VARIAN

vacuum technologies

LEO 906 Pumping System

Model SQ 095

MANUALE DI ISTRUZIONI

BEDIENUNGSHANDBUCH

INSTRUCTION MANUAL

87-900-910-01(A)
APRIL 2002

VARIAN

vacuum technologies

Dear Customer,

Thank you for purchasing a VARIAN vacuum product. At VARIAN Vacuum Technologies we make every effort to ensure that you will be satisfied with the product and/or service you have purchased.

As part of our Continuous Improvement effort, we ask that you report to us any problem you may have had with the purchase or operation of our product. On the back side you find a Corrective Action Request form that you may fill out in the first part and return to us.

This form is intended to supplement normal lines of communications and to resolve problems that existing systems are not addressing in an adequate or timely manner.

Upon receipt of your Corrective Action Request we will determine the Root Cause of the problem and take the necessary actions to eliminate it. You will be contacted by one of our employees who will review the problem with you and update you, with the second part of the same form, on our actions.

Your business is very important to us. Please, take the time and let us know how we can improve.

Sincerely.

Sergio PIRAS

Vice President and General Manager
VARIAN Vacuum Technologies

Note: Fax or mail the Customer Request for Action (see backside page) to VARIAN Vacuum Technologies (Torino) - Quality Assurance or to your nearest VARIAN representative for onward transmission to the same address.

CUSTOMER REQUEST FOR CORRECTIVE / PREVENTIVE / IMPROVEMENT ACTION

TO : VARIAN VACUUM TECHNOLOGIES TORINO - QUALITY ASSURANCE

FAX N° : XXXX - 011 - 9979350

ADDRESS: VARIAN S.p.A. - Via F.lli Varian, 54 - 10040 Leinì (Torino) - Italy

E-MAIL : marco.marzio@varianinc.com

NAME	COMPANY	FUNCTION

ADDRESS :

TEL. N° : FAX N° :

E-MAIL :

PROBLEM / SUGGESTION :

REFERENCE INFORMATION (model n°, serial n°, ordering information, time to failure after installation, etc.) :

DATE

CORRECTIVE ACTION PLAN / ACTUATION (by VARIAN VTT) LOG N°

XXXX = Code for dialing Italy from your country (es. 01139 from USA; 00139 from Japan, etc.)

VARIAN

INFORMAZIONI GENERALI

Questa apparecchiatura è destinata ad uso professionale. L'utilizzatore deve leggere attentamente il presente manuale di istruzioni ed ogni altra informazione addizionale fornita dalla Varian prima dell'utilizzo dell'apparecchiatura. La Varian si ritiene sollevata da eventuali responsabilità dovute all'inosservanza totale o parziale delle istruzioni, ad uso improprio da parte di personale non addestrato, ad interventi non autorizzati o ad uso contrario alle normative nazionali specifiche.
Nei paragrafi seguenti sono riportate tutte le informazioni necessarie a garantire la sicurezza dell'operatore durante l'utilizzo dell'apparecchiatura. Informazioni dettagliate sugli apparati installati si possono trovare nei rispettivi manuali tecnici.
Questo manuale utilizza le seguenti convenzioni:

⚠ PERICOLO!

I messaggi di pericolo attirano l'attenzione dell'operatore su una procedura o una pratica specifica che, se non eseguita in modo corretto, potrebbe provocare gravi lesioni personali.

☞ ATTENZIONE!

I messaggi di attenzione sono visualizzati prima di procedure che, se non osservate, potrebbero causare danni all'apparecchiatura.

NOTA

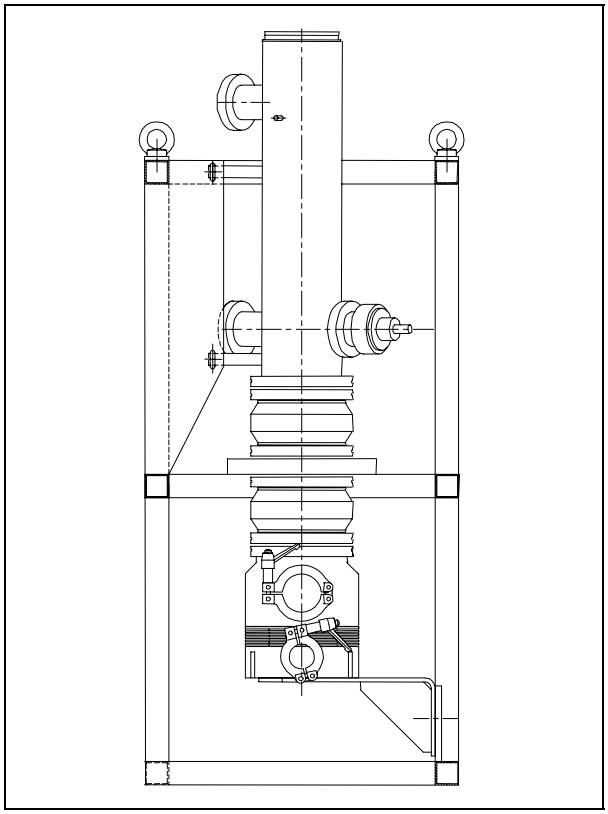
Le note contengono informazioni importanti estrapolate dal testo.

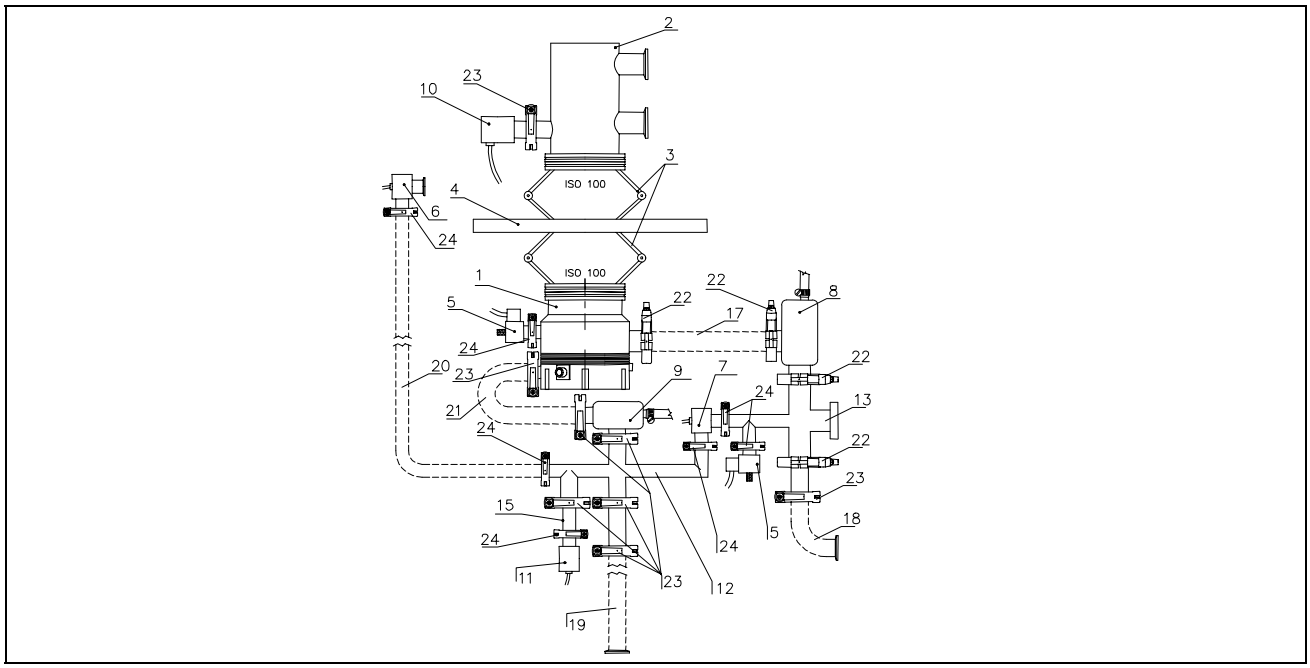
DESCRIZIONE

Il LEO 906 è un gruppo di pompaggio che comprende i seguenti elementi:

- un assieme formato dalla pompa Turbo-V 300 SF, due ammortizzatori e la camera a vuoto con installato un Cold Cathode Gauge;
- una serie di accessori.

