지고높게평가되었습니다.

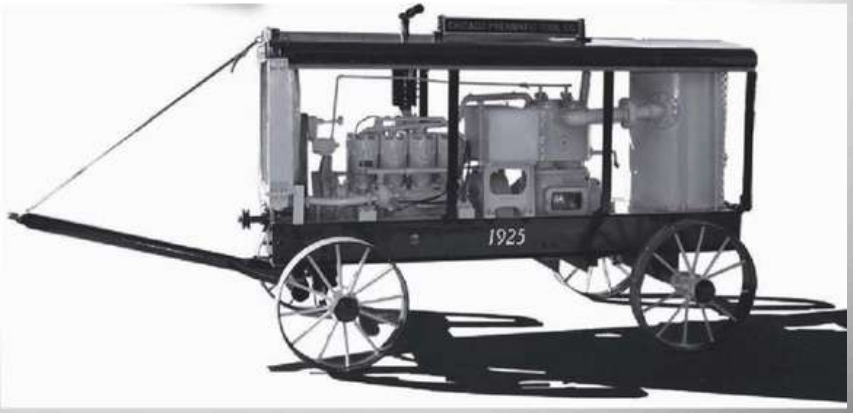
노먼 록웰 (Norman Rockwell)의 Saturday Evening 포스터 - “Rosie the Riveter”에 Chicago Pneumatic 리베팅 해머 등장	1943
이동식브로치풀러, 건설용임팩트렌치개발	1957
보잉 737 & 747, Lockheed L1011 & C5A, Douglas DC-10, Concorde 신형 용으로 주문 제작된 공구 개발	1960년대
차량조립의핵심적조인트용크림프넛공구개발	1971
임팩트렌치용특허2개조오클러치개발	1970년대
유공압 리베터 CP341 개발	1981
Atlas CopcoGroup에 합병 리버시블 드릴 CP789H, 래칫 CP828H, 앵글 그라인더 CP854 개발	1987
수백 건에 이르는 건축, 자동차 및 일반 산업 용의 개발 제품 적용	1990
조정가능무급유식(오일프리)그라인더개발	1990년대
마그네슘& 복합임팩트렌치개발	2000
The new Chicago Pneumatic으로 재조직	2007
	2010



오늘날시카고뉴매틱은거의모든 산업과수많은적용을위해제품을 제시하는 글로벌 브랜드입니다. 또한, 여전히 시카고 뉴매틱이 신뢰성, 내구성 그리고고객가치를 상징하고있음을자부합니다.

Building on success

한회사소유의트럭이나제조풍차를관리하시던간에당사의 압축기, 공구 및 장비에 대한 고객 여러분의 경험은 제품 발전과 지속적 성장에 중요한 요소입니다. 이는 언제나 고객 여러분을 생산적으로유지시키기위한저희의임무입니다.



The New Chicago Pneumatic



Ellen Steck

Chicago Pneumatic Compressor and

Pneumatech 대표이사

ROCK HILL, S.C. – September 9, 2011



VBT Team – CP Technocenter



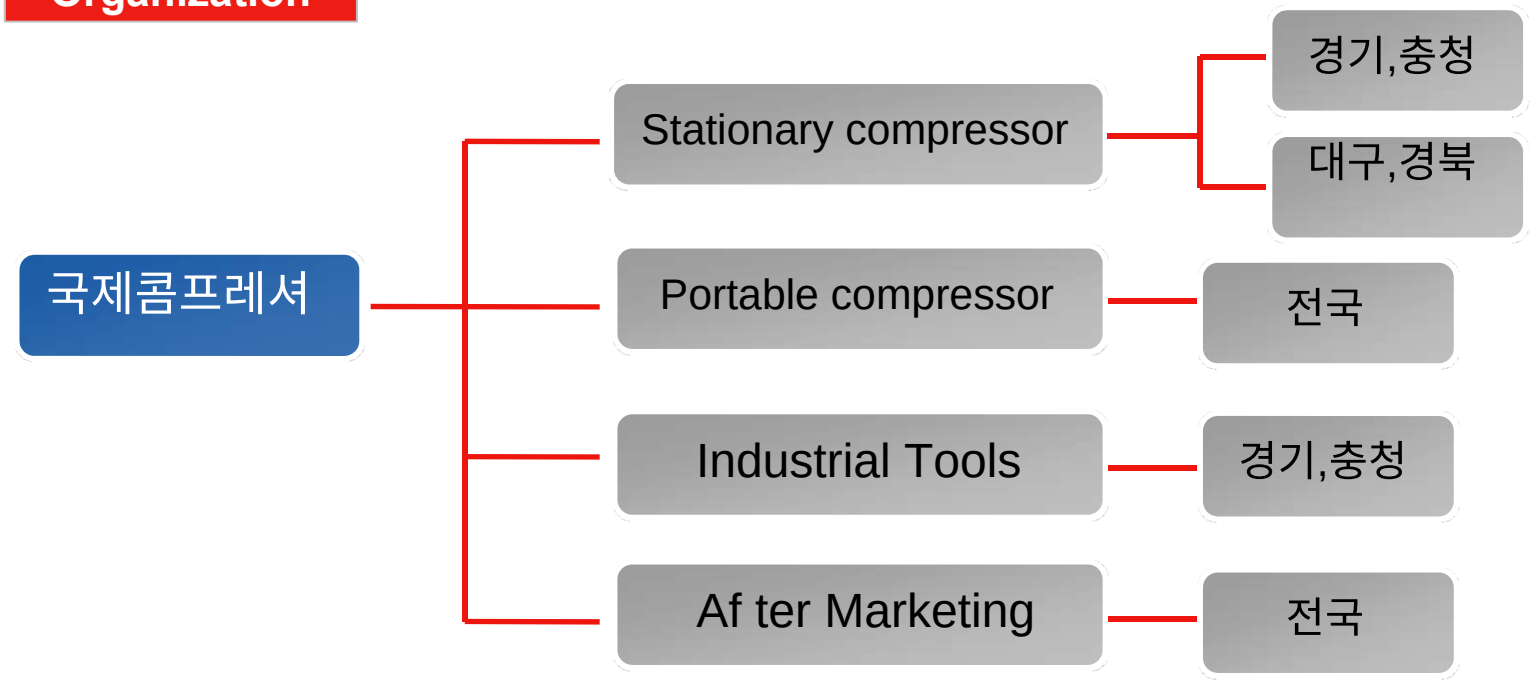
SAP Team – Rock Hill

국제 콤프레셔 소개 및 조직도

Introduction

회 사 명	아트라스콥코그룹시카고뉴매틱국제콤프레셔
압축기사업부	국제콤프레셔
포터블사업부	씨에스콤프텍
Tools 사업부	ATLAS COPCO , CHICAGO PNEUMATIC
고객지원센터	경기충청 서비스센터
고객지원센터	대구경북 서비스센터

Organization



시카고 뉴매틱은 스웨덴 발덴버그 그룹 산하의 아트라스 콥코 그룹 내 압축기 사업부의 멀티 브랜드사로서 미국 N.C & S.C에 본사 및 생산공장을 거점지로 두고 있으며 2010년부터 중국 공장을 가동하였습니다.

전 세계 10여 개국에 지사가 설립되어 있으며 산업용 압축기 (피스톤, 스크롤, 급유식 및 무급유식 스크류 압축기), 각종 부대설비 생산을 전문으로하고있습니다.

저희 국제콤프레셔는 국내 시카고 뉴매틱 마케팅 총괄 아트라스 콥코 한국본사와 2011년 12월 7일 정식계약하여 경기-충남 지역 총 판매권을 보유한 독점 대리점으로서 최고의 컨설팅 및 서비스로 고객의 생산성 향상을 위해 앞장설 것을 약속 드립니다.

압축기 사업부문

무급유식스크류에어컴프레서급유식스크류에어컴프레서터보에어컴프레서
냉동식에어드라이어
흡착식에어드라이어
공냉식, 수냉식 에어쿨러
먼지및오일제거용라인필터에어리시버탱크
소모품파트
배관설비







건설.도로장비 사업부문

이동식컴프레서발
전기
조명용탑
유압브레이커엔진
브레이커공압식록
드릴진동다짐기







산업용 공구 사업부문

전동너트러너 및 무결함(Zero Fault) 시스템
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각종 에어라인 액세서리
에어모터
에어 호이스트











사업 실적 현황

주요납품현황

	Company	Address		Company	Address
1	경동나비엔	평택시서탄면수월암길평	16	이루자	충남아산시둔포면
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3	에스엘라이텍	안산시단원구경기도안양	18	코리아나	충남천안시서북구
4	몬디케이에스피	시동안구광주광역시서구	19	피코스텍	경기도평택시세교산단로경
5	금호고속		20	델파이코리아유한회사평택	기도평택시포승읍
6	아시아나항공정비고인천서울시강서구오정로		21	동아풍력	경기도시흥시정왕동
7	한국토지주택공사아산에너지 충남 아산시 배방읍		22	경동에버런	충북충주시앙성면
8	한라정공	인천광역시남동구	23	동일제강	경기도안성시미양면
9	바텍	경기도화성시석우동	24	삼목에스폼	경기도안성시미양면
10	레이언스	화성시삼성1로1길	25	수완에너지	광주광역시광산구수완로 서
11	델파이커넥션시스템즈코리아 화성시 팔탄면 노하리		26	BMW정비센터	울, 경기
12	세라젬	충남천안시서북구	27	아우디정비센터	서울, 경기
13	속리산고속	충북청주시흥덕구	28	마세라티정비센터	대전, 광주
14	에이스테크놀로지	인천광역시남동구남동서로평택	29	LGD파주	경기도파주시
15	엘엠에스	시진위면진위산단로	30	영풍전자	경기도안산시단원구

상기 업체 이외의 국내외 다양한 기업들과의 상호 협력관계 유지 중

브랜드 약속 (Brand Promise)



People.

시카고 뉴매틱의 모든 사람들 – 디자이너, 세일즈 테크니션, 대리점 관계자 및 고객은 공통적으로 무언가를 갖고 있습니다. 바로 성능에 대한 열정입니다. 우리는 모든 시카고 뉴매틱 전동 공구, 압축기, 발전기, 브레이커 및 도로공사용 장비가 특별한 고객의 수요에도 안성맞춤임을 알고 있습니다. 우리는 시카고 뉴매틱의 100년이 넘는 장대한 역사를 자랑스럽게 여기며 최신의 제품 혁신을 선보이는 것에 애착을 갖고 있습니다.



Passion.

시카고 뉴매틱 사람들에 있어 성능은 단지 제품에 국한되지 않습니다. 우리는 우리의 비즈니스 파트너와 고객의 성과에 가치를 부여하고 시카고 뉴매틱과 가장 쉬운 작업을 구현하기 위해 최선을 다하고 있습니다. 우리는 더욱 생산적일 수 있도록 서로 도우며 어떻게시카고뉴매틱제품이더우수하게기능을발휘하는지를보여주며함께협력하고 있습니다.



Performance.

시카고 뉴매틱 사람들은 Performance (수행, 기계적 성능, 성과)에 관한 열정을 갖고 있습니다. 우리 고유의 전문적 수행에 대한 열정, 우리 제품의 성능 그리고 동료 및 파트너들의 성과.

Chicago Pneumatic people are passionate about performance.

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Our focus on your industry

시카고 뉴매틱은 로타리 스크류 압축기, 피스톤 압축기, 압축공기 솔루션 및 서비스의 광대한 포트폴리오를 바탕으로 한 고객 여러분의 산업 프로젝트를위한완벽한파트너입니다.

하나의완전한제품범위는항상최고의성능을지향하며뛰어난견고함을자랑합니다. 또한우리는렌치에서부터드릴에이르기까지특정 산업용 수요를 충족시키기 위해 고안된 수백 개의 공구를 고객 여러분께 제시합니다.

Industrial applications



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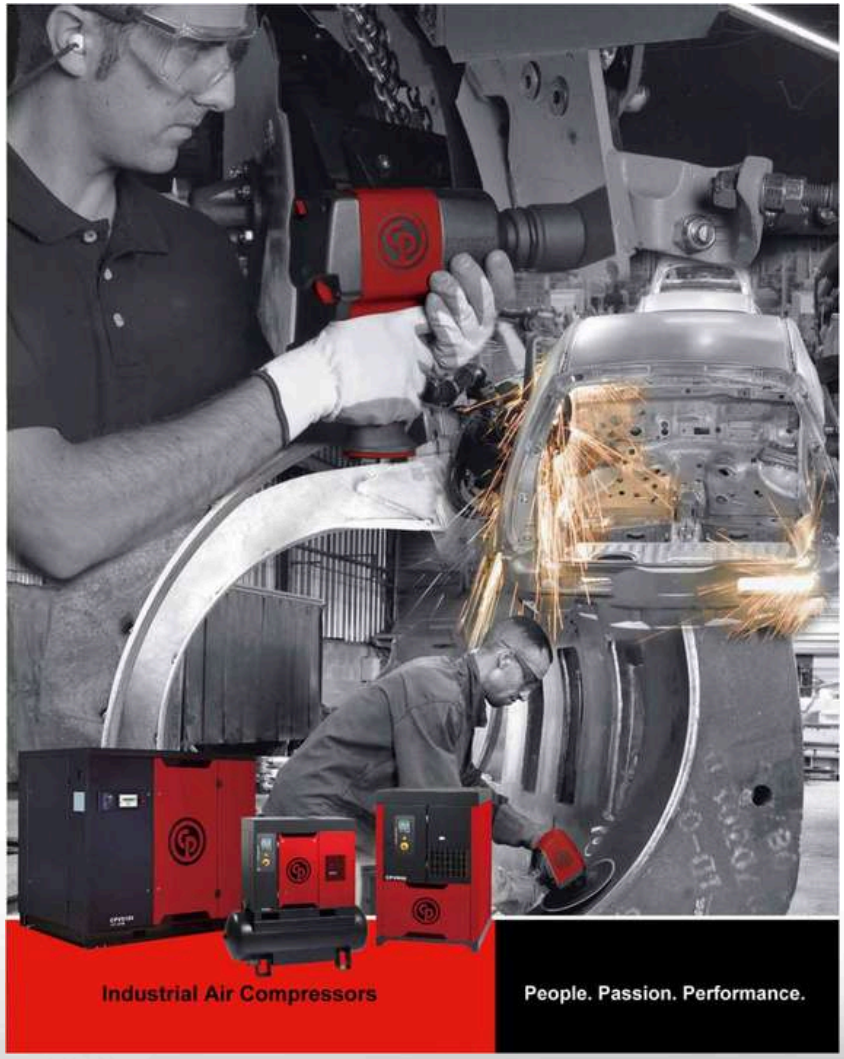

Highperformanceproducts

시카고 뉴매틱에서 품질은 최우선입니다. 우리는 고객 여러분께 작업이 이루어질수있는올바른압축공기솔루션을제시하기위해지속적으로 품질 향상을 도모하고 있습니다.

높은 성능, 엄격한 테스트 및 품질 검사의 보증은 생산, 납품 및 포스트 세일즈 (사후 지원관리) 전체에 걸쳐 이루어집니다. 모든 제품은 ISO 표준에 따라서 EC 인증을 통과하기 위해 시카고 뉴매틱 생산 사이트에서 철저하게 테스트됩니다.

당사제품은다음과같이제공합니다:

- 가장 중요한 단계에서의 성능 – 공기유량, 에너지 효율 등.
- 자재의 내구성.
- 소음및진동을감소시키는설계의특징으로작업자의편의증대.

Designed for you!

시카고뉴매틱제품이새롭게바뀌었습니다!

제품의성능을유지함과동시에미관이힘과우아함을반영하는흑색과 적색조합으로재설계되었습니다.

Licensing , Certificate

CERTIFICATE OF APPROVAL

This is to certify that the Quality Management System of:

Atlas Copco Mfg. Korea Co., Ltd. CT Division
Seoul and Yongin-si, Gyeonggi, Korea

has been approved by Lloyd's Register Quality Assurance
to the following Quality Management System Standards:

BS EN ISO 9001 : 2000
ISO 9001 : 2000

The Quality Management System is applicable to:

Sales, installation and servicing of air compressors and related accessories.

This certificate forms part of the approval identified by certificate number 02146.1

This certificate is valid only in association with the certificate schedule bearing the same number on which the locations applicable to this approval are listed.

Approval
Certificate No: 02146.1.CC26

Original Approval: 24 June 2004
Current Certificate: 2 January 2008
Certificate Expiry: 1 January 2011

Issued by: LRQA Belgium

UKAS
001

This document is subject to the provision on the reverse

This approval is carried out in accordance with the LRQA assessment and certification procedures and monitored by LRQA.
The use of the UKAS Accreditation Mark indicates Accreditation in respect of those activities covered by the Accreditation Certificate Number 001

Atlas Copco Environmental Management System



Atlas Copco has developed and established requirements for an Atlas Copco Environmental Management System. This system is based on legal compliance, environmental training, reduction of energy consumption, reduction of environmental impact and continuous improvement.

Atlas Copco Mfg. Korea Co., Ltd. Yongin Customer Support Center

Korea

Has been reviewed and audited and found to conform to these requirements. By issuance of this certificate this facility represents that it will maintain its EMS in accordance with Atlas Copco Group environmental requirements.

Jo Cronstedt
Vice President Public Affairs and Environment
Atlas Copco AB

André Balliauw
Quality Assurance Manager
Atlas Copco Airpower n.v.

Date October 14, 2008

Atlas Copco

Chicago Pneumatic



CLASS	Concentration total oil (aerosol, liquid, vapour) mg/m³
0	As specified by the equipment user or supplier and more stringent than class 1
1	≤ 0,01
2	≤ 0,1
3	≤ 1
4	≤ 5

First in il-free air technology

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Cologne, 30 March 2011

Type test certificate

Dear Sirs,

We have measured the total oil content (aerosols, liquids and vapours) in the outlet air stream of an Atlas Copco three stage high speed direct drive turbo (centrifugal) compressor ZH350+. The measurements were done in accordance with the following guidelines and standards:

ISO 8573-1 : 2010 Part 1: Contaminants and purity classes

ISO 8573-2 : 2007 Part 2: Test methods for aerosol oil content method B1 (full flow method)

ISO 8573-5 : 2001 Part 5: Test methods for oil vapor and organic solvent content

This being a type test, covering the entire range of high-speed direct drive multi-stage centrifugal compressors a model was randomly selected for the tests.
The tests were carried out at the outlet of the air compressor without any cooling or oil removal devices in between the compressor and the measurement point.

The conditions of the test were:

Temperatures at the measurement point: ca. 30 °C.

Pressure at the measurement point: ca. 7 bar(e)

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Nuremberg HRB 26013
VAT No.: DE811835490

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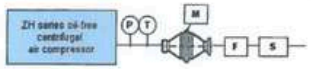
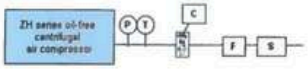
Principle diagram for full flow measurement of Aerosols and liquids as per ISO 8573 Part 2, method B1



Legend :
P : Pressure indicator
T : Temperature indicator
M : Measurement point with membrane
F : Flow meter
S : Silencer
C : Measurement point for oil vapour

Principle diagram for measurement of oil vapour and organic solvent content as per ISO 8573 Part 5



It is to certify that at the test conditions, no oil deriving from the compressor (including all hydrocarbons C6 and above) could be detected in the compressed air stream. On the basis of this test, we can certify the results to be valid for the above mentioned oil-free centrifugal compressor range.

It is to certify that the quality of air from the above compressors qualifies to be in the category 'Class 0' in terms of total oil content, as defined in the standard ISO 8573-1 : 2010 Part 1.

A detailed report with all conditions of the tests and results is available.

Best Regards

i.V. Dr. rer. nat. Walter Dormagen

i.A. Dr. rer. nat. Norbert Horlemann

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Cologne, 15 March 2011

Type test certificate
Validation according ISO 8573-1: 2010 Part 1: Contaminants and purity classes

Dear Sirs,

We have measured the total oil content (aerosols, liquids and vapours) in the outlet air stream of an Atlas Copco Z series oil-free rotary screw compressor. The measurements were done in accordance with the following guidelines and standards :

ISO 8573-1 : 2001 Part 1 : Contaminants and purity classes

ISO 8573-2 : 1996 Part 2: Test methods for aerosol oil content method B1 (full flow method)

ISO 8573-5 : 2001 Part 5: Test methods for oil vapour and organic solvent content

This being a type test, covering the entire range of aircooled and watercooled oil-free screw compressors, between 55kW and 900kW, a model was randomly selected for the tests. The tests were carried out at the outlet of the air compressor without any cooling or oil removal devices in between the compressor and the measurement point. Different pressures and temperatures were maintained at the measurement point to check if there was any variation in the measurements. The conditions of the test were:

Temperatures at the measurement point : 20°C, 40 °C and 50 °C

Pressures at the measurement point : 1 bar(a) and 8 bar(a)

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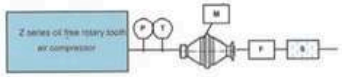
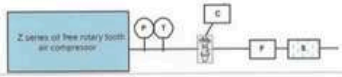
Principle diagram for full flow measurement of Aerosols and liquids as per ISO 8573 Part 2, method B1



Principle diagram for measurement of oil vapour and organic solvent content as per ISO 8573 Part 5



Legend :
P : Pressure indicator
T : Temperature indicator
M : Measurement point with membrane
F : Flow meter
S : Silencer
C : Measurement point for oil vapour

It is to certify that at all the test conditions, no oil deriving from the compressor (including all hydrocarbons C6 and above) could be determined in the compressed air stream. On the basis of this test, we can certify the results to be valid for the Oil-free tooth compressors ZT/R15-18-22; ZT/R22VSD; ZT/R30-37-45; ZT/R37-50-55VSD.

It is to certify that the quality of air from the above compressors qualifies to be in the category 'Class 0' in terms of total oil content, as defined in the standard ISO 8573-1 : 2001 Part 1 (invalid) and ISO 8573-1 : 2010 Part 1 (valid version).

A detailed report with all conditions of the tests and results is available.

Best Regards

i.V. Dr. rer. nat. Walter Dormagen

i.A. Dr. rer. nat. Norbert Horlemann

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Cologne, 15 March 2011

Type test certificate
Validation according ISO 8573-1: 2010 Part 1: Contaminants and purity classes

Dear Sirs,

We have measured the total oil content (aerosols, liquids and vapours) in the outlet air stream of an Atlas Copco oil-free rotary tooth compressor. The measurements were done in accordance with the following guidelines and standards:

ISO 8573-1 : 2001 Part 1 : Contaminants and purity classes

ISO 8573-2 : 1996 Part 2: Test methods for aerosol oil content method B1 (full flow method)

ISO 8573-5 : 2001 Part 5: Test methods for oil vapour and organic solvent content

This being a type test, covering the entire range of aircooled and watercooled oil free rotary tooth compressors, between 15kW and 55kW, a model was randomly selected for the tests. For the tests a compressor type: ZR 37 VSD – FF – 10 bar – 230 V – 50 Hz was selected. The tests were carried out at the outlet of the air compressor without any cooling or oil removal devices in between the compressor and the measurement point. Different pressures and temperatures were maintained at the measurement point to check if there was any variation in the measurements.
The conditions of the test were:

Temperature at the measurement point : 40 °C, 50 °C.

Pressures at the measurement point : 1 bar(e) and 7 bar(e)

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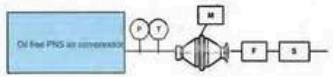
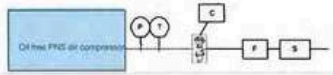
Principle diagram for full flow measurement of Aerosols and liquids as per ISO 8573 Part 2, method B1



Principle diagram for measurement of oil vapour and organic solvent content as per ISO 8573 Part 5



Legend :
P : Pressure indicator
T : Temperature indicator
M : Measurement point with membrane
F : Flow meter
S : Silencer
C : Measurement point for oil vapour

It is to certify that at the test conditions, no oil deriving from the compressor (including all hydrocarbons C6 and above) could be determined in the compressed air stream. On the basis of this test, we can certify the results to be valid for the above mentioned oil-free air compressors.

It is to certify that the quality of air from the above compressors qualifies to be in the category 'Class 0' in terms of total oil content, as defined in the standard ISO 8573-1 : 2001 Part 1 (invalid) and ISO 8573-1 : 2010 Part 1 (valid version).

A detailed report with all conditions of the tests and results is available.

Best Regards

i.V.
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Dr. rer. nat. Norbert Horlemann

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Cologne, 15 March 2011

Type test certificate
Validation according ISO 8573-1: 2010 Part 1: Contaminants and purity classes

Dear Sirs,

We have measured the total oil content (aerosols, liquids and vapours) in the outlet air stream of an Atlas Copco oil-free portable PNS compressor. The measurements were done in accordance with the following guidelines and standards:

ISO 8573-1 : 2001 Part 1 : Contaminants and purity classes

ISO 8573-2 : 1996 Part 2: Test methods for aerosol oil content method B1 (full flow method)

ISO 8573-5 : 2001 Part 5: Test methods for oil vapour and organic solvent content

This being a type test, covering the entire range of diesel driven portable oil free screw compressors PNS, PTS and electric driven portable oil free screw compressors PTE. For the tests a compressor type: 3-stage PNS 1250 CD USA, C18 429 kW was selected. The tests were carried out at the outlet of the air compressor without any oil removal devices in between the compressor and the measurement point. The conditions of the test were:

Temperature at the measurement point (M and C): 21.1 – 31.4 °C.

Pressure at the measurement point: 0.4 – 2.3 bar(r); (higher pressures at the measurement point caused formation of condensate)

Compressor Air Discharge Pressures: from atmospheric pressure up to 24 bar (g) at 1750 rpm.

TÜV Rheinland
LGA Products GmbH

Am Grauen Stein 29
51105 Cologne
Germany

Headquarter

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Dipl.-Wirtsch.-Ing.
Hans-Hermann Uelfing

Nuremberg HRB 26013
VAT No.: DE811835490

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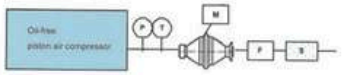
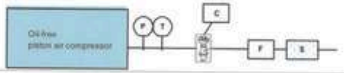
Principle diagram for full flow measurement of Aerosols and liquids as per ISO 8573 Part 2, method B1



Principle diagram for measurement of oil vapour and organic solvent content as per ISO 8573 Part 5



Legend :
P : Pressure indicator
T : Temperature indicator
M : Measurement point with membrane
F : Flow meter
S : Silencer
C : Measurement point for oil vapour

It is to certify that at the test conditions, no oil deriving from the compressor (including all hydrocarbons C6 and above) could be determined in the compressed air stream and in the condensate. On the basis of this test, we can certify the results to be valid for the above mentioned oil-free piston air compressors.

It is to certify that the quality of air from the above compressors qualifies to be in the category 'Class 0' in terms of total oil content, as defined in the standard ISO 8573-1 : 2001 Part 1 (invalid) and ISO 8573-1 : 2010 Part 1 (valid version).

A detailed report with all conditions of the tests and results is available.

Best Regards

i. V.
Dr. rer. nat. Walter Dormagen

i. A.
Dr. rer. nat. Norbert Horlemann

Business Stream Products

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LGA
Genau. Richtig.

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Atlas Copco Airpower n.v.
Industrial Air Division
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Your correspondence
Dr. Norbert Horlemann

Order No. 30002582_20

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Fax +49 (0)221 806-2882

Mail horlema@de.tuv.com

Customer Service Center
for Products
Phone +49 911 655-5225
Mail service@de.tuv.com

Cologne, 15 March 2011

Type test certificate
Validation according ISO 8573-1: 2010 Part 1: Contaminants and purity classes

Dear Sirs,

We have measured the total oil content (aerosols, liquids and vapours) in the outlet air stream of an Atlas Copco oil-free piston air compressor. The measurements were done in accordance with the following guidelines and standards:

ISO 8573-1 : 2001 Part 1 : Contaminants and purity classes

ISO 8573-2 : 1996 Part 2: Test methods for aerosol oil content method B1 (full flow method)

ISO 8573-5 : 2001 Part 5: Test methods for oil vapour and organic solvent content

This being a type test, covering the entire range of oil-free LFx 0.7 / 2.0 piston air compressors, a model was randomly selected for the tests. For the tests a compressor type: LFX 2.0 - 10 TM50 was selected. The conditions of the test were:

Temperature at the measurement point: approx. 16.6 – 17.4 °C.

Pressure at the measurement point: approx. 7 bar (r)

An air cooler and an air dryer had to be installed at the air outlet of the compressor to avoid formation of condensate during the test. The condensate of the dryer was analyzed too.

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Nuremberg HRB 26013
VAT No.: DE811833490

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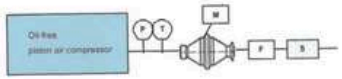
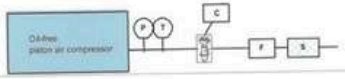
Principle diagram for full flow measurement of Aerosols and liquids as per ISO 8573 Part 2, method B1



Principle diagram for measurement of oil vapour and organic solvent content as per ISO 8573 Part 5



Legend :
P : Pressure indicator
T : Temperature indicator
M : Measurement point with membrane
F : Flow meter
S : Silencer
C : Measurement point for oil vapour

It is to certify that at the test conditions, no oil deriving from the compressor (including all hydrocarbons C6 and above) could be determined in the compressed air stream and in the condensate. On the basis of this test, we can certify the results to be valid for the above mentioned oil-free piston air compressors.

It is to certify that the quality of air from the above compressors qualifies to be in the category 'Class 0' in terms of total oil content, as defined in the standard I SO 8573-1 : 2001 Part 1 (invalid) and ISO 8573-1 : 2010 Part 1 (valid version).

A detailed report with all conditions of the tests and results is available.

Best Regards

i.V. Dr. rer. nat. Walter Dormagen

i.A. Dr. rer. nat. Norbert Horlemann

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Industrial Air Division
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Mail horlema@de.tuv.com
Customer Service Center
for Products
Phone +49 911 655-5225
Mail service@de.tuv.com

Cologne, 15 March 2011

Type test certificate
Validation according ISO 8573-1: 2010 Part 1: Contaminants and purity classes

Dear Sirs,

We have measured the total oil content (aerosols, liquids and vapours) in the outlet air stream of an Atlas Copco oil-free piston air compressor. The measurements were done in accordance with the following guidelines and standards:

ISO 8573-1 : 2001 Part 1 : Contaminants and purity classes

ISO 8573-2 : 1996 Part 2: Test methods for aerosol oil content method B1 (full flow method)

ISO 8573-5 : 2001 Part 5: Test methods for oil vapour and organic solvent content

This being a type test, covering the entire range of oil-free LF2 / 10 piston air compressors a model was randomly selected for the tests.

For the tests a compressor type: LF 7 – 10 UV 250 was selected. The conditions of the test were:

Temperature at the measurement point: approx. 18.5 - 20 °C.

Pressure at the measurement point: approx. 7 bar (r)

An air cooler and an air dryer had to be installed at the air outlet of the compressor to avoid formation of condensate during the test. The condensate of the dryer was analyzed too.

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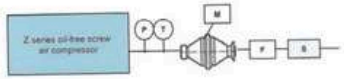
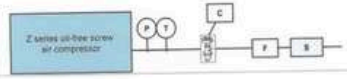
Principle diagram for full flow measurement of Aerosols and liquids as per ISO 8573 Part 2, method B1



Principle diagram for measurement of oil vapour and organic solvent content as per ISO 8573 Part 5



Legend :
P : Pressure indicator
T : Temperature indicator
M : Measurement point with membrane
F : Flow meter
S : Silencer
C : Measurement point for oil vapour

It is to certify that at all the test conditions, no traces of oil (including all hydrocarbons C6 and above) could be determined in the compressed air stream. On the basis of this test, we can certify the results to be valid for the Oil-free screw compressor range ZR/ZT 55-900 VSD.

It is to certify further that the quality of air from the above compressors qualifies to be in the category 'Class 0' in terms of total oil content, as defined in the standard ISO 8573-1 : 2001 Part 1 (invalid) and ISO 8573-1 : 2010 Part 1 (valid version).

A detailed report with all conditions of the tests and results is available.

Best Regards

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Certificate

ET 333 2009 C2

The company

Atlas Copco Airpower n.v.

Oil-free division

Boomsesteenweg 957

B-2610 Wilrjik (Belgium)

made a comparison investigation of a screw blower and a tri-lobe blower each with variable speed drive under the supervision of TÜV Rheinland based on performance tests according the standard

ISO 1217, 4th. edition - Displacement compressors – Acceptance Tests.

The aim was to compare the performance data of the two blowers

- Atlas Copco ZS75+ 1250 VSD

- Atlas Copco ZL 3000 & VSD

Main results at working pressure 0,5 bar-e and 0,9 bar-e:

	ZS75 1250 VSD		ZL 3000 VSD		Delta SER
Tested capacity at outlet pressure	FAD (l/sec)	SER (J/l)	FAD (l/sec)	SER (J/l)	%
0,5 bar-e	446,9	64,82	440,5	85,10	-23,8
0,9 bar-e	435,1	103,56	431,7	159,3	-35,0

For detailed results see page 2 and in the test report no. ET-333-2009-I-1.

This certificate is valid until 30.09.2014.

Cologne, 12. October 2009

Test Centre for Energy Technology

TÜV Rheinland Immissionsschutz und Energiesysteme GmbH, Am Grauen Stein, D-51105 Cologne

ET 333 2009 C2 Page 1/ 2

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Extract from test report ET 333 2009 I1

Results at 0,5 bar(e)

ZS75 1250 VSD			ZL 3000 VSD			Delta SER
Drive speed (rpm)	FAD (l/sec)	SER (J/l)	Drive speed (rpm)	FAD (l/sec)	SER (J/l)	%
2809	446,9	64,82	2668	440,5	85,10	-23,8
2320	355,0	67,38	2224	354,7	87,85	-23,3
1669	240,3	71,14	1684	242,3	96,98	-26,6
1615	229,2	70,7	1612	224,9	100,60	-29,7

Results at 0,9 bar(e)

ZS75 1250 VSD			ZL 3000 VSD			Delta SER
Drive speed (rpm)	FAD (l/sec)	SER (J/l)	Drive speed (rpm)	FAD (l/sec)	SER (J/l)	%
2779	435,1	103,56	2818	431,7	159,30	-35,0
2323	348,4	107,01	2404	349,5	167,22	-36,0
1801	255,9	114,38	1984	256,1	186,71	-38,7
1621	219,1	120,69	1828	221,2	200,00	-39,7



ET 333 2009 C2 Page 2/ 2

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Certificate

ET 314 2008 C2

Under the supervision of TÜV Rheinland the company

Atlas Copco Airpower n.v.

Oil-free division

Boomsesteenweg 957

B-2610 Wilrjik (Belgium)

made a type test of the oil free screw compressor series ZR 55 – 750, equipped with built-in energy recovery systems.

The aim was to compare the electric energy consumption with the heat energy recovered

Results:

The tests demonstrated that 100% of the electric energy consumed by the compressors could be recovered by the built-in Atlas Copco energy recovery systems, when working at specific design conditions (see below) and an outlet pressure of 10 bar(e) / 145 psig.

Based on the results and the calculations it can be confirmed that the net power (energy) consumption of the ZR compressors with built-in energy recovery at specific design conditions is zero.

For detailed results see page 2 of the certificate and test report no. ET-314-2008-I-1.

This certificate is valid until 31.12.2011.

Cologne, 17. June 2009

Test Centre for Energy Technology

TÜV Rheinland Immissionsschutz und Energiesysteme GmbH, Am Grauen Stein, D-51105 Cologne

Certificate ET 314 2008 C2 Page 1/ 2

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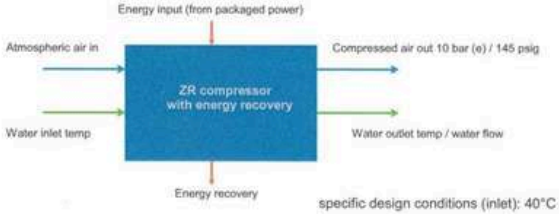
Extract from test report ET 314 2008 I 1

Measurements were performed to calculate the energy balance of the Atlas Copco ZR oil-free air compressor series, equipped with a built-in energy recovery system. Based on the measured recovered heat and the electric energy consumption of the package the net energy consumption of the package was calculated.

The following methodology was adopted for this type test covering the whole ZR-series from 55 to 750 kW:

- Two representative models (ZR 55 and ZR 275) were randomly chosen for the tests. The test results were calculated to the standard specifications provided by Atlas Copco, to verify the correctness of the specified data.
- The total packaged power consumption, including all electrical and mechanical losses of the machines, was measured in accordance with International Standard ISO 1217: 1996, third edition, Annex C, using calibrated instruments and a certified test setup (block diagram of the setup see below).
- The power recovered in the form of hot water was measured during the same period and calculated on the basis of the cooling water flow and the temperature rise of the water.
- The net power consumption of the system at design conditions was derived as the difference between the electric power input of the package and the recovered heat energy.



specific design conditions (inlet): 40°C / 70% r.h.

Certificate ET 314 2008 C2 Page 2/ 2

Chicago Pneumatic

Certificate

Standard **ISO 9001:2008**

Certificate Registr. No. 01 100 040407/03

TÜV Rheinland Cert GmbH certifies:

Certificate Holder: **MANN+HUMMEL GMBH**
Friedrich-Engels Str. 157
D - 96515 Sonneberg

Scope: Development, Sales and production of intake manifolds, fuel rails, heating pipes, valves and other technical plastic parts in the engine compartment

An audit was performed, Report No. 040407.
Proof has been furnished that the requirements according to ISO 9001:2008 are fulfilled.

Validity: The certificate is valid in conjunction with the main certificate from 2010-08-30 until 2013-08-29.

2010-10-04

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

DGA-ZM-58-95-00

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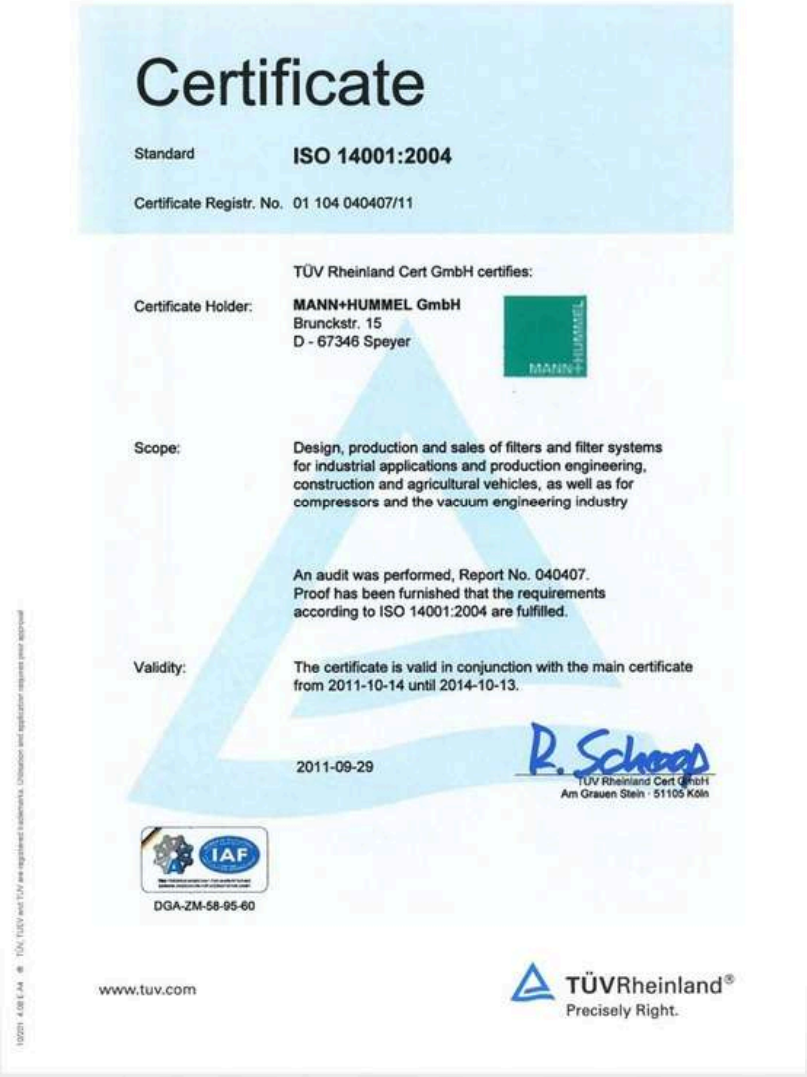

Certificate

Standard **ISO 14001:2004**

Certificate Registr. No. 01 104 040407/11

TÜV Rheinland Cert GmbH certifies:

Certificate Holder: **MANN+HUMMEL GmbH**
Brunckstr. 15
D - 67346 Speyer

Scope: Design, production and sales of filters and filter systems for industrial applications and production engineering, construction and agricultural vehicles, as well as for compressors and the vacuum engineering industry

An audit was performed, Report No. 040407.
Proof has been furnished that the requirements according to ISO 14001:2004 are fulfilled.

Validity: The certificate is valid in conjunction with the main certificate from 2011-10-14 until 2014-10-13.

2011-09-29

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

DGA-ZM-58-95-60

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Certificate

Standard **ISO / TS 16949:2009**
(3rd edition, 2009-06-15)

Certificate Registr. No. 01 111 040407/20
IATF Certificate No. 0116736

TÜV Rheinland Cert GmbH certifies:

Certificate Holder: **MANN+HUMMEL GMBH**
Brunckstr. 15
D - 67346 Speyer

with remote location responsible for Design,
Human resources, Policy making, Sales, Purchasing

MANN+HUMMEL GMBH
Hindenburgstr. 45
D - 71638 Ludwigsburg

Scope: Production of filters and filter systems
for the automotive industry

- with product design and development -

An audit was performed, Report No. 040407/20.
Proof has been furnished that the requirements
according to ISO/TS 16949:2009 are fulfilled.
The due date for future audits is 07-10 (dd.mm).

Validity: The certificate is valid from 2011-01-31 until 2014-01-30.

2011-02-02

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln
Deutschland

2-IAO-QMC 01003

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CPA 로터리 스크류압축기7.5 ~ 20 Hp

CPA 기본형

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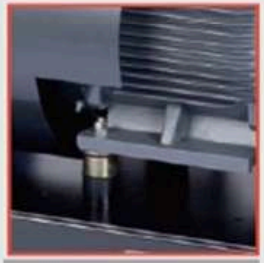
CPA 시리즈 : 바닥 설치형



Technology	Screw
Use	Continous
Air quality	Standard
Noise level	Silent

특징 및 장점



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방음 캐노피 및 방진 패드 사용으로 운전 소음이 낮음.



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벨트, 오일 및 필터에 접근이 용이하도록 실용적으로 설계함.



에너지 절약형 제어판

에너지 절약을 위해 특별히 프로그램 된 제어판



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사용의편리성, 손쉬운정비및낮은소음레벨은CPB 모델의강점입니다.

손쉬운 정비: 모든 판넬을 쉽게 제거 할 수 있으므로 부품들에 대한 접근이 용이합니다. 정비 작업 시 부품들에 대한 접근이 용이하도록 부품들을 설계하였습니다.





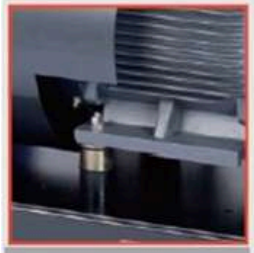
1. 긴수명의고성능엘레멘트
2. 고품질구동모터
3. 가혹한환경에서사용가능토록 설계된흡입필터
4. 뛰어난효율의에어/오일쿨러, 30% 확대
5. 뛰어난효율의트랜스미션

CPB 시리즈 : 바닥 설치형

Technology	Screw
Use	Continous
Air quality	Standard
Noise level	Silent



특징 및 장점



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에너지 절약형 제어판

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견고하고 강력한 압축기

견고하게설계된기어구동방식컴프레서는, 다양한분야의 가장 까다로운 분야에 고품질의 압축공기를 안정적으로 공급 할수있는최적의 컴프레서입니다.
유지/ 보수가 필요 없는 견고한 기어 드라이버는 손실이 적어, 생산성을극대화할수있습니다.

최적의 신뢰성 제공 및 고장 없는 운전을 보장하기 위하여 , 주의깊게부품들을선정하였습니다. 더욱이, 설치및 유지/ 보수가간편도록 설계하였습니다. 충분한용량을 가진쿨러, 풍량이많고조용한팬을채택함으로써냉각 성능을보증합니다



CPC G/ CPD G/ CPE 시리즈: 바닥 설치형

Technology	Screw
Use	Continous
Air quality	Standard
Noise level	Standard



특징



최신 기술의 스크류 엘리먼트 효율이 뛰어난 구동 시스템

뛰어난 성능의 4/6 조 스크류 엘리먼트 사용. 기어 구동 방식 사용으로 전달 손실 제거 및 운전 비용 절감.



뛰어난 냉각 시스템

효율적인 냉각 팬 및충분한용량의 쿨러 사용으로 냉각 성능보장.



정숙한 운전

운전 소음을 고려한 설계로 정숙한 운전이 가능함.



효율적인 에어 필터

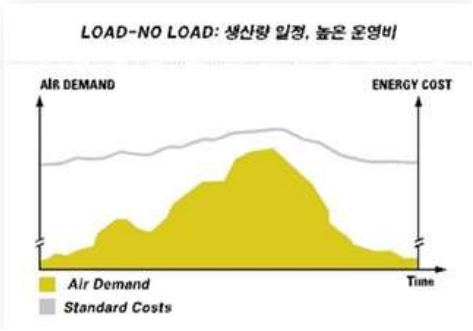
내부 부품들을 오염으로부터 보호.

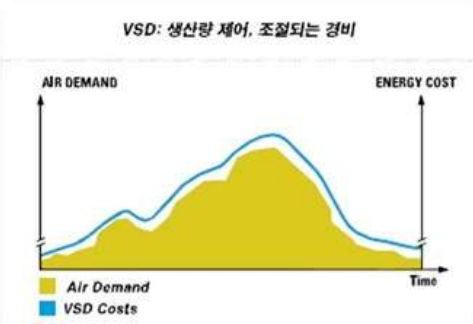
CPVS 변속 스크류 콤프레셔 (40~120 Hp)– TYPE I

견고하고 강력한 압축기

시카고뉴매틱의CPVS 변속(Variable speed) 콤프레셔는
압축 공기의 사용량 변화가 심한 현장에 적용할 경우에 ,
상당량의운전비용을절감시켜줍니다.
기본적으로, 인버터가압축공기소모량에맞도록구동모터의 속도를조절하며, 그결과, 에너지및운전비용이절감됩니다. CPVS 콤프레셔는 단독운전 또는 여러 대의 시카고 뉴매틱 로딩
/ 언로딩 콤프레셔들과 연동제어 가능합니다 .
또한, 연동운전시에는전체현장의유량을제어하는주(Master)
역할을합니다.







CPVS 시리즈: 바닥설치형

Technology	Screw
Use	Continous
Air quality	Standard
Noise level	Standard



특징



운전비용 절감

압축공기시스템의 운전비용을20% 이상절감.



최적화된 인버터

에너지 비용절감 극대화를 위해 모터 및 엔드에 최적화된 고품질 인버터 사용.



견고한 구조

연속 운전 및 인버터 속도 변화에 완벽하게 일치가 되도록 설계.



에너지 절약형 제어판

에너지 절감을 위해 특별히 프로그램 된 제어판.



신뢰성 있는 구동 시스템

독특한설계. 저진동 및손쉬운정비.

CPC G/ CPD G/ CPE 시리즈
(40 ~120**Hp**)–TYPE Ⅱ

견고하고 강력한 압축기

시카고뉴매틱의견고하게설계된기어구동식컴프레서는, 제조산업, 시멘트산업, 발전및광산분야까지다양한분야의 가장 까다로운 분야에 고품질의 압축공기를 안정적으로 공급할 수있는최적의컴프레서입니다. 컴프레서의뛰어난효율은 여러분에게 생산성 극대화 및 운전 비용 절감이라는 잇점을 가져다드릴것입이다. 최적의신뢰성제공및고장없는운전을 보장하기위하여, 주의깊게부품들을선정하였습니다. 더욱이, 설치및유지/ 보수가간편하며, 운전소음또한최소로
설계되었습니다.



* 다양한Option 선택가능

* 220V / 440V 선택 가능

CPC G/ CPD G/ CPE 시리즈: 바닥 설치형

Technology	Screw
Use	Continous
Air quality	Standard
Noise level	Standard



특징



많은유량및효율적
인운전



동축 커플링: 신뢰성.
효율.간결함그리고
조용함.



최적 조건에서 운전을
위한 정확한 자동제어



모든 부품에 접근이
빠르고 용이함.



내부부품들을오염으
로부터보호.

CPVS 변속 스크류 콤프레셔 (40~120 Hp)– TYPE II

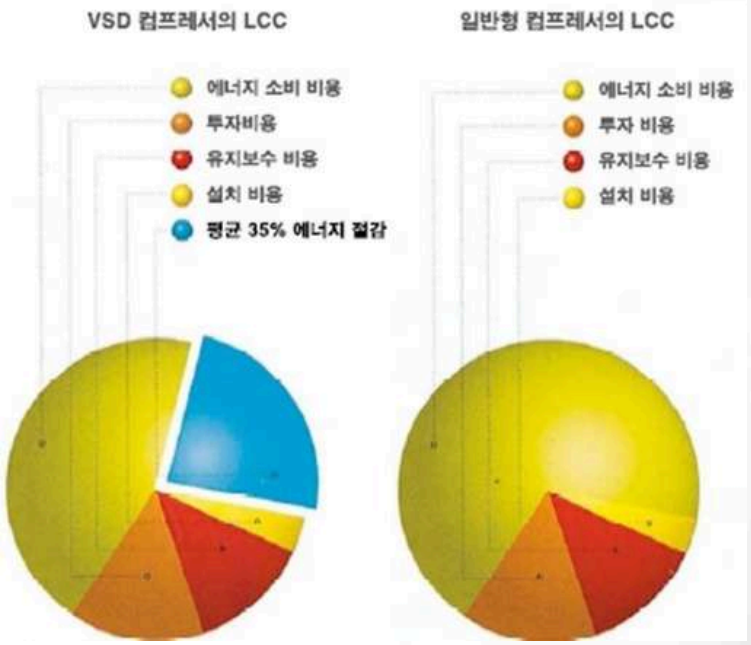
견고하고 강력한 압축기

시카고뉴매틱의CPVS 변속(Variable speed) 컴프레서는압축공기의 사용량변화가심한현장에적용할경우에, 상당량의운전비용을절감시 켜줍니다. 기본적으로, 인버터가압축공기소모량에맞도록구동모터의 속도를조절하며, 그결과, 에너지및운전비용이절감됩니다.

CPVS 컴프레서는 단독 운전 또는 여러 대의 시카고 뉴매틱 로딩/ 언로딩 컴프레서들과연동제어가능합니다. 또한, 연동운전시에는전체현장의 유량을 제어하는 주 (Master) 역할을 합니다 .

* 다양한 Option 선택 가능
* 440V 선택 가능





CPVS 시리즈: 바닥설치형

Technology	Screw
Use	Continous
Air quality	Standard
Noise level	Standard



특징



운전비용 절감

압축공기시스템의 운전비용을20% 이상절감.



최적화된 인버터

에너지 비용절감 극대화를 위해 모터 및 엔드에 최적화된 고품질 인버터 사용.



견고한 구조

연속 운전 및 인버터 속도 변화에 완벽하게 일치가 되도록 설계.



에너지 절약형 제어판

에너지 절감을 위해 인버터와 연동되도록 특별히 프로그램 된 제어판.



고효율 구동 시스템

동축 커플링: 신뢰성. 효율.간결함 그리고조용함.

애프터 마케팅 솔루션 (After Marketing Solution)



시카고 뉴매틱 순정 윤활유 (Genuine lubricants you can trust)

순정윤활유를사용하는것보다고객여러분의투자가치를보증할수있는방법은 없습니다. 모든최고치사양을충족시키는시카고뉴매틱윤활유는광범위하게 테스트되어 당사의 압축기 범위에서 사용되도록 승인되었습니다. 시카고 뉴매틱의 순정윤활유사용으로여러분은압축기의수명을연장하고유지보수비용의절감 그리고 압축기의 효율성을 극대화 할 수 있습니다. 이는 여러분의 생산성 향상의 결과로 즉시 귀결될 것 입니다.

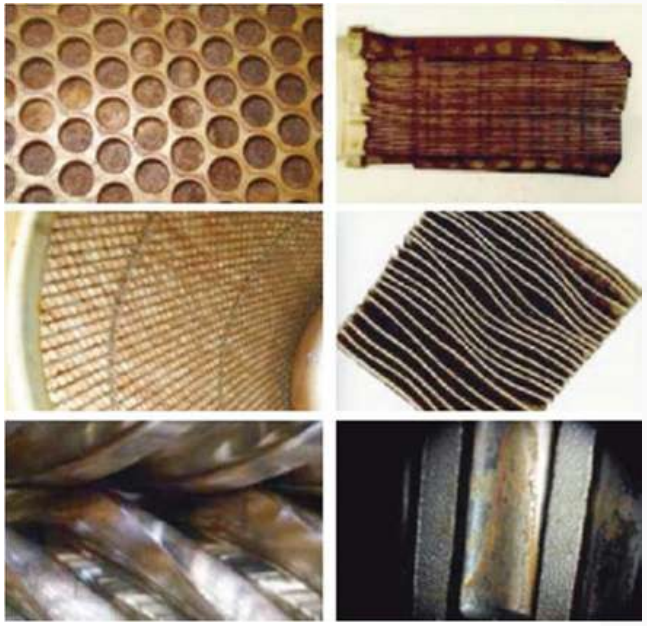
시카고 뉴매틱의 믿을 수 있는 맞춤형 윤활유

1. 압축기의품질보증을제한하지마십시오. 2. 성능및효율의극대화
3. 다양한환경및방법으로테스트하고 승인됨
4. 신뢰성 향상& 위험 최소화
5. 압축기의수명연장
6. 유지보수비용절감



위험을 피할 수 있습니다.

검증되지 않은 윤활유 사용은 장비에 큰 손상을 입힐 수 있으며 이로 인해 어마어마한 금액의 유지보수 비용 지불의 결과를 초래합니다.



성능이나쁜윤활유사용으로인한결과는:

- 압축엘레멘트손상의가장주된원인
- 부품 마모, 마찰 증가 및 이의 공동 발생
- 냉각성능저하, 그결과베어링, 압축엘레멘트및다른부품들의과열발생
- 임계공차감소
- 부식
- 부적합한 ph, 부품, 실 및 내부 손상
- 내부 부품에 막을 형성 (쿨러, 배관 등)
- 성능 저하, 에너지 소비 및 비용 증가
- 침전물
- 예상불가한높은유지보수비용
- 오일필터, 세퍼레이터 및 후단 필터들의 막힘
- 운전범위감소





스크류가드의 화학 성분은 압축기 모든 부품들의 신뢰성을 극대화 할 수 있도록 특별히 설계되었습니다.

스크류 압축기 서비스 키트 (**Screw compressor service kit**S)





시카고뉴매틱은완벽한스크류키트를갖추어항시고객여러분의서비스에 만전을 기하고 있습니다. 하나의 키트 안에 여러분이 유지보수를 위해 필요로 하시는 모든 것을 발견하십시오.

모든 유지보수 요구에 적합한 하나의 통합형 키트

1. 비용절감 솔루션, 개별 파트에 비해 5~10% 정도 저렴한 통합 서비스 키트
2. 간편한목록관리로물류효율의상승
3. 부품의고품질보증
4. 압축기수명의연장, 장비의신뢰성을극대화시킬수있는모든순정품을포함한 서비스 키트

ORIGINAL PART

Chicago Pneumatic

Each brand is best in class within its mission



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