Atlas Copco

Applied Compressor

And

Expander Technique

Cover Sheet

AIR LIQUIDE Order No.		**Z13/4500024048**
Codename		**ASU Kosice**
Atlas Copco Energas Order No.		**572 37 318**
Machine No.		**14 - 2276**
Machine type	Turbo Compressor	HL806-4-75
Project Leader		Herr. M. SAUERBORN (Dept. PT4)
	Telephone No. Fax	02236/9650 622 02236/9650 899
Final Customer Place of erection	US Steel Kosice SLOWAKIA	

Atlas Copco

Herstellererklärung
im Sinne der EG-Maschinen-Richtlinie 98/37/EG, Anhang II B

Wir, die ATLAS COPCO ENERGAS GMBH, Am Ziegelofen 2 in D-50999 Köln, erklären hiermit in alleiniger Verantwortung, daß das Produkt ("die Teilmaschine")

Auftrag:	**H-Serie Verdichter**	**57237318 "ASU Kosice"**
Maschinentyp:	**HL8-4-75**	**Maschinen-Nr.: 14-2276**

o zum Einbau in eine Maschine ("Gesamtmaschine")

o zum Zusammenbau mit anderen Maschinen zu einer Maschine ("Gesamtmaschine")

im Sinne der EG-Maschinen-Richtlinie bestimmt ist.

Erklärung:

In die Entwicklung und den Bau der vorbeschriebenen Teilmaschine sind die nach dem Stand der Technik möglichen unmittelbaren Maßnahmen zur Erfüllung des auf diese Teilmaschine zutreffenden materiellen Inhalts der grundlegenden Sicherheits- und Gesundheitsanforderungen gemäß der EG-Maschinen-Richtlinie 98/37/EG mit den Ergänzungen 91/368/EWG, 93/44/EWG sowie - falls anwendbar - die Anforderungen aus der EMV-Richtlinie 89/336/EWG mit der Ergänzung 92/31/EWG und - falls anwendbar - die Anforderungen aus der Niederspannungsrichtlinie 73/23/EWG eingeflossen; ferner wurden die Forderungen der die o.g. Richtlinie ergänzenden Richtlinie 93/68/EWG beachtet. Eine entsprechende Dokumentation wird bei ausreichend begründetem Verlangen der für die Durchführung der EG-Maschinen-Richtlinie zuständigen nationalen Behörden in angemessener Zeit verfügbar gemacht.

Hinweis:

Der Hersteller der verwendungsfertigen Maschine ("Gesamtmaschine"),

o in die diese Teilmaschine eingebaut

o mit der diese Teilmaschine zusammengebaut

werden soll, muß im Rahmen der mittelbaren und hinweisenden Sicherheitstechnik die notwendigen weiteren Maßnahmen ergreifen, damit die verwendungsfertige Gesamtmaschine den Bestimmungen der EG-Maschinen-Richtlinie entspricht. Die Inbetriebnahme ist solange untersagt, bis festgestellt wurde, daß die Gesamtmaschine,

o in die diese Teilmaschine eingebaut

o mit der diese Teilmaschine zusammengebaut

werden soll, den Bestimmungen der EG-Maschinen-Richtlinie in der o.g. Fassung entspricht.

Angewendete harmonisierte Normen:

EN 1012-1

EN 292-1
EN 292-2

EN 50081-2 (falls anwendbar)
EN 50082-2 (falls anwendbar)

Angewendete nationale technische Normen und Spezifikationen:

DIN VDE 0660/500/502/504 (falls anwendbar)

Name: *Horst Hammermann*

Position: Manager Quality Control

Unterschrift: Hammermann

Atlas Copco
~~Energas~~ GmbH
Qualitätskontrolle

Datum: *03.03.2006*

Atlas Copco

Konformitätserklärung
im Sinne der EG-Maschinen-Richtlinie 98/37/EG, Anhang II A

Wir, die ATLAS COPCO ENERGAS GMBH, Am Ziegelofen 2 in D-50999 Köln, erklären hiermit in alleiniger Verantwortung, daß das Produkt

Maschine:	**H-Serie Verdichter**	**57237318 "ASU Kosice"**	
Maschinentyp:	**HL8-4-75**	**Maschinen-Nr.:**	**14-2276**

auf das sich diese Erklärung bezieht, den Anforderungen der EG-Maschinen-Richtlinie 98/37/EWG sowie - falls anwendbar - den Anforderungen aus der Richtlinie über die elektromagnetische Verträglichkeit 89/336/EWG mit der Ergänzung 92/31/EWG und - falls anwendbar - den Anforderungen aus der Niederspannungsrichtlinie 73/23/EWG und - falls anwendbar- der Druckgeräterichtlinie 97/23/EG entspricht.

Angewendete harmonisierte Normen:

EN 1012-1
EN 292-1
EN 292-2
EN 50081-2 (falls anwendbar)
EN 50082-2 (falls anwendbar)

Angewendete nationale/internationale technische Normen und Spezifikationen:

DIN VDE 0660/500/502/504 (falls anwendbar) _____

_____ _____

_____ _____

	Konformität der Fertigungsunterlagen mit den in Frage kommenden Richtlinien	Konformität der ausgeführten Maschine mit den Fertigungsunterlagen
Name	_____	*Horst Hammermann*
Position	Leiter "Technik&Entwicklung"	Leiter "Qualitätskontrolle"
Unterschrift	_____	Hammermann
Datum	_____	*03.03.2006*

Atlas Copco Energas GmbH Qualitätskontrolle

Atlas Copco

Declaration by the manufacturer as defined by EC machinery directive 98/37/EG, Annex II B

Herewith, we, Atlas Copco Energas GmbH, Am Ziegelofen 2 in D-50999 Köln, declare in our sole responsibility that the product ("the partial machine")

Order: **H-series compressor** **57237318 "ASU Kosice"**

Machine type: HL8-4-75 **Serial No.:** **14-2276**

o incorporated into machinery ("complete machine")

o assembled with other machinery to constitute machinery ("complete machine")

as defined by the above mentioned EC machinery directive.

Declaration:

In the development and production of the above described partial machine, all direct feasible state-of-the-art measures have been considered to meet the substantive contents of the basic safety and health requirements pertinent to this partial machine as defined in EC machinery directive 98/37/EC and all amendments (former 89/392/EEC) and - if applicable - the provisions of the EC directive governing electromagnetic compatibility 89/336/EEC and its supplements 92/31/EEC, 91/263/EEC and - if applicable- the provisions of the low-voltage directive 73/23/EEC. Furthermore, the provisions of directive 93/68/EEC which is a supplement to the a.m. directives have been complied with. Pertinent documentation will be made available to the competent national authority in charge of the execution of the EC machinery directive on sufficiently justified request within a reasonable period of time.

Note:

The manufacturer of the ready-for-use machinery ("complete machine")

o into which this partial machine is to be incorporated

o with which this partial machine is to be assembled to constitute machinery

is obliged to take any and all further required action in the framework of safety techniques still to be carried out, including warning labels to make sure that the ready-for-use complete machine conforms to the dispositions of the EC machinery directive. The partial machine must not be put into service until the complete machine

o into which this partial machine is to be incorporated

o with which this partial machine will be assembled

has been declared to be in conformity with the provisions of the directive in the specified revision.

Applied harmonized standards:

EN 1012-1

EN 292-1
EN 292-2

EN 50081-2 (if applicable)
EN 50082-2 (if applicable)

Applied national technical standards and specifications:

DIN VDE 0660/500/502/504 (if applicable)

Name: ***Horst Hammermann***

Position: Manager Quality Control

Signature: Hammermann

Atlas Copco
Energas GmbH
Qualitätskontrolle

Date: *03.03.2006*

Atlas Copco

EC Declaration of Conformity
as defined by EC machinery directive 98/37/EG, Annex II A

We, ATLAS COPCO ENERGAS GMBH, Am Ziegelofen 2 in D-50999 Köln, declare in our sole responsibility that the product

Machine: **H-series compressor** **57237318 "ASU Kosice"**

Machine type: HL8-4-75 **Serial No.:** **14-2276**

to which this declaration relates, is in conformity with EC machinery directive 98/37/EC and all amendments (former 89/393/EEC) and - if applicable - with the provisions of the EC directive governing electromagnetic compatibility 89/336/EEC and its supplements 92/31/EEC, 91/263/EEC and - if applicable - with the provisions of the low-voltage directive 73/23/EEC and - if applicable - with the provisions of the pressure equipment directive 97/23/EG.

Applied harmonized standards:

EN 1012-1
EN 292-1
EN 292-2
EN 50081-2 (if applicable)
EN 50082-2 (if applicable)

Applied national technical standards and specifications:

DIN VDE 0660/500/502/504 (if applicable)

	Conformity of production documents with machinery directive	Conformity of finished machine with production documents
Name	_____	*Horst Hammermann*
Position	Project Management	Head of Quality Control
Signature	_____	Hammermann Atlas Copco Energas GmbH Qualitätskontrolle
Date	_____	*03.03.2006*

Atlas Copco

EC Declaration of Conformity as per EC pressure equipment directive 97/23/EC

We, ATLAS COPCO ENERGAS GMBH, Am Ziegelofen 2 in D-50999 Köln, herewith declare that the product/s described below

Machine description: Turbo Compressor **53737318 "ASU Kosice"**

Machine type: **HL 806-4-75** **Serial No. :** 14-2276

has/have been manufactured in terms of article 1. (2.1.5) of the PED in compliance with the following conformity assessment procedure(s):

Category IV, Module B&D **(directive 97/23/EC)**

Notified body:
(Or, if required, notified body monitoring the QA system)

Lloyd's Register Quality Assurance GmbH
Benannte Stelle für Druckgeräte
Mönckebergstr. 27
D-20095 Hamburg

Identification No: **0525**

No. of EC type examination certificate: SIG 0271737/2

No. of Quality Management System : 50031/1

Refer to the enclosed classification list for the single pressure equipment items of which the entire functional group consists. Pressure equipment included in the a.m. product(s) as per PED article 2. (2.1 – 2.1.5) which has not been manufactured by Atlas Copco Energas GmbH has been evaluated by the manufacturer of the presssure euipment or functional group in question. The corresponding declarations of conformity as per directive 97/23/EC are available.

This declaration shall become null and void, if products are modified without our express authorisation. Observation of the safety instructions included in the product documentation is imperative.

Other applied directives: **machinery directive 98/37/EC**

Applied harmonised standards, national/international standards, guidelines and specifications:
(refer also to declaration of conformity on machinery directive)

	Conformity of production documents with pressure equipment directive	Conformity of finished machine with production documents
Name:		Horst Hammermann
Position:	Head of Project Team	Head of Quality Control
Signature:		
Date:		03 March 2006

Lloyd's Register

CE 0525

ZERTIFIKAT

in Übereinstimmung mit den Anforderungen der Druckgeräterichtlinie 97/23/EG, Anhang III, Modul B, EG-Baumusterprüfung

Hiermit wird bescheinigt, dass das Baumuster in Übereinstimmung mit den grundlegenden Sicherheitsanforderungen gemäß Anhang I der Richtlinie hinsichtlich der Gesamtkonformität von Baugruppen und repräsentativ für den Geltungsbereich ist. Einzelheiten sind dem unten genannten Prüfbericht zu entnehmen.

Name /Anschrift des Herstellers /Antragstellers:	**ATLAS COPCO ENERGAS GmbH** **Am Ziegelofen 2** **D-50 999 KÖLN**
Art des Druckgeräts:	**Baugruppe gem. Art. 3 Abs. 2.2.**
Produktbeschreibung:	**H-KOMPRESSOR**
Baumuster:	**HLR 7-4**
Geltungsbereich:	**TYPEN HA, HE, HL, HM, HR**
Prüfbericht -Nr.:	**SIG 0271737/1**

Das Zertifikat gilt nur unter der Voraussetzung, daß das Produkt die spezifizierten Vorgaben und Einsatzbedingungen erfüllt. Jegliche Änderungen am zugelassenen Druckgerät müssen der Benannten Stelle mitgeteilt werden. Das Zertifikat ist 10 Jahre nach Ausstellung gültig und kann auf Antrag verlängert werden.

Zertifikat-Nummer: SIG 0271737/2

Datum der Baumusterprüfung: 13. Juni 2001

Dieses Zertifikat ist gültig bis: 13. Juni 2011

LRQA GmbH
Kennummer: 0525

U. Wöhler

Im Auftrag von LRQA GmbH

Lloyd's Register Quality Assurance GmbH, Mönckebergstrasse 27, D-20095 Hamburg, Deutschland
Telefon +49 40 32 81 07 - 0 Fax +49 40 33 03 16 Email: hamburg-is@lr.org

Lloyd's Register

CE 0525

CERTIFICATE

in accordance with the requirements of the Pressure Equipment Directive 97/23/EC, Annex III, Module B, EC Type-Examination.

This is to certify that the sample is in conformance with the Essential Safety Requirements of Annex I of the Directive with respect to the global conformity of assemblies and representative for the range of approval. Details are contained in the underneath mentioned test report.

Name / address of manufacturer /applicant:	**ATLAS COPCO ENERGAS GmbH** **Am Ziegelofen 2** **D-50 999 Köln**
Type of pressure equipment:	**Assembly acc. Art. 3 Para. 2.2.**
Description of product:	**H-COMPRESSOR**
Sample:	**HLR 7-4**
Range of approval:	**TYPES HA, HE, HL, HM, HR**
Test report no.:	**SIG 0271737/1**

The Certificate is valid on the assumption that the product fulfils the specified requirements and conditions for use. Any modifications to the approved pressure equipment have to be reported to the notified body. The Certificate is valid for ten years and can be renewed upon request.

Certificate-No.: **SIG 0271737/2**

Date of Type-Examination: **13th June 2001**

Certificate Expiry Date: **13th June 2011**

LRQA GmbH
Identifikation-No. 0525

U. Wölm

On behalf of LRQA GmbH

Lloyd's Register Quality Assurance GmbH, Mönckebergstrasse 27, D-20095 Hamburg, Deutschland
Telefon +49 40 32 81 07 - 0 Fax +49 40 33 03 16 Email: hamburg-is@lr.org

Atlas Copco	CLASSIFICATION LIST ACCORDING TO EC-DIRECTIVE 97/23/EC -PED	Atlas Copco Energas GmbH
	List of systems / sub-assemblies with included pressure equipment	Version 5.0 from 22.01.2004

Customer Order No.	**Z13/4500024048**
ACE Order No.	**572 37 318**
Codename	**ASU Kosice**
Machine Type	**HL806-4-75**
Machine No.	**14-2275/14-2276**
Item No.	
Category (Highest)	**IV**
ACE-conformity assessment procedure for assembly and protection of the system	**B+ D**

Checked (Project leader) M. Sauerborn Date: 06.03.2006
Revision checked (Quality Control): H. Hammermann Date:

Atlas Copco Energas GmbH Quality Control

Sys.No.	*Description:*	*Medium*	*Fluid*	*Protection*
1	*Gas, 1. Stage*	*N2*	*2*	*Temperature*

Pressure equipment

Pos.-No.:	Description	Part no.:	Pressure Design. /Operation	Temperature Design. / Operation	Category	Module	NB	Manufact.	Purch.
1	*Gas piping outlet 1. stage*	*6970301462*	*8,0 / 1,5 bar(g)*	*200 °C / 125 °C*	*II*	*D1*	*TUEV 0035*	☐	☒
2	*Gas cooler 1. stage (air side)*	*6970301457*	*7,5 / 1,5 bar(g)*	*150 °C / 125 °C*	*IV*	*G*	*TUEV Süd (0036)*	☐	☒

Sys.No.	*Description:*	*Medium*	*Fluid*	*Protection*
2	*Gas, 2. Stage*	*N2*	*2*	*Temperature*

Pressure equipment

Pos.-No.:	Description	Part no.:	Pressure Design. /Operation	Temperature Design. / Operation	Category	Module	NB	Manufact.	Purch.
1	*Gas piping inlet 2. stage*	*6970301462*	*8,0 / 1,5 bar(g)*	*200 °C / 21,11 °C*	*II*	*D1*	*TUEV 0035*	☐	☒
2	*gas piping outlet 2. stage*	*6970301462*	*8,0 / 3,6 bar(g)*	*200 °C / 96 °C*	*II*	*D1*	*TUEV 0035*	☐	☒
3	*Gas cooler 2. stage (air side)*	*6970301457*	*7,5 / 3,6 bar(g)*	*150 °C / 96 °C*	*IV*	*G*	*TUEV Süd (0036)*	☐	☒

Sys.No.	Description:	Medium	Fluid	Protection
3	Gas, 3. Stage	N2	2	Temperature

Pressure equipment

Pos.-No.:	Description	Part no.:	Pressure Design. /Operation	Temperature Design. / Operation	Category	Module	NB	Manufact.	Purch.
2	Gas piping inlet 3. stage	6970301462	8,0 / 3,6 bar(g)	200 °C / 42,2 °C	II	D1	TUEV 0035	☐	☒
5	Gas piping outlet 3. stage	6970301462	12,0 / 6,4 bar(g)	200 °C / 102,6 °C	II	D1	TUEV 0035	☐	☒
7	Gas cooler 3. stage (air side)	6970301463	12,0 / 6,4 bar(g)	150 °C / 102,6 °C	IV	G	TUEV Süd (0036)	☐	☒
7	Non-return flap	6970241150	16 /6,4 bar(g)	200 °C / 45,4 °C	II	H	0525	☐	☐
7	Bypass valve	6970301464	10,0 / 6,4 bar(g)	60 °C / 45,6 °C	III	H	0098	☐	☐

Sys. No.	*Description:*	Medium	Fluid	*Protection*
4	***Cooling water***	***Water***	*2*	***Temperature***

Pressure equipment

Pos.No.	Description	Part no.:	Pressure Design. / Operation	Temperature Design. / Operation	Category	Module	NB	Manufac	Purch
1	*Piping*	*6970301459*	*10,0 / 2,5 bar(g)*	*95 °C / 37 °C*	*Article3 / Section3*	-	-	☐	☒
2	*Gas cooler (water side cooler Stage 1)*	*6970301457*	*8,0 / 2,5 bar(g)*	*80 °C / 37 °C*	*IV*	*G*	*TUEV Süd (0036)*	☐	☒
3	*Gas cooler (water side cooler Stage 2)*	*6970301457*	*8,0 / 2,5 bar(g)*	*80 °C / 37 °C*	*IV*	*G*	*TUEV Süd (0036)*	☐	☒
4	*Gas cooler (water side cooler Stage 3)*	*6970301463*	*8,0 / 2,5 bar(g)*	*80 °C / 37 °C*	*IV*	*G*	*TUEV Süd (0036)*	☐	☒

Sys. No.	*Description:*	Medium	Fluid	*Protection*
4	***Cooling water***	***Water***	*2*	***Temperature***

Pressure equipment

Pos.No.	Description	Part no.:	Pressure Design. / Operation	Temperature Design. / Operation	Category	Module	NB	Manufac	Purch
6	*Non-return flap*	*6915231545*	*16,0 / 2,5 bar(g)*	*120 °C / 37 °C*	*Article3 / Section3*	-	-	☐	☒
7	*Non-return flap*	*6915231543*	*16,0 / 2,5 bar(g)*	*120 °C / 37 °C*	*Article3 / Section3*	-	-	☐	☒
8	*Non-return flap*	*6915103623*	*10,0 / 2,5 bar(g)*	*90 °C / 37 °C*	*Article3 / Section3*	-	-	☐	☒
8	*Flexible tube*	*6970252997*	*16,0 / 2,5 bar(g)*	*100 °C / 37 °C*	*Article3 / Section3*	-	-	☐	☒
9	*Safety valve (PSV 6980)*	*6970117047*	*16,0 / 2,5 bar(g)*	*100 °C / 37 °C*	*IV*	*B + D/ D1*	*TUEV Nord (0045)*	☐	☒

Sys.No.	Description:	Medium	Fluid	Protection
5	Lube oil	Oil	2	Temperature

Pressure equipment

Pos.-No.:	Description	Part no.:	Pressure Design. / Operation	Temperature Design. / Operation	Category	Module	NB	Manufac	Purch
1	Piping	6970301451	10,0 / 6,0 bar(g)	150 °C / 65°C	Article3 / Section3	-	-	☐	☒
2	Oil cooler (oil side)	6970301449	10,0 / 3,5 bar(g)	95 °C / 65/48 °C	Article 3 / Section 3	-	-	☐	☒
3	Duplex filter	6970275886	16,0 / 3,5 bar(g)	80 °C / 48 °C	Article 3 / Section 3	-	-	☐	☒
4	Oil mist seperator	6970268299	16,0 / 0,0 bar(g)	80 °C / 65 °C	Article 3 / Section 3	-	-	☐	☒
5	Oil Pump	1420120136	10,0 / 6,0 bar(g)	80 °C / 65 °C	Article 3 / Section 3	-	-	☐	☒
6	Auxiliary oil Pump	6970226740	16,0 / 6,0 bar(g)	150 °C / 65 °C	Article 3 / Section 3	-	-	☐	☒
7	Non-return flap (6991)	6970210237	40,0 / 6,0 bar(g)	80 °C / 65 °C	Article3 / Section3	-	-	☐	☒
8	Non-return valve	6970080263	16,0 / 6,0 bar(g)	120 °C / 65 °C	Article 3 / Section 3	-	-	☐	☒
9	Temperature control valve (8993)	6970212506	16,0 / 6,0 bar(g)	55 °C / 48 °C	Article3 / Section3	-	-	☐	☒
10	Non-return valve	6915272832	16,0 / 6,0 bar(g)	120 °C / 65 °C	Article 3 / Section 3	-	-	☐	☒

Sys.No.	*Description:*	*Medium*	*Fluid*	*Protection*
6	*Drain and vent*	*Water*	*2*	*none*

Pressure equipment

Pos.-No.:	Description	Part no.:	Pressure Design. / Operation	Temperature Design. / Operation	Category	Module	NB	Manufac	Purch
	Drain and vent gas cooler								
1	*Ball valve*	*6970045391*	*25,0 / 5,0 bar(g)*	*120 °C / 30 °C*	*Article 3 / Section 3*	-	-	☐	☒
2	*Ball valve*	*6970043783*	*25,0 / 5,0 bar(g)*	*120 °C / 30 °C*	*Article 3 / Section 3*	-	-	☐	☒

Syst. Nr. *Sys. No.:*	Bezeichnung: *Description:*	Medium *Medium*	Fluid *Fluid*	Absicherung *Protection*
7	***Instruments***	***Water , Oil , Process gas***	*2*	***Temperature***

Pressure equipment

Pos.-No.	TAG-No.	Part no.	Pressure Design. / Operation	Temperature Design. / Operation	Category	Module	NB	Manufac	Purcha
1	*TI 8181*	*6915258506*	*66 / 2,5 bar(g)*	*60 °C / 37 °C*	*Article 3 / Section 3*	-	-	☐	☒
2	*TI 8182*	*6915258506*	*66 / 2,5 bar(g)*	*60 °C / 37 °C*	*Article 3 / Section3*	-	-	☐	☒
3	*TI 8183*	*6915258506*	*66 / 2,5 bar(g)*	*60 °C / 37 °C*	*Article 3 / Section3*	-	-	☐	☒
4	*TI 8184*	*6915258506*	*66 / 2,5 bar(g)*	*60 °C / 37 °C*	*Article 3 / Section3*	-	-	☐	☒
5	*TE 8034*	*6915291113*	*300 / 1,5 bar(g)*	*300 °C / 21,2 °C*	*Article 3 / Section 3*	-	-	☐	☒
6	*TE 8036*	*6970257837*	*300 / 3,6 bar(g)*	*300 °C / 42,2 °C*	*Article 3 / Section 3*	-	-	☐	☒
7	*PT 6534*	*6970308669*	*2,0 / 1,5 bar(g)*	*125 °C / 21,2 °C*	*Article 3 / Section 3*	-	-	☐	☒
8	*PT 6536*	*6970308670*	*4,0 / 3,6 bar(g)*	*125 °C / 42,2 °C*	*Article 3 / Section 3*	-	-	☐	☒

Syst. Nr. *Sys. No.:*	Bezeichnung: *Description:*	Medium *Medium*	Fluid *Fluid*	Absicherung *Protection*
8	***Instruments***	***Water , Oil , Process gas***	*2*	***Temperature***

Pressure equipment

Pos.-No.	TAG-No.	Part no.	Pressure Design. / Operation	Temperature Design. / Operation	Category	Module	NB	Manufac	Purcha
9	*PT 6544*	*6970308672*	*10,0 / 6,4 bar(g)*	*125 °C / 102,6 °C*	*Article 3 / Section 3*	-	-	☐	☒
10	*PDT 6534*	*6970308674*	*200 / 1,5 bar(g)*	*120 °C / 21,2 °C*	*Article 3 / Section 3*	-	-	☐	☒
11	*PDT 6535*	*6970308686*	*200 / 3,6 bar(g)*	*120 °C / 96 °C*	*Article 3 / Section 3*	-	-	☐	☒
12	*TE 8094*	*6915291113*	*300 / 2,1 bar(g)*	*300 °C / 48 °C*	*Article 3 / Section 3*	-	-	☐	☒
13	*PT 6594*	*6970308671*	*4,0 / 2,1 bar(g)*	*125 °C / 48 °C*	*Article 3 / Section 3*	-	-	☐	☒
14	*PI 6194*	*6915195268*	*7,8 / 2,1 bar(g)*	*100 °C / 48 °C*	*Article 3 / Section 3*	-	-	☐	☒
15	*PDIS 6393*	*6970257937*	*25 / 2,1 bar(g)*	*70 °C / 48 °C*	*Article 3 / Section 3*	-	-	☐	☒
16	*PT 6531*	*6970308651*	*10 / 0 bar(g)*	*125 °C / 22 °C*	*Article 3 / Section 3*	-	-	☐	☒
18	*TE 8044*	*6915291113*	*300 / 6,4 bar(g)*	*300 °C / 25 °C*	*Article 3 / Section 3*	-	-	☐	☒

Syst. Nr. *Sys. No.:*	**Bezeichnung:** *Description:*	**Medium** *Medium*			**Fluid** *Fluid*	**Absicherung** *Protection*			
8	***Instruments***	***Water , Oil , Process gas***			***2***	***Temperature***			
Pressure equipment									
19	*PT 6548*	*6970308673*	*200 / 6,4 bar(g)*	*120 °C / 25 °C*	*Article 3 / Section 3*	-	-	☐	☒

Legende:

FE	*Orifice*
FT	*Diff. Pressure Transmitter*
PCV	*Pressure Control Valve*
PSV	*Safety Valve*
PI	*Pressure Gauge*
PT	*Pressure Transmitter*
PDGS	*Diff. Pressure Switch*
PICV	*Air Supply Station*
PSLL	*Pressure Switch*
TCV	*Temperature control valve*
TE	*Temperature Transmitter-PT100*
ZC	*Positioner*

Cover sheet/Deckblatt

Inspection and Test Plan
Prüf- und Abnahmeplan

ACE order number: **572 37 318**
ACE-Auftragsnummer

ACE code word: .....**ASU Kosice**
ACE-Kennwort

ACE machine number: **14-2275/2276**
ACE Maschinennummer

ACE machine type.....**HL806-4-75**
ACE Maschinentype

Customer:.....**Air Liquide Germany**
Kunde

Customer order number:.....**Z13/4500024048**
Kunden-Auftragsnummer

Enduser, final customer.....
Endkunde, Betreiber

Enduser order number: .....
Endkunden-Auftragsnummer

Third party inspection authority: .....
Unabhängige Abnahmebehörde

Atlas Copco
Energas GmbH
Quality Contro'

Revision	Date/Datum	Prepared/Erstellt	Checked/Geprüft	Description/Beschreibung
0	26.07.2005	PT4/Schmidt	PT4/Sauerborn	First issue/Erstausgabe
1	26.09.2005	PT4/Schmidt	PT4/Sauerborn	final
2	28.11.2005	PT4/Schmidt	PT4/Sauerborn	final
3	01.03.2006	WQD/Kalitan	C. Hughes	Chapter No's added

Index/Inhaltsverzeichnis

1 Abbreviations/Abkürzungen

Acceptance	Relevant acceptance criteria Gültige Akzeptanzkriterien
ACE	Atlas Copco Energas GmbH
ACCI	Atlas Copco Comptec Inc.
Amt	Amount of inspection (e.g. 100% or spot or 10% random), 100% if not indicated otherwise Umfang der Prüfung (zum Beispiel 100% oder Stichprobe oder 10% Stichprobe), generell 100% wenn nicht anders angegeben
Cert	Value of issued certificate according EN10204 Wertigkeit der Prüfbescheinigung nach EN10204
Cust	ACE customer ACE-Kunde
Enduser	Enduser, final customer Endkunde, Betreiber
H	Hold point: the customer will be informed about the test date timely and ACE will stop production until the customer or his representative is present or a written waiver issued by the customer is available Haltepunkt: der Kunde wird über den Zeitpunkt der Prüfung rechtzeitig informiert und ACE stoppt die Produktion bis der Kunde oder sein Vertreter anwesend ist oder eine schriftliche Verzichtserklärung des Kunden vorliegt
Incl	Y=Certificate will be included in the final manufacturing record book (QC documentation) Y=Bescheinigung wird in der endgültigen Kunden-Qualitätsdokumentation eingefügt
Inspection	Type (and time) of inspection Art (und Zeitpunkt) der Prüfung
No	Number of inspection Nummer der Prüfung
Note	Additional remarks, for details see below Zusätzliche Bemerkung, weiteres siehe unten
Procedure	Relevant inspection procedure or standards Gültige Prüfbeschreibung oder Norm
Prod.-Stage	Stage of production, time of inspection Zeitpunkt der Prüfung, Status der Komponentenproduktion **PM** =Pre manufacturing **RM** =raw material/Rohteil **IP** =in-process/während Bearbeitung **FM** =finish machined/fertigbearbeitet or completed/komplett **AS** =assembled/montiert
R	Review of documents Dokumentenkontrolle
Sub	ACE sub-supplier ACE Unterlieferant
TPIA	Third party inspection authority (involved due to customers or legislative requirements) Unabhängige Abnahmegesellschaft (beauftragt wegen Kundenforderung oder gesetzlicher Notwendigkeit)
W	Witness point: the customer will be informed about the test date timely but ACE will proceed if the customer or his representative is not present Abnahmepunkt: der Kunde wird über den Zeitpunkt der Prüfung rechtzeitig informiert, aber ACE setzt die Produktion weiter fort, falls der Kunde oder sein Vertreter nicht anwesend ist
X	Location of inspection Ort der Prüfung

2 Specifications & Procedures/Spezifikationen & Prozeduren

Specification (designation)	Description	Comment, note
API 613	Special Purpose Gear Units for Petroleum, Chemical, and Gas Industry Services	International design code
API 617	Centrifugal Compressors for Petroleum, Chemical, and Gas Service Industries	International design code. relevant sections :section regarding residual unbalance check, bearing inspection
API 672	Packaged, integrally geared centrifugal air compressors for general refinery service	International design code
Drawing	Inspection of properties, dimensions, surfaces according to drawing content	
QSV-QP-3	Radiographic test	ACE standard procedure
WI-0296	Magnetic particle inspection for cracks	ACC standard procedure
WI-0243	Impeller overspeed test	ACC standard procedure including API requirements
QSV-QP-7	Hydraulic, pneumatic pressure test	ACE standard procedure
QSV-WFP-6	Inspection and testing of measuring and control units/panels	ACE standard procedure based on VDE and IEC standards
ISO 1940	Low speed balancing	International design code
QSV-WQC-05	Tragbildkontrolle an Stirn- und Planetenradgetrieben (tooth contact pattern inspection for spur and epicyclical gears)	ACE standard procedure
Test run procedure	Job specific / order related test run procedure	Job specific procedure based on ACE standard procedure and API 617
Performance Test	Job specific / order related test run procedure	Job specific procedure based on ACE standard procedure and international codes

3 Components & inspections/Komponenten & Prüfungen

3.1 Compressor complete/Verdichter komplett

CHAPTER 2

Part/Bauteil
Compressor complete/Verdichter komplett

Material/Material | Design code acc. PED | Part number/Materialnummer 6970 3014 90

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Mechanical test run *Mechanischer Probelauf*	AS	Order related test run procedure API617		API617 Contract requirements	3.1	Y						
1.2	Performance test *Aerodynamischer Probelauf, Leistungslauf*	AS	Order related test run procedure		Order related test run procedure	3.1							
1.3	Noise level measurement and analysis *Schallpegelmessung/-analyse*	AS	relevant standard		max. level as agrreed per contract	3.1							
1.4	Bearing inspection *Lagerkontrolle*	AS	API617	100%	API617	3.1	Y						
1.5	Tooth contact pattern inspection *Tragbildkontrolle*	AS	QSV-WQC-05	Spot		3.1							
1.6	Cleanliness inspection *Sauberkeitsprüfung*	AS		Spot		3.1			X				
1.7	Painting inspection *Anstrichkontrolle*	AS	QSV-WQC-2	Spot	Manufacturers standard	3.1			X				
1.8	Visual inspection *Sichtkontrolle*	AS		100%		3.1			X				
1.9	Marking and tagging inspection *Label- und Markierungskontrolle*	AS	Drawing	100%	Drawing	3.1			X				
1.10	Check of completeness and readiness for shipment *Vollständigkeits- und Versandkontrolle*	AS		100%		3.1	Y		X				
1.11	Packing inspection *Verpackungskontrolle*	AS		100%		3.1							
1.12	Document review *Dokumentationsprüfung*	AS				3.1							
1.13	Certificates of Conformity *Konformitätsbescheinigungen*	AS				3.1	Y		X				
1.14													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.2 Core Unit/Rumpfverdichter

3.2.1 Core Unit/Rumpfverdichter

CHAPTER 2

Part/Bauteil
Core Unit/Rumpfverdichter

Sub-supplier/Unterlieferant
Atlas Copco Comptec / USA

Part number/Materialnummer 6970 3014 69

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACCI	ACE	Customer	Enduser	Note
1.1	Different inspections *(inlcuding dimensional inspection)* *Diverse Prüfungen (einschließlich Maßkontrolle)*	IP	Manufacturer standard, API613	partly	Manufacturer standard incl. exceptions API613		Y	X	X				1
1.2	Mechanical test run (no-load test, one rotor set only) *Mechanischer Probelauf (unbelastet, nur ein Rotorsatz)*	AS	API617, manufacturers standard	100%	API617, manufacturers standard			X					
1.3	Bearing inspection following test run *Lagerkontrolle nach dem Probelauf*	AS	API617, manufacturers standard	100%	API617, manufacturers standard								
1.4	Impellers/Laufräder Chemical/mechanical properties *Chemische und mechanisch-technologische Eigenschaften* Overspeed test including magnetic particle and dimensional inspection *Schleuderprüfung einschließlich Magnetpulver- und Maßprüfung*		Manufacturer standard (WI-0296, WI-0243), relevant Specifications		Manufacturer standard incl. Exceptions			X	X				
1.5	Pinion shafts and bull gear/Ritzelwellen und Großrad Chemical/mechanical properties *Chemische und mechanisch-technologische Eigenschaften* Magnetic particle inspection *Magnetpulverprüfung* Low speed balancing (complete) *Niedertouriges Wuchten (komplett)*		Manufacturer standard, relevant Specification (DIN, etc.)		Manufacturer standard incl. Exceptions, relevant Specification (DIN, etc.)			X	X				
1.6	Compressor casings/Spiralgehäuse Hydrostatic pressure test *Hydraulische Druckprüfung* Visual Inspection *Sichtprüfung*		Manufacturer standard WI-0204		Manufacturer standard incl. Exceptions			X	X				
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1. For details see manufacturers QC plan/Details entsprechend QC-Plan des Herstellers
2.
3.
4.
5.

3.3 Piping and components/Rohrleitungen und Einbauten

3.3.1 Process gas piping/Prozeßgasleitung

CHAPTER 4

Part/Bauteil
Process gas piping/Prozeßgasleitung

Material/Material	Design code	Part number/Materialnummer 6970 3014 62
Carbon steel/C-Stahl	acc. PED	

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Chemical analysis *Chemische Analyse*	RM	relevant standard		relevant standard	2.1	Y	X	R				
1.2	Mechanical properties *Mechanisch-technologische Eigenschaften*	RM	relevant standard		relevant standard	3.1	Y	X	R				
1.3	Radiographic inspection *Röntgenprüfung*	FM	QSV-QP-3	10% random for d≥1"	QSV-QP-3	3.1	Y	X	R				
1.4	Hydrostatic pressure test *Hydraulische Druckprüfung*	AS	QSV-QP-7		QSV-QP-7	3.1	Y	X	R				
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.3.2 Gas cooler/Gaskühler

CHAPTER 3

Part/Bauteil
Gas cooler (intermediate and after cooler/Gaskühler (Zwischen- und Nachkühler)

Sub-supplier/Unterlieferant	Design code	Part number/Materialnummer 6970 3014 57 / 6970 3014 62
Oeltechnik	acc. PED	

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Construction and hydraulic pressure test *Bau- und Druckprüfung*	IP	relevant codes and standards		relevant codes and standards	3.2	Y	X	R				
1.2	Pneumatic leak test *Pneumatische Dichtheitsprüfung*	FM	relevant codes and standards		relevant codes and standards	3.2							
1.3	Final inspection *Endabnahme*	AS	Drawings, specifications	100%	Drawings, specifications	3.1							
1.4	Review/release of manufacturing data report *Prüfung/Freigabe der QC-Dokumentation*	AS	Drawings, specifications		Drawings, specifications	3.1		X	R				
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1. if applicable, 3.1 instead/ falls zutreffend, ansonsten 3.1
2.
3.
4.
5.

3.3.3 Oil system/Ölsystem

CHAPTER 2

Part/Bauteil
Oil system/Ölsystem

Sub-supplier/Unterlieferant | Design code acc. PED | Part number/Materialnummer 6970 3014 73

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Different inspections *Diverse Prüfungen*	IP	Manufacturers standard; Relevant order specifications		Manufacturers standard; Relevant order specifications	3.1		X					
1.2	Functional test run *Funktionsprüfung*	AS	Manufacturers standard; Relevant order specifications		Manufacturers standard; Relevant order specifications	3.1	Y		H				
1.3	Dimensional check *Maßprüfung*	AS	Drawings		Drawings	3.1		X	H				
1.4	Painting/surface protection inspection *Anstrich- und Oberflächenschutzprüfung*	AS	Manufacturers standard		Manufacturers standard	3.1		X	W				
1.5	Check of completeness *Vollständigkeitskontrolle*	AS	Drawings		Drawings	3.1		X	W				
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
4.
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3.3.4 Oil piping/Ölleitung

CHAPTER 5

Part/Bauteil
Oil piping/Ölleitung

Material/Material	Design code acc. PED	Part number/Materialnummer 6970 301451

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Chemical analysis *Chemische Analyse*	RM				2.1	Y	X					
1.2	Mechanical properties *Mechanisch-technologische Eigenschaften*	RM				2.1	Y	X	R				
1.3	Radiographic inspection *Röntgenprüfung*	FM	QSV-QP-3	10% random for d≥1"	QSV-QP-3	3.1	Y	X	R				
1.4	Hydrostatic pressure test *Hydraulische Druckprüfung*	AS	QSV-QP-7		QSV-QP-7	3.1	Y	X	R				
1.5	Material properties (collective certificate) *Materialsammelbescheinigung*	RM				2.1		X	R				
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.3.5 Oil cooler/Ölkühler

CHAPTER 5

Part/Bauteil
Oil cooler/Ölkühler

Sub-supplier/Unterlieferant
Oeltechnik

Design code
acc. PED

Part number/Materialnummer 6970 3014 49

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Construction and hydraulic pressure test *Bau- und Druckprüfung*		Relevant pressure vessel code		Relevant pressure vessel code	3.1	Y	X	R				
1.2	Hydrostatic pressure test *Hydraulische Druckprüfung*		Manufacturer standard		Manufacturer standard	3.1	Y	X	R				
1.3	Final inspection *Endabnahme*		Drawings, specifications	100%	Drawings, specifications	3.1	Y	X					

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.3.6 Oil filter/Ölfilter

CHAPTER 5

Part/Bauteil
Oil filter/Ölfilter

Sub-supplier/Unterlieferant
Internormen

Design code
acc. PED

Part number/Materialnummer 6970 2758 86

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Construction and hydraulic pressure test *Bau- und Druckprüfung*		Relevant pressure vessel code		Relevant pressure vessel code	3.1	Y	X	R				
1.2	Hydrostatic pressure test *Hydraulische Druckprüfung*		Manufacturer standard		Manufacturer standard	3.1	Y	X	R				
1.3	Final inspection *Endabnahme*		Drawings, specifications	100%	Drawings, specifications	3.1	Y	X					
1.4													
1.5													
1.6													
1.7													
1.8													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.3.7 Cooling water piping/Wasserleitung

CHAPTER 6

Part/Bauteil
Cooling water piping/Wasserleitungen

Material/Material	Design code	Part number/Materialnummer 6970 3014 59
Carbon steel/C-Stahl	acc. PED	

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Material properties (collective certificate) *Materialsammelbescheinigung*	RM				2.1	Y	X	X				
1.2	Radiographic inspection *Röntgenprüfung*	FM	QSV-QP-3	10% random for d≥1"	QSV-QP-3	3.1	Y		X				
1.3	Hydrostatic pressure test *Hydraulische Druckprüfung*	AS	QSV-QP-7		QSV-QP-7	3.1	Y		X				
1.4	Material properties (collective certificate) *Materialsammelbescheinigung*	RM				2.1			X				
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.3.7 Cooling water piping/Wasserleitung

CHAPTER 6

Part/Bauteil
Cooling water piping/Wasserleitungen

Material/Material
Carbon steel/C-Stahl

Design code
acc. PED

Part number/Materialnummer 6970 3014 59

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Material properties (collective certificate) *Materialsammelbescheinigung*	RM				2.1		X	X				
1.2	Radiographic inspection *Röntgenprüfung*	FM	QSV-QP-3	10% random for d≥1"	QSV-QP-3	3.1	Y		X				
1.3	Hydrostatic pressure test *Hydraulische Druckprüfung*	AS	QSV-QP-7		QSV-QP-7	3.1	Y		X				
1.4	Material properties (collective certificate) *Materialsammelbescheinigung*	RM				2.1			X				
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.3.8 Auxiliary piping/Instrumentenleitung

not applicable

Part/Bauteil
Piping and tubing for instrumentation and auxiliarity purposes/Instrumenten- und Hilfsleitungen

Material/Material
Carbon steel and stainless steel (depending on purpose)/C- und CrNi-Stahl (abhängig vom Zweck)

Part number/Materialnummer 6970 3014 61

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Material properties (collective certificate) *Materialsammelbescheinigung*	RM				2.1			X				
1.2	Hydrostatic pressure test *Hydraulische Druckprüfung*	AS	QSV-QP-7		QSV-QP-7	3.1			X				
1.3													
1.4													
1.5													
1.6													
1.7													
1.8													
1.9													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.3.9 Expansion joints/Kompensatoren

not applicable

Part/Bauteil
Expansion joints/Kompensatoren

Sub-supplier/Unterlieferant	Design code	Part number/Materialnummer 6970
N.N.	acc. PED	

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Chemical analysis *Chemische Analyse*	RM				2.1		X					
1.2	Mechanical properties *Mechanisch-technologische Eigenschaften*	RM				3.1		X					
1.3	Radiographic inspection *Röntgenprüfung*	RM	Manufacturers standard	Longitudinal welds only	Manufacturers standard	3.1		X					
1.4	Dye penetrant inspection *Farbeindringprüfung*	AS	Manufacturers standard	Welds and bellow	Manufacturers standard	3.1		X					
1.5	Hydrostatic pressure test *Hydraulische Druckprüfung*	AS	Manufacturers standard		Manufacturers standard	3.1		X					
1.6	Dimensional and flange finish inspection *Maß- und Flanschfinishprüfung*	AS	Manufacturers standard	100%	Manufacturers standard	3.1		X					
1.7	Visual inspection *Sichtkontrolle*	AS	Proven practice	100%	Component drawing	3.1		X					
1.8	Painting/surface protection inspection *Anstrich- und Oberflächenschutzprüfung*	AS	Manufacturers standard	100%, if applicable	Manufacturers standard	3.1		X					
1.9													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.3.10 Non-return flap/Rückschlagklappe

CHAPTER 4

Part/Bauteil
Non-return flap/Rückschlagklappe

Sub-supplier/Unterlieferant
Gestra

Design code
acc. PED

Part number/Materialnummer 6970 2411 50

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Chemical analysis *Chemische Analyse*	RM				2.1		X					
1.2	Mechanical properties *Mechanisch-technologische Eigenschaften*	RM				3.1		X					
1.3	Hydrostatic pressure test *Hydraulische Druckprüfung*	AS	Manufacturers standard		Drawing, Manufacturers standard	3.1		X					
1.4	Seat leakage test *Leckageprüfung des Ventilsitzes*	AS	Manufacturers standard		Manufacturers standard	3.1		X					
1.5	Dimensional and flange finish inspection *Maß- und Flanschfinishprüfung*	AS	Manufacturers standard	100%	Manufacturers standard	2.1	Y	X					
1.6	Visual inspection *Sichtkontrolle*	AS	Proven practice	100%	Component drawing	2.1	Y	X					
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.3.11 Safety valve/Sicherheitsventil

CHAPTER 6

Part/Bauteil

Safety valve/Sicherheitsventil

Sub-supplier/Unterlieferant: Leser

Desing code: acc. PED

Part number/Materialnummer 6970

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Construction and hydraulic pressure test *Bau- und Druckprüfung*					3.1	Y	X	R				
1.2	Hydrostatic leak test *Hydraulische Dichtheitsprüfung*		Applicable standard		Applicable standard			X	R				
1.3	Test of relief pressure setting *Prüfung des Öffnungsdruckes*		Drawings	100%	Drawings	3.1	Y	X	R				
1.4	Final inspection *Endabnahme*		Drawings	100%	Drawings	3.1	Y	X	R				
1.5	Review/release of manufacturing data report *Prüfung/Freigabe der QC-Dokumentation*		Drawings, specifications		Drawings, specifications			X	R				
1.6	Certificates of Conformity *Konformitätsbescheinigungen*					3.1	Y	X					
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.3.12 Blow-off valve/Abblaseventil

CHAPTER 4

Part/Bauteil
Blow-off valve/Abblaseventil

Sub-supplier/Unterlieferant
ARCA

Design code
acc. PED

Part number/Materialnummer 6970 3014 64

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Construction and hydraulic pressure test *Bau- und Druckprüfung*	IP	Applicable standard		Applicable standard	3.1	Y	X	R				
1.2	Hydrostatic leak test *Hydraulische Dichtheitsprüfung*	AS	Applicable standard		Applicable standard	3.1	Y	X	R				
1.3	Final inspection *Endabnahme*	AS	Drawings,	100%	Drawings	3.1	Y	X	R				
1.4	Review/release of manufacturing data report *Prüfung/Freigabe der QC-Dokumentation*		Drawings, specifications		Drawings, specifications	3.1		X					
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
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3.
4.
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3.4 Control system/Steuerung-&Regelungssystem

3.4.1 Instrumentation/MSR-Komponenten

CHAPTER 8

Part/Bauteil
Instruments, terminal boxes/MSR-Geräte, Instrumente, Klemmkästen

Material/Material

Part number/Materialnummer 6970 3014 76

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Visual inspection *Sichtkontrolle*		Drawing	100%	Drawing	3.1							
1.2	Electrical tests according VDE (electrical safety) *Elektrische Prüfungen entsprechend VDE (elektrische Sicherheit)*		QSV-WFP-6	100%	VDE standards	3.1	Y	X	R				
1.3	Functional checks *Funktionsprüfungen*		QSV-WFP-6	Spot	Drawing	3.1							
1.4	ATEX certification *Atex-Bescheinigung*					3.2							
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
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3.
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3.4.2 Wiring/Verkabelung

CHAPTER 8

Part/Bauteil
Wiring/verkabelung

Material/Material

Part number/Materialnummer 6970 0210 31

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Visual inspection *Sichtkontrolle*		Drawing	100%	Drawing	3.1			X				
1.2	Electrical tests according VDE (electrical safety) *Elektrische Prüfungen entsprechend VDE (elektrische Sicherheit)*		QSV-WFP-6	100%	VDE standards	3.1	Y		X				
1.3	ATEX certification *Atex-Bescheinigung*					3.2							
1.4													
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.4.3 Control cabinet/Schaltschrank

not applicable

Part/Bauteil Control cabinet/Schaltschrank														
Material/Material					Part number/Materialnummer 6970									
No.	**Inspection**	**Prod.-Stage**	**Procedure**	**Amount**	**Acceptance**	**Cert**	**Included**	**Sub-Suppl.**	**ACE**	**Customer**	**Enduser**	**TPIA**	**Note**
1.1	Visual inspection *Sichtkontrolle*		Drawing	100%	Drawing	3.1		X	W				
1.2	Electrical tests according VDE (electrical safety) *Elektrische Prüfungen entsprechend VDE (elektrische Sicherheit)*		QSV-WFP-6	100%	VDE standards	3.1		X	R				
1.3	Functional checks *Funktionsprüfungen*		QSV-WFP-6	Spot	Drawing	3.1		X	H				
1.4	ATEX certification *Atex-Bescheinigung*					3.2							
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
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3.4.4 Control Software/Anlagensoftware

CHAPTER 8

Part/Bauteil Control Software/Anlagensoftware	
Material/Material	Part number/Materialnummer incl. in 6970 312 955 6970 312 924

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Visual inspection *Sichtkontrolle*		Drawing	100%	Drawing	3.1		X	W				
1.2	Simulation of functionalities *Simulation der Funktionalitäten*		Manufac-turers stan-dard	100%	Order related specifications and functional descrip-tion	3.1	Y	X	H				
1.3													
1.4													
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
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5.

3.5 Silencer&filter/Schalldämpfer&Filter

3.5.1 Suction silencer&filter/Saugschalldämpfer&Filter

not applicable

Part/Bauteil
Suction silencer and filter/Saugschalldämpfer, -filter

Sub-supplier/Unterlieferant	Design code	Part number/Materialnummer 6970
Freudenberg	acc.PED	

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Chemical analysis *Chemische Analyse*				relevant material specification	2.1		X					
1.2	Mechanical properties *Mechanisch-technologische Eigenschaften*				Relevant material specification	3.1		X					
1.3	Functional test *Funktionsprüfung*		Manufacturer standard	100%	Manufacturer standard								
1.4	Visual inspection *Sichtkontrolle*		Manufacturer standard	100%	Manufacturer standard			X	X				
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.5.2 Blow-off silencer/Abblaseschalldämpfer

not applicable

Part/Bauteil
Blow-off silencer/Abblaseschalldämpfer

Sub-supplier/Unterlieferant
IFU

Desing code
acc. PED

Part number/Materialnummer 6970

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Chemical analysis *Chemische Analyse*				relevant material specification			X					
1.2	Mechanical properties *Mechanisch-technologische Eigenschaften*				relevant material specification			X					
1.3	Functional test *Funktionsprüfung*		Manufacturer standard	100%	Manufacturer standard								
1.4	Visual inspection *Sichtkontrolle*		Manufacturer standard	100%	Manufacturer standard			X	X				
1.5													
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
1.
2.
3.
4.
5.

3.5.3 Discharge silencer/Austrittsschalldämpfer

not applicable

Part/Bauteil
Discharge silencer/Austrittsschalldämpfer

Sub-supplier/Unterlieferant IFU	Desing code acc. PED	Part number/Materialnummer 6970

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Chemical analysis *Chemische Analyse*				relevant material specification			X					
1.2	Mechanical properties *Mechanisch-technologische Eigenschaften*				relevant material specification			X					
1.3	Functional test *Funktionsprüfung*		Manufacturer standard	100%	Manufacturer standard								
1.4	Visual inspection *Sichtkontrolle*		Manufacturer standard	100%	Manufacturer standard			X					
1.5	Certificates of Conformity *Konformitätsbescheinigungen*					3.1		X					
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
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3.6 HV-Motor (driver)/HS-Antriebsmotor

not applicable

Part/Bauteil
HV-Motor (driver)/Hochspannungsmotor (Antriebsmotor)

Sub-supplier/Unterlieferant
Siemens

Part number/Materialnummer 6970

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Inspection and test plan *Qualitätsplan*		Sub-supplier standard		Sub-supplier standard			X					
1.2	Material inspection and certification *Materialprüfungen und -bescheinigungen*		Sub-supplier standard	100%	Sub-supplier standard	3.1		X					
1.3	Low speed balancing of rotor *Niedertouriges Wuchten des Rotors*		Sub-supplier standard		ISO1940 ISO8821	3.1		X					
1.4	Insulation quality test *Isolationsprüfung*		Sub-supplier standard		Sub-supplier standard	3.1		X					
1.5	Routine test *Routinetest*		Sub-supplier standard		Sub-supplier standard	3.1		X					
1.6	Performance test *Leistungs-und Erwärmungsprüfung*		Sub-supplier standard		Sub-supplier standard	3.1							
1.7	Noise level measurement and analysis *Schallpegelmessung/-analyse*				max. level as agrreed per contract	3.1							
1.8	Document review (manufacturing data report) *Dokumentenkontrolle (MDR)*					3.1							
1.9	ATEX certification *Atex-Bescheinigung*					3.2							
1.10	Final Inspection Endabnahme		Drawings		Drawings	3.1		X					
1.11	Certificates of Conformity *Konformitätsbescheinigungen*	AS				3.1		X	R				

Notes/Bemerkungen:
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3.7 Coupling/Antriebskupplung

CHAPTER 7

Part/Bauteil
Flexible coupling/Antriebskupplung

Material/Material
Atec Weiss

Part number/Materialnummer 6970 3014 58

No.	Inspection	Prod.-Stage	Procedure	Amount	Acceptance	Cert	Included	Sub-Suppl.	ACE	Customer	Enduser	TPIA	Note
1.1	Chemical analysis *Chemische Analyse*			Spacer only	relevant material standard		Y	X	R				
1.2	Mechanical properties *Mechanisch-technologische Eigenschaften*			Spacer only	relevant material standard		Y	X	R				
1.3	Dimensional inspection *Maßprüfung*		Drawing	Critical planes				X					
1.4	Low speed balancing *Niedertouriges Wuchten*		ISO1940 ISO8891		ISO 1940 G≤1		Y	X	R				
1.5	Visual inspection *Sichtkontrolle*		Proven practice	100%	Coupling drawing			X					
1.6													
1.7													
1.8													
1.9													
1.10													

Notes/Bemerkungen:
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2.
3.
4.
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