Le figure seguenti mostrano una vista dell'assieme della pompa e camera a vuoto, ed una vista dell'assieme suddetto con tutti gli accessori montati.





La tabella seguente, con riferimento alle figure suddette, elenca i componenti che sono montati nelle varie posizioni del LEO 906 (N.I. = non indicato).

MOD.	POS.	COMPONENTE
969-9068	1	Pompa Turbo-V 300 SF
03.662053	2	Camera a vuoto
03.662200	3	Ammortizzatori
03.662315	4	Piastra
969-9833	5	Valvola di vent
27.179700-01	6	Valvola KF16 24V
27.179706-01	7	Valvola KF25 24V
27.179710-01	8	Valvola KF40 24V
27.179705-01	9	Valvola KF25 24V
27.229975-01	10	Cold Cathode Gauge
27.229976-01	11	Thermovac Gauge
03.662218	12	Collettore KF25/KF16
03.662220	13	Collettore KF40/KF25
AKF08-40.25SS	14	Adattatore KF40/25
AKF08-25.16SS	15	Adattatore KF25/16
AKF14-25.10SS	16	Estensione KF25 LG 100
ZTF-40.035SS	17	Connessione flessibile KF40 LG 350
AKF10-25.050SS	18	Connessione flessibile KF25 LG 50
AKF10-25.100SS	19	Connessione flessibile KF25 LG 1000
AKF10-16.050SS	20	Connessione flessibile KF16 LG 500
AKF10-25.025SS	21	Connessione flessibile KF25 LG 250
AKF01-32.40AL	22	Morsetto KF32/40
AKF01-20.25AL	23	Morsetto KF20/25
AKF01-10.16AL	24	Morsetto KF10/16
969-9425	N.I.	Controller
03.662054	N.I.	Cryopanel

Tramite i connettori ausiliari del controller sono disponibili i comandi per l'avvio e l'arresto della pompa da remoto, i segnali che indicano lo stato operativo della pompa, i comandi per l'avvio e l'arresto della pompa di pre-vuoto, segnali di bloccaggio (per interruttori a pressione, interruttori di controllo del flusso dell'acqua, ecc.).

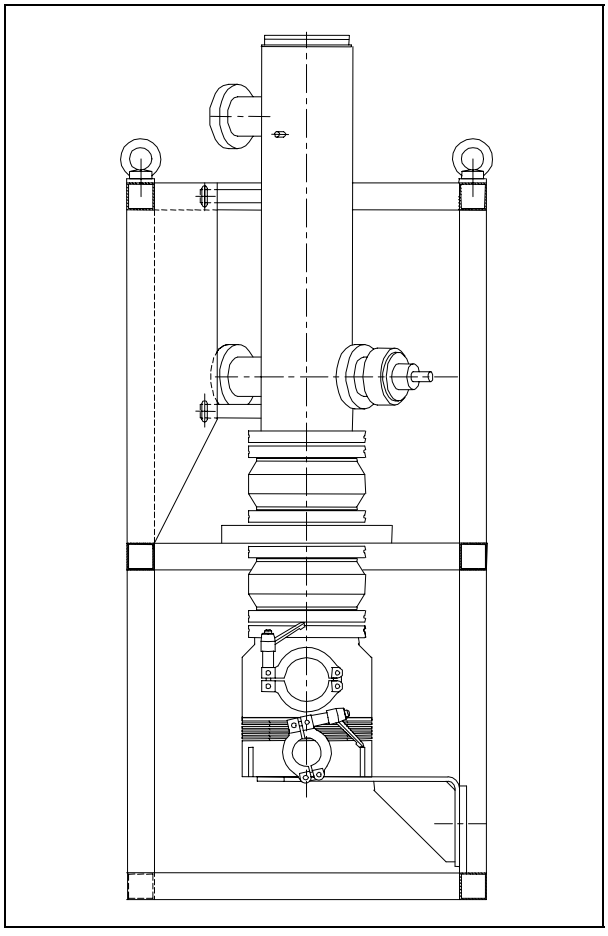
IMMAGAZZINAMENTO

Durante il trasporto e l'immagazzinamento del LEO 906 devono essere soddisfatte le seguenti condizioni ambientali:

- temperatura: da -20 °C a +70 °C
- umidità relativa: 0 - 95% (non condensante)

PREPARAZIONE PER L'INSTALLAZIONE

Il LEO 906 viene fornito in due imballi protettivi speciali: il primo contiene l'assieme pompa-colonna, il secondo contiene gli altri accessori; se si presentano segni di danni, che potrebbero essersi verificati durante il trasporto, contattare l'ufficio vendite locale. Durante l'operazione di disimballo, prestare particolare attenzione a non lasciar cadere le varie parti del sistema e a non sottoporle ad urti.



Imballo dell'assieme Pompa-colonna

Non disperdere l'imballo nell'ambiente. Il materiale è completamente riciclabile e risponde alla direttiva CEE 85/399 per la tutela dell'ambiente.

INSTALLAZIONE

PERICOLO!

Il LEO 906, a causa del suo peso, deve essere maneggiato tramite appositi attrezzi di sollevamento e spostamento.

L'installazione del LEO 906 deve essere effettuata rispettando quanto indicato nelle figure di assieme precedenti.
L'assieme pompa-colonna è sistemato in una struttura di spedizione che deve essere rimossa dal cliente prima dell'installazione definitiva.
Per rimuovere la struttura occorre svitare le quattro viti M6: due di esse fissano la piastra di base dell'assieme a due staffe della struttura, le altre due fissano la struttura alle due staffe saldate alla colonna.
Per l'installazione finale occorre utilizzare quattro viti M6 per fissare l'assieme a staffe adeguate a reggerne il peso e le sollecitazioni.

Per quel che riguarda le apparecchiature installate nel LEO 906, fare riferimento a quanto riportato nei relativi manuali.

PERICOLO!

La pompa Turbo installata sul LEO 906 può raggiungere elevate temperature che possono recare gravi danni. Prestare particolare attenzione nel maneggiare gli apparati.
Nel caso in cui sulla pompa Turbo sia installato il kit di raffreddamento ad acqua, fare attenzione che i tubi dell'acqua non entrino in contatto con elementi sotto tensione.

NOTA

Il LEO 906 installato nella posizione definitiva deve essere posizionato in modo tale che l'aria di raffreddamento possa circolare liberamente intorno agli apparati. Non installare e/o utilizzare il LEO 906 in ambienti esposti ad agenti atmosferici (pioggia, gelo, neve), polveri, gas aggressivi, in ambienti esplosivi o con elevato rischio di incendio.

Durante il funzionamento è necessario che siano rispettate le seguenti condizioni ambientali:

- temperatura: da 0 °C a +40 °C
- umidità relativa: 0 - 95% (non condensante).

USO

PERICOLO!

Nel caso in cui il LEO 906 fosse utilizzato con gas tossici, infiammabili o radioattivi, attenersi alle appropriate procedure di trattamento per ciascun gas.

PERICOLO!

Non far funzionare mai il sistema se le flange di ingresso non sono collegate alle relative camere a vuoto.

PERICOLO!

Nel caso in cui la pompa fosse stata rimossa dal LEO 906 e si dovesse reinstallare, per evitare pericoli nel caso in cui si dovesse improvvisamente bloccare, occorre fissare la pompa stessa agli appositi ancoraggi utilizzando viti con carico di snervamento di 500 N/mm^2 ed applicando alle stesse una coppia di serraggio di 3,1 Nm.

Per ulteriori dettagli e per procedure che coinvolgono collegamenti o particolari opzionali, fare riferimento ai manuali di ogni singolo apparato.

MANUTENZIONE

Il LEO 906 non richiede alcuna manutenzione. Qualsiasi intervento deve essere eseguito da personale autorizzato.
In caso di guasto di una delle apparecchiature montate su di esso, fare riferimento al relativo manuale di istruzioni.

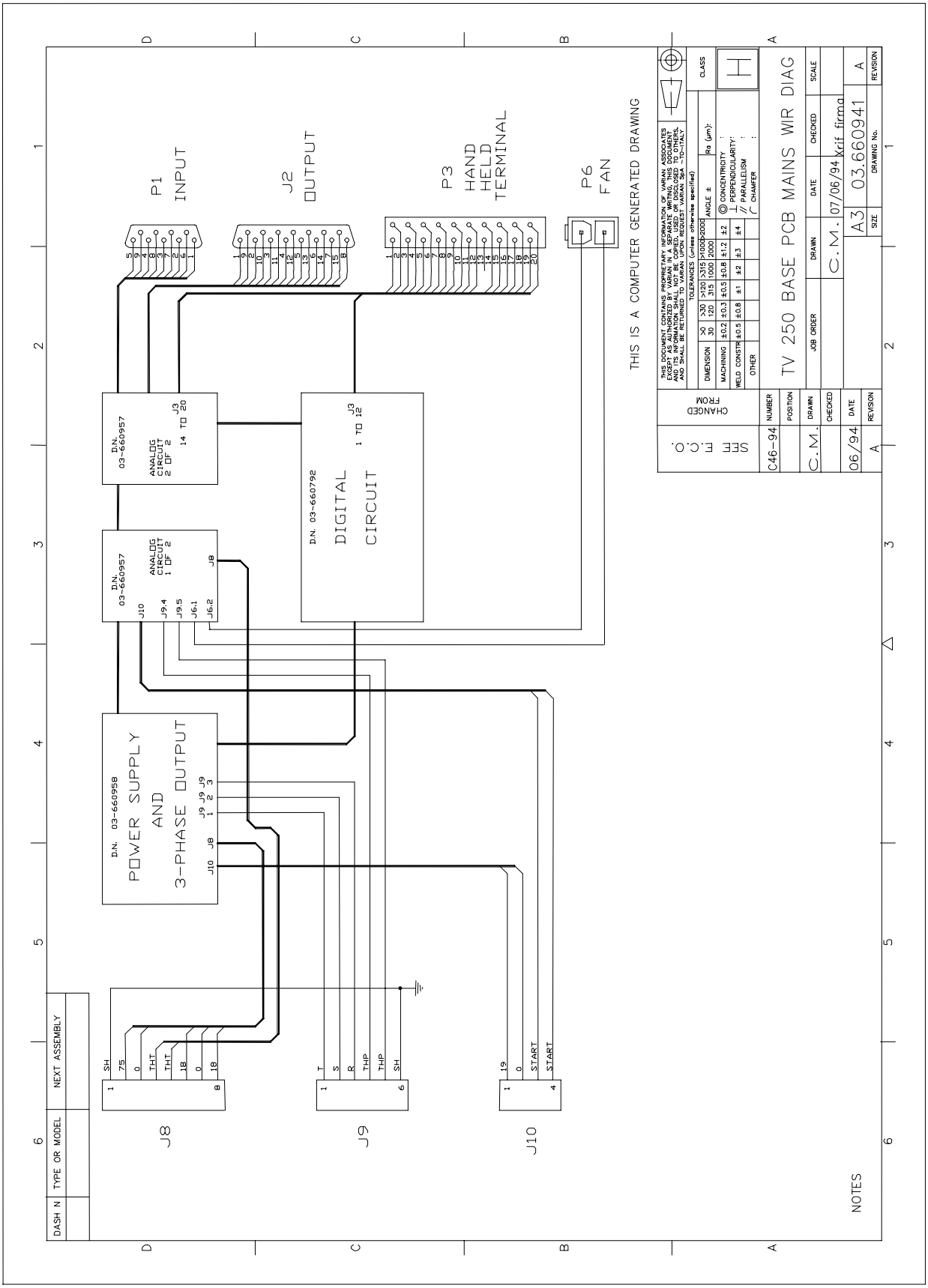
PERICOLO!

Prima di effettuare qualsiasi intervento sulle apparecchiature contenute nel LEO 906 scollegare il cavo di alimentazione.

PERICOLO!

Qualora il gruppo di pompaggio fosse stato utilizzato con gas tossici, infiammabili o radioattivi e dovesse essere rottamato, attenersi alle procedure opportune per il trattamento di simili gas.

La figura seguente illustra lo schema a blocchi dei circuiti di comando del LEO 906.



Schema a Blocchi

ALLGEMEINE INFORMATIONEN

Dieses Gerät ist für den Fachgebrauch bestimmt. Der Benutzer hat die vorliegende Betriebsanleitung und jede weitere zusätzliche Information seitens Varian vor dem Gebrauch durchzulesen. Varian übernimmt keine Haftung bei vollständiger oder teilweiser Nichtbeachtung der Anweisungen, unsachgemäßem Gebrauch durch ungeschultes Personal, nicht autorisierten Eingriffen oder Eingriffen unter Nichtbeachtung der einschlägigen nationalen Vorschriften.
In den nachstehenden Abschnitten sind alle erforderlichen Informationen aufgeführt, um die Sicherheit des Bedieners bei Benutzung des Gerätes zu gewährleisten. Ausführliche Informationen zu den installierten Geräten sind in den entsprechenden Handbüchern enthalten.
In dieser Betriebsanleitung werden Sicherheitshinweise folgendermaßen hervorgehoben:

⚠ GEFAHR!

Die Gefahrenhinweise lenken die Aufmerksamkeit des Bedieners auf eine spezielle Prozedur oder Praktik, die bei unkorrekter Ausführung schwere Verletzungen hervorrufen können.

☞ ACHTUNG!

Die Warnhinweise werden vor Prozeduren angeführt, bei deren Nichtbeachtung Geräteschäden entstehen könnten.

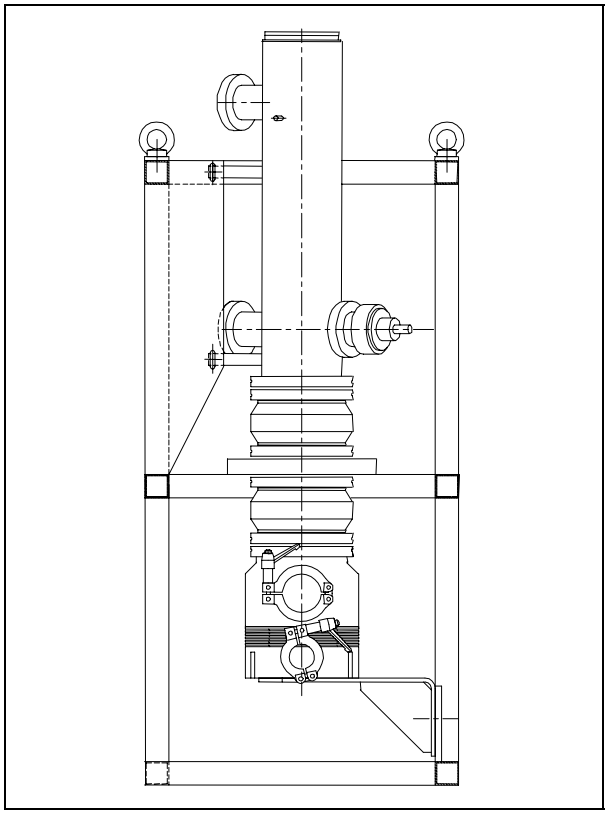
ANMERKUNG

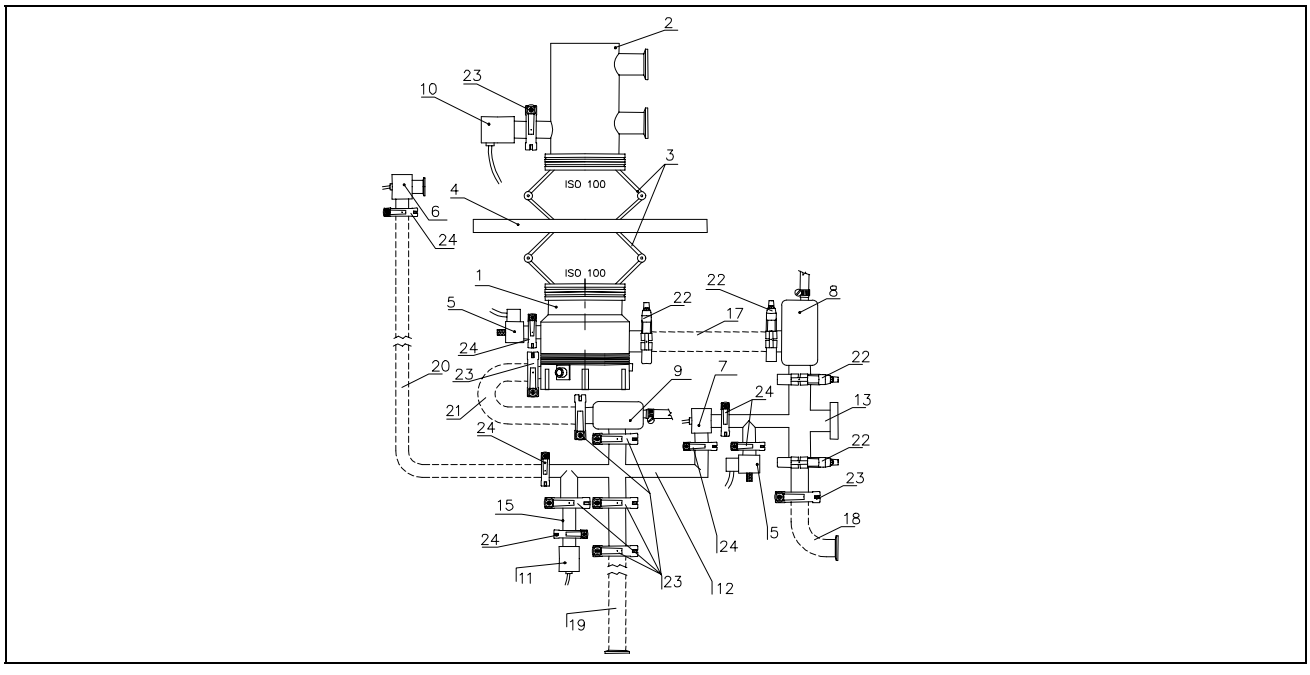
Die Anmerkungen enthalten wichtige Informationen, die aus dem Text hervorgehoben sind.

BESCHREIBUNG

Mod. LEO 906 ist eine Pumpgruppe, die aus den folgenden Elementen besteht:
- Eine Gruppe, bestehend aus der Pumpe Turbo-V 300 SF, zwei Dämpfungselementen und der Vakuumkammer mit einem Cold Cathode Gauge;
- Eine Zubehörserie.

Die nachstehenden Abbildungen zeigen eine Ansicht der Baugruppe, bestehend aus Pumpe und Vakuumkammer, sowie eine Ansicht der obengenannten Baugruppe mit allen montierten Zubehörteilen.





Die nachstehende Tabelle listet, unter Bezugnahme auf die Abbildungen weiter oben, die Bauteile auf, die an den einzelnen Positionen von Mod. LEO 906 montiert sind (N.A. – nicht angegeben).

MOD.	POS.	BAUTEIL
969-9068	1	Pumpe Turbo-V 300 SF
03.662053	2	Vakuumkammer
03.662200	3	Dämpferelemente
03.662315	4	Platte
969-9833	5	Entlüftungsventil
27.179700-01	6	Ventil KF16 24V
27.179706-01	7	Ventil KF25 24V
27.179710-01	8	Ventil KF40 24V
27.179705-01	9	Ventil KF25 24V
27.229975-01	10	Cold Cathode Gauge
27.229976-01	11	Thermovac Gauge
03.662218	12	Sammler KF25/KF16
03.662220	13	Sammler KF40/KF25
AKF08-40.25SS	14	Adapter KF40/25
AKF08-25.16SS	15	Adapter KF25/16
AKF14-25.10SS	16	Erweiterung KF25 LG 100
ZTF-40.035SS	17	Verbindungsschlauch KF40 LG 350
AKF10-25.050SS	18	Verbindungsschlauch KF25 LG 50
AKF10-25.100SS	19	Verbindungsschlauch KF25 LG 1000
AKF10-16.050SS	20	Verbindungsschlauch KF16 LG 500
AKF10-25.025SS	21	Verbindungsschlauch KF25 LG 250
AKF01-32.40AL	22	Schelle KF32/40
AKF01-20.25AL	23	Schelle KF20/25
AKF01-10.16AL	24	Schelle KF10/16
969-9425	N.I.	Controller
03.662054	N.I.	Cryopanel

Über die Hilfsverbinder des Controllers sind die Anschlüsse der Befehlseinrichtungen für die ferngesteuerte Ingangsetzung und die Stillsetzung der Pumpe, der Signale zur Anzeige des Betriebsstatus der Pumpe, der Befehlseinrichtungen für die Ingangsetzung und die Stillsetzung der Vorvakuumpumpe und der Sperrsignale (für Druckschalter, Strömungswächter usw.) möglich.

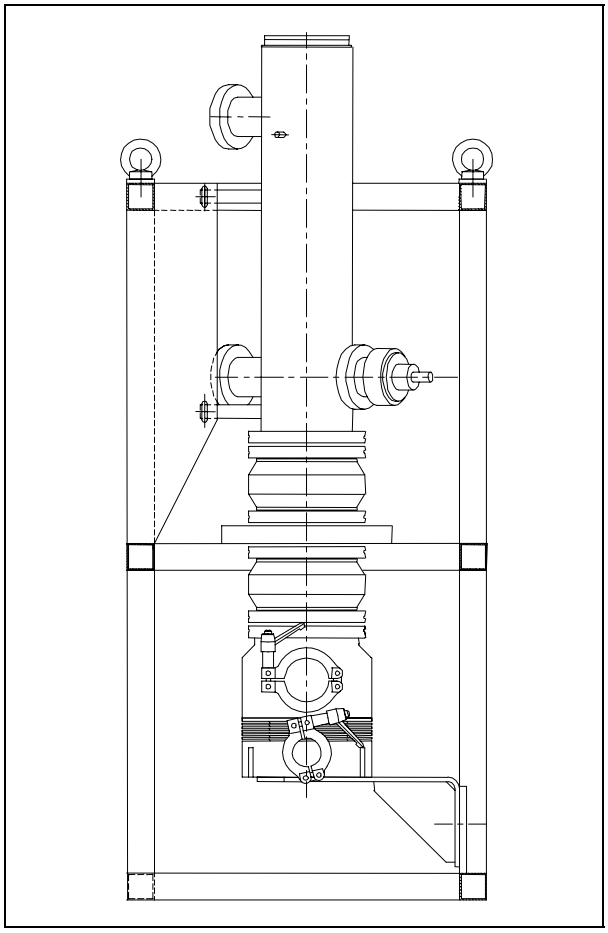
LAGERUNG

Während des Transports und der Lagerung von Mod. LEO 906 müssen die folgenden Umgebungsbedingungen gegeben sein:

- Temperatur: -20 °C bis +70 °C
- relative Luftfeuchte: 0 – 95% (kondensatfrei)

VORBEREITUNG DER INSTALLATION

Mod. LEO 906 wird in zwei speziellen Schutzverpackungen geliefert. Die erste enthält die Baugruppe Pumpe-Säule, die zweite enthält die anderen Zubehörteile. Eventuelle Schäden, die während des Transports entstanden sein könnten, sind der lokalen Verkaufseinrichtung zu melden. Beim Auspacken der Pumpe ist besonders darauf zu achten, daß keine Teile des Systems herunterfallen oder Stößen ausgesetzt werden.



Verpackung der Baugruppe Pumpe-Säule

Das Verpackungsmaterial ist zu entsorgen. Das Material ist vollständig recyclebar und entspricht der Richtlinie 85/399/EWG zum Umweltschutz.

INSTALLATION

GEFAHR!

Mod. LEO 906 ist aufgrund seines Gewichts mit Hilfe von Hub- und Fördermitteln zu handhaben.

Die Installation von Mod. LEO 906 ist entsprechend der Baugruppenabbildung weiter oben vorzunehmen.
Die Baugruppe Pumpe-Säule befindet sich in einem Schutzgestell für den Versand, aus dem sie vom Kunden vor der definitiven Installation zu entfernen ist.
Zur Entfernung dieses Gestells sind die vier Schrauben M6 zu lösen, zwei Schrauben befestigen die Grundplatte der Baugruppe an zwei Bügeln des Gestells und die beiden anderen Schrauben befestigen das Gestell an den beiden an der Säule angeschweißten Bügeln.
Zur endgültigen Installation sind vier Schrauben M6 zu verwenden, um die Baugruppe an Bügeln zu befestigen, die für ihr Gewicht und ihre Beanspruchungen geeignet sind.
Hinsichtlich der an Mod. LEO 906 installierten Geräte sind die Anweisungen aus den diesbezüglichen Betriebsanleitungen zu beachten.

GEFAHR!

Die an Mod. LEO 906 installierte Turbo-Pumpe kann hohe Temperaturen erreichen, die schwere Schäden verursachen können. Die Handhabung der Geräte hat mit größter Vorsicht zu erfolgen.
Falls an der Turbo-Pumpe der Wasserkühlsatz angebaut ist, ist darauf zu achten, daß die Wasserleitungen nicht mit den stromführenden Teilen in Berührung kommen.

ANMERKUNG

Das in der definitiven Montageposition installierte Mod. LEO 906 ist so zu positionieren, daß eine ungehinderte Zirkulation der Kühlluft um die Geräte gewährleistet ist. Mod. LEO 906 darf nicht in Umgebungen installiert und/oder benutzt werden, die Witterungseinflüssen (Regen, Eis, Schnee), Staub und ätzenden Gasen ausgesetzt, explosionsfähig oder stark brandgefährdet sind.

Während des Betriebes müssen die folgenden Umgebungsbedingungen gegeben sein:

- Temperatur: 0 °C bis +40 °C
- relative Luftfeuchte: 0 – 95% (kondensatfrei)

BEDIENUNG

GEFAHR!

Falls Mod. LEO 906 mit toxischen, entflammbaren oder radioaktiven Gasen verwendet werden sollte, sind die entsprechenden Behandlungsvorschriften für das jeweilige Gas zu beachten.

GEFAHR!

Das System niemals betreiben, wenn die Eingangsflansche nicht an die diesbezüglichen Vakuumkammern angeschlossen sind.

GEFAHR!

Falls die Pumpe von Mod. LEO 906 abgebaut wurde und erneut anzubauen ist, ist die Pumpe, um Gefahren infolge ihrer plötzlichen Blockierung zu vermeiden, an die dafür vorgesehenen Verankerungen unter Verwendung von Schrauben mit einer Dehngrenze von 500 N/mm^2 und mit einem Anzugsmoment von 3,1 Nm zu befestigen.

Ausführlichere Hinweise und Prozeduren in bezug auf Anschlüsse oder Optionsteile sind in den Betriebsanleitungen zu jedem einzelnen Gerät enthalten.

WARTUNG

Mod. LEO 906 erfordert keine Wartung. Eingriffe aller Art dürfen nur von autorisiertem Personal ausgeführt werden.
Bei Defekt einer der an ihm montierten Geräte ist nach den Anweisungen aus der diesbezüglichen Betriebsanleitung vorzugehen.

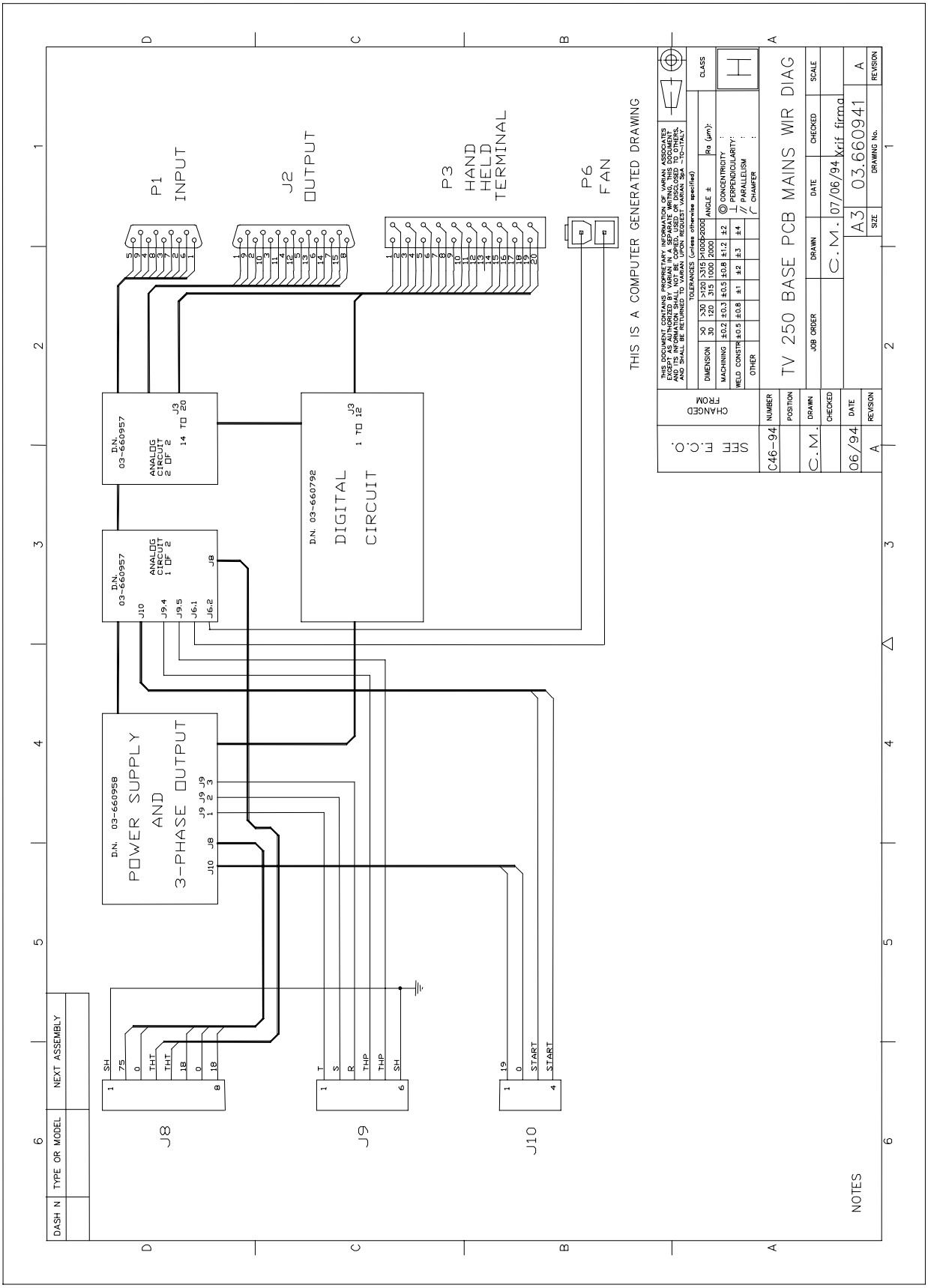
GEFAHR!

Vor Eingriffen an den in Mod. LEO 906 enthaltenen Geräten ist das Stromversorgungskabel vom Netz zu trennen.

GEFAHR!

Falls die Pumpgruppe mit toxischen, entflammbaren oder radioaktiven Gasen verwendet worden ist und verschrottet werden soll, sind die Vorschriften zur Behandlung dieser Gase zu beachten.

In der nachstehenden Abbildung ist das Blockschaltbild der Steuerkreise von Mod. LEO 906 dargestellt



Blockschaltbild

GENERAL INFORMATION

This equipment is destined for use by professionals. The user should read this instruction manual and any other additional information supplied by Varian before operating the equipment. Varian will not be held responsible for any events occurring due to non-compliance, even partial, with these instructions, improper use by untrained persons, non-authorised interference with the equipment or any action contrary to that provided for by specific national standards. The following paragraphs contain all the information necessary to guarantee the safety of the operator when using the equipment. Detailed information about the installed equipment are available into the supplied relevant technical manuals.

This manual uses the following standard protocol:

WARNING!

The warning messages are for attracting the attention of the operator to a particular procedure or practice which, if not followed correctly, could lead to serious injury.

CAUTION

The caution messages are displayed before procedures which, if not followed, could cause damage to the equipment.

NOTE

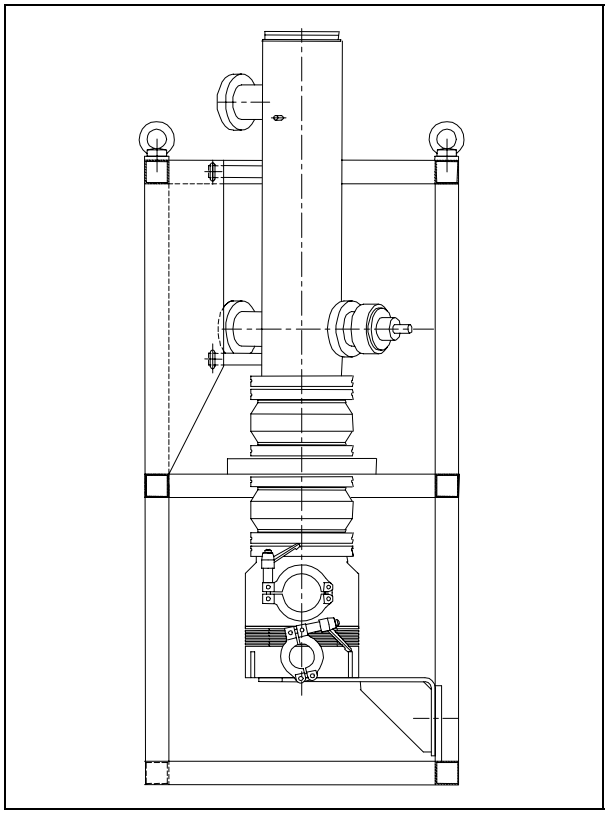
The notes contain important information taken from the text.

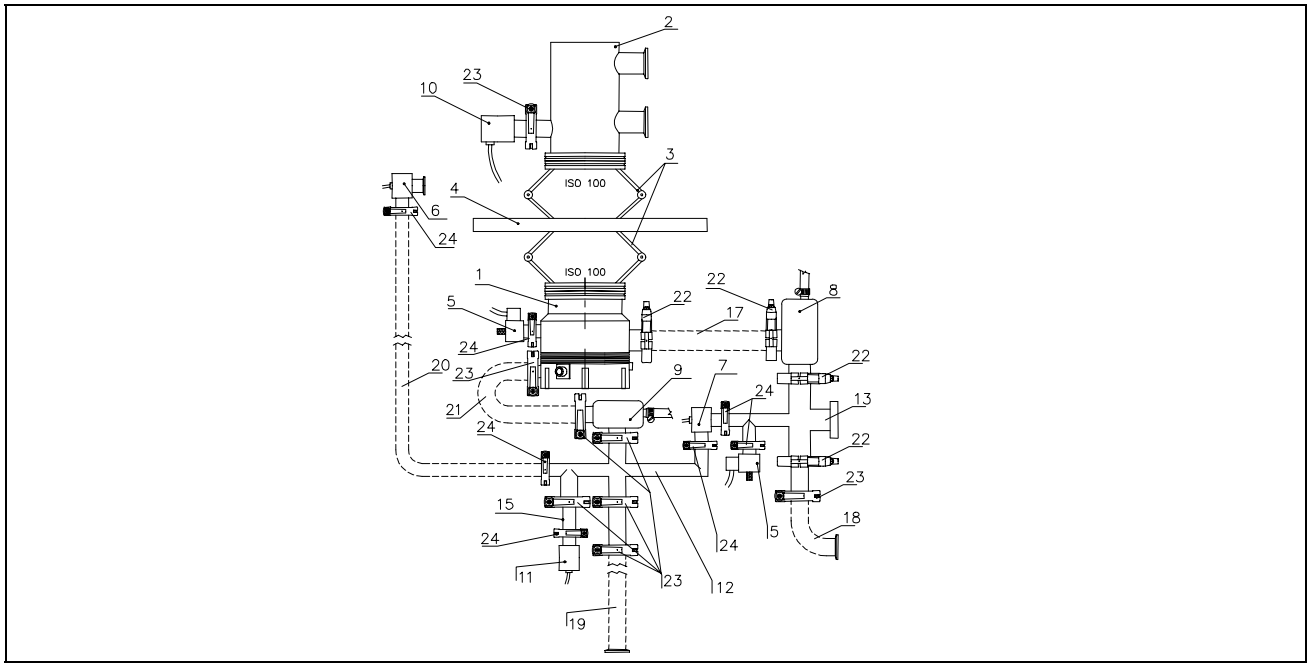
DESCRIPTION

The LEO 906 is a pumping group and is composed of the following units:

- an assembly that comprises the Turbo-V 300 SF pump, two vibration dampers and the vacuum chamber with a Cold Cathode Gauge installed;
- an accessories set.

The following figures show the pump and vacuum chamber assembly view, and an overall view with all the accessories mounted.





The following table, with reference to the previous figures, lists the LEO 906 components (N.I. = not indicated).

MOD.	POS.	ITEM
969-9068	1	Turbo-V300SF pump
03.662053	2	Vacuum chamber
03.662200	3	Vibration dampers
03.662315	4	Plate
969-9833	5	Vent valve
27.179700-01	6	KF16 24V Valve
27.179706-01	7	KF25 24V Valve
27.179710-01	8	KF40 24V Valve
27.179705-01	9	KF25 24V Valve
27.229975-01	10	Cold Cathode Gauge
27.229976-01	11	Thermovac Gauge
03.662218	12	KF25/KF16 collector
03.662220	13	KF40/KF25 collector
AKF08-40.25SS	14	KF40/25 adapter
AKF08-25.16SS	15	KF25/16 adapter
AKF14-25.10SS	16	KF25 LG 100 extension
ZTF-40.035SS	17	Metal flexible KF40 LG 350
AKF10-25.050SS	18	Metal flexible KF25 LG 50
AKF10-25.050SS	19	Metal flexible KF25 LG 1000
AKF10-16.050SS	20	Metal flexible KF16 LG 500
AKF10-25.025SS	21	Metal flexible KF25 LG 250
AKF01-32.40AL	22	Clamp KF32/40
AKF01-20.25AL	23	Clamp KF20/25
AKF01-10.16AL	24	Clamp KF10/16
969-9425	N.I.	Controller
03,662054	N.I.	Cryopanel

Remote start/stop, pump status signals, forepump start/stop, interlock control (for pressure switch, water flow switch, etc.) capability, are provided via the controller auxiliary connectors.

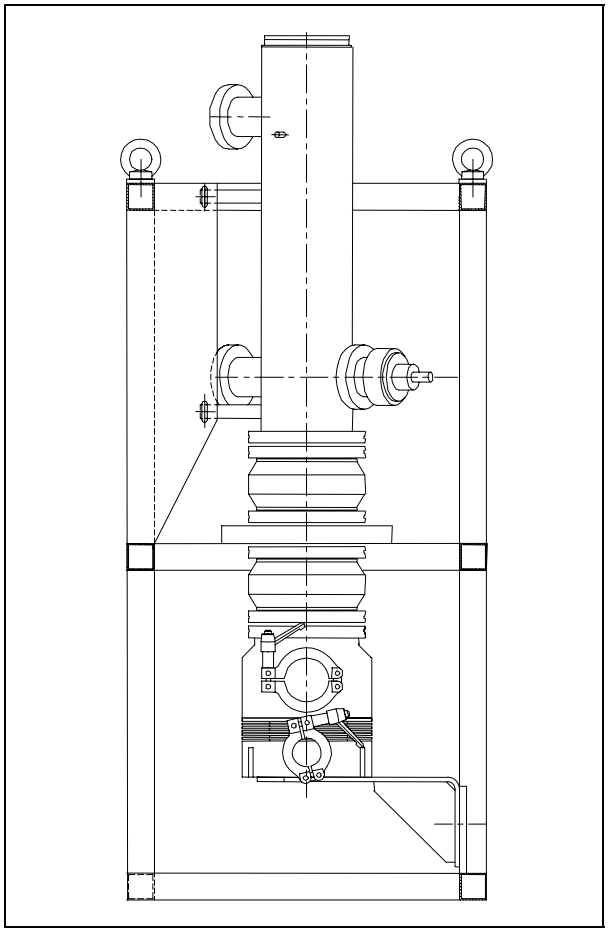
STORAGE

When transporting and storing the LEO 906, the following environmental requirements should be satisfied:

- temperature: from -20 °C to +70 °C
- relative humidity: 0 - 95% (without condensation)

PREPARATION FOR INSTALLATION

The LEO 906 is supplied in two special protective packings: the first one contains the assembly pump-column, the second one contains all the other accessories. If these show signs of damage which may have occurred during transport, contact your local sales office.
When unpacking the LEO 906, ensure that the system is not dropped or subjected to any form of impact.



Pump-column assembly packaging

Do not dispose of the packing materials in an unauthorised manner. The material is 100% recyclable and complies with EEC Directive 85/399.

INSTALLATION

WARNING!

Cause its weight, the LEO 906 must be handled by means of suitable moving and handling tools.

The LEO 906 installation must be executed according to what stated in the previous figures.
The pump-column assembly is put into a shipping structure that must be removed by the customer before the installation.
To remove the structure four M& screws must be unscrewed: two screws fix the assembly base plate to two structure brackets, two screws fix the structure to two brackets welded to the column.
Four M6 screws must be used in the final installation to fix the assembly to suitable brackets.

WARNING!

Turbo Stack must be fixed to the standing plane by means of suitable fixing device.

Detailed information about the other units installed into the LEO 906 are contained in the relevant Instructions Manuals.

WARNING!

The Turbo pump of the LEO 906 can reach high temperature that can cause severe injury. Pay attention during the unit handling.
When the Turbo pump is water cooled, be sure that the water tubes are not in contact with live elements.

NOTE

The LEO 906 installed in its final position must be positioned so that cold air can flow through the units. Do not install or use the LEO 906 in an environment exposed to atmospheric agents (rain, snow, ice), dust, aggressive gases, or in explosive environments or those with a high fire risk.

During operation, the following environmental conditions must be respected:

- temperature: from 0 °C to +40 °C
- relative humidity: 0 - 95% (without condensation)

USE

WARNING!

When employing the LEO 906 for pumping toxic, flammable, or radioactive gases, please follow the required procedures for each gas disposal.

WARNING!

Never operate the LEO 906 if the inlet flanges are not connected to the system or blanked off.

WARNING!

When the pump must be reinstalled after a removal, to avoid dangers in the case of a sudden stop of the Turbo pump, it must be fixed to the LEO 906 by means of the suitable fixing device using screws with a minimum yield point of 500 N/mm^2 and fixing them with a torque of 3.1 Nm.

Detailed information and operating procedures that involve optional connections or options are supplied in the Instruction Manual of each unit.

MAINTENANCE

The LEO 906 does not require any maintenance. Any work performed on the LEO 906 must be carried out by authorised personnel.
When an unit mounted on the LEO 906 is faulty, refer to the relevant Instruction Manual.

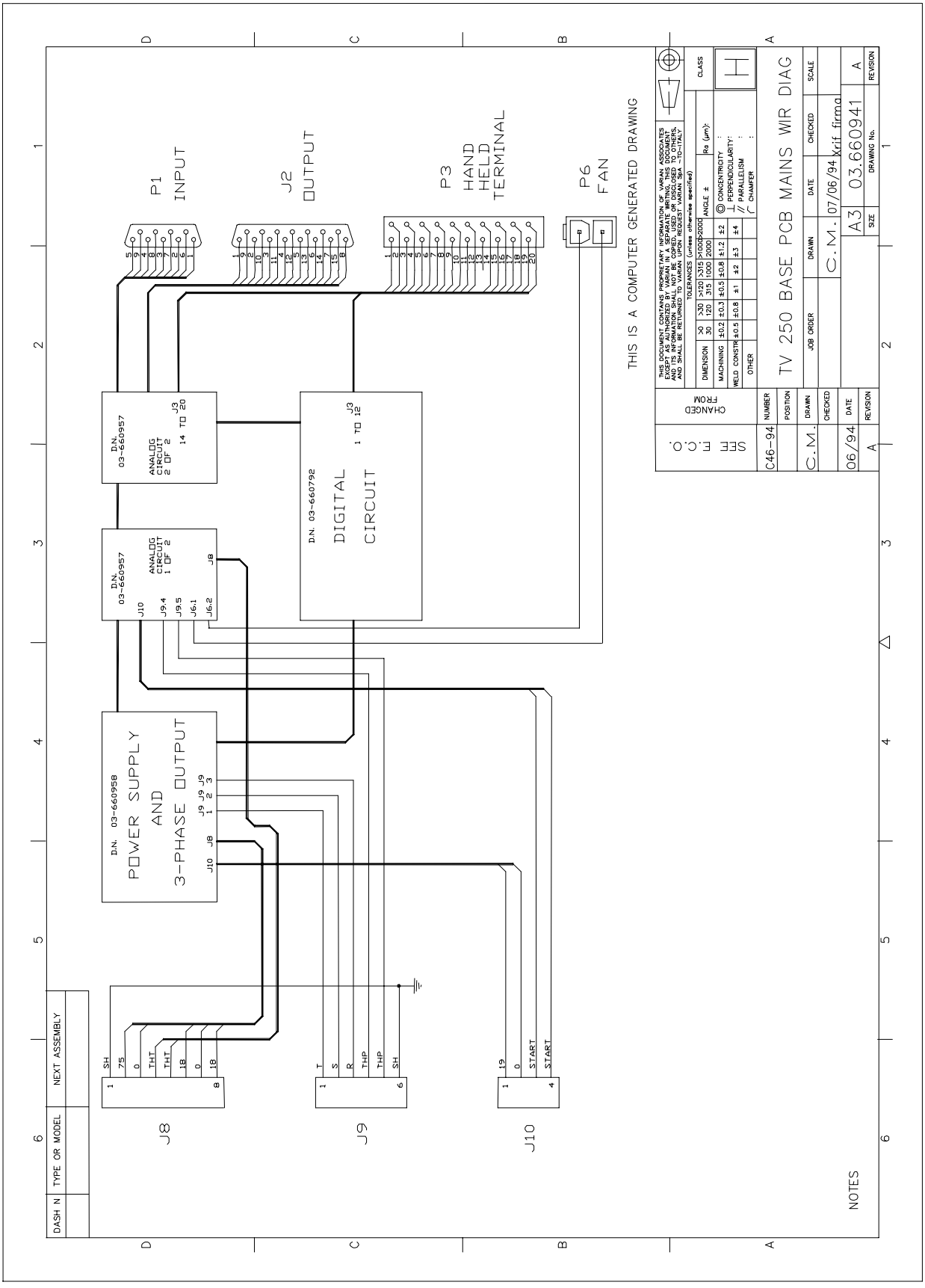
WARNING!

Before carrying out any work on the LEO 906, disconnect it from the supply.

WARNING!

Should the LEO 906 be used for pumping toxic, flammable, or radioactive gases and it is to be scrapped, please follow the required procedures for each gas disposal.

The following figure shows the LEO 906 block diagram.



Block diagram

VARIAN

Request for Return

ISO 9001 REGISTERED

1. A Return Authorization Number (RA#) **WILL NOT** be issued until this Request for Return is completely filled out, signed and returned to Varian Customer Service.
2. Return shipments shall be made in compliance with local and international **Shipping Regulations** (IATA, DOT, UN).
3. The customer is expected to take the following actions to ensure the **Safety** of workers at Varian: (a) Drain any oils or other liquids, (b) Purge or flush all gasses, (c) Wipe off any excess residues in or on the equipment, (d) Package the equipment to prevent shipping damage, (for Advance Exchanges please use packing material from replacement unit).
4. Make sure the shipping documents clearly show the RA# and then return the package to the Varian location nearest you.

North and South America	**Europe and Middle East**	**Asia and ROW**
Varian Vacuum Technologies 121 Hartwell Ave Lexington, MA 02421 Phone : +1 781 8617200 Fax: +1 781 8609252	Varian SpA Via Flli Varian 54 10040 Leini (TO) – ITALY Phone: +39 011 9979111 Fax: +39 011 9979330	Varian Vacuum Technologies Local Office

CUSTOMER INFORMATION

Company name: ……

Contact person: Name: …… Tel: ……

Fax: …… E-Mail: ……

Ship Method: …… Shipping Collect #: …… P.O.#: ……

Europe only: VAT reg. Number: …… *USA only:* ☐ Taxable ☐ Non-taxable

Customer Ship To: …… Customer Bill To: ……

……

……

……

……

PRODUCT IDENTIFICATION

Product Description	Varian P/N	Varian S/N	Purchase Reference

TYPE OF RETURN *(check appropriate box)*

☐ Paid Exchange ☐ Paid Repair ☐ Warranty Exchange ☐ Warranty Repair ☐ Loaner Return
☐ Credit ☐ Shipping Error ☐ Evaluation Return ☐ Calibration ☐ Other ……

HEALTH and SAFETY CERTIFICATION

Varian Vacuum Technologies **CAN NOT ACCEPT** any equipment which contains **BIOLOGICAL HAZARDS** or **RADIOACTIVITY**. Call Varian Customer Service to discuss alternatives if this requirement presents a problem.

The equipment listed above (check one):

☐ **HAS NOT** been exposed to any toxic or hazardous materials

OR

☐ **HAS** been exposed to any toxic or hazardous materials. In case of this selection, check boxes for any materials that equipment was exposed to, check all categories that apply:

☐ Toxic ☐ Corrosive ☐ Reactive ☐ Flammable ☐ Explosive ☐ Biological ☐ Radioactive

List all toxic or hazardous materials. Include product name, chemical name and chemical symbol or formula.

……

Print Name: …… Customer Authorized Signature: ……

Print Title: …… Date: ……/……/……

NOTE: If a product is received at Varian which is contaminated with a toxic or hazardous material that was not disclosed, **the customer will be held responsible** for all costs incurred to ensure the safe handling of the product, and **is liable** for any harm or injury to Varian employees as well as to any third party occurring as a result of exposure to toxic or hazardous materials present in the product.

Do not write below this line

Notification (RA)#: …… Customer ID#: …… Equipment #: ……

VARIAN

Request for Return

ISO 9001 REGISTERED

FAILURE REPORT

TURBO PUMPS and TURBOCONTROLLERS

☐ Does not start	☐ Noise	POSITION	PARAMETERS		
☐ Does not spin freely	☐ Vibrations	☐ Vertical	Power:		Rotational Speed:
☐ Does not reach full speed	☐ Leak	☐ Horizontal	Current:		Inlet Pressure:
☐ Mechanical Contact	☐ Overtemperature	☐ Upside-down	Temp 1:		Foreline Pressure:
☐ Cooling defective		☐ Other:	Temp 2:		Purge flow:
		…….	OPERATION TIME:		

TURBOCONTROLLER ERROR MESSAGE:

ION PUMPS/CONTROLLERS

☐ Bad feedthrough	☐ Poor vacuum
☐ Vacuum leak	☐ High voltage problem
☐ Error code on display	☐ Other

Customer application:

VALVES/COMPONENTS

☐ Main seal leak	☐ Bellows leak
☐ Solenoid failure	☐ Damaged flange
☐ Damaged sealing area	☐ Other

Customer application:

LEAK DETECTORS

☐ Cannot calibrate	☐ No zero/high backround
☐ Vacuum system unstable	☐ Cannot reach test mode
☐ Failed to start	☐ Other

Customer application:

INSTRUMENTS

☐ Gauge tube not working	☐ Display problem
☐ Communication failure	☐ Degas not working
☐ Error code on display	☐ Other

Customer application:

PRIMARY PUMPS

☐ Pump doesn't start	☐ Noisy pump (describe)
☐ Doesn't reach vacuum	☐ Over temperature
☐ Pump seized	☐ Other

Customer application:

DIFFUSION PUMPS

☐ Heater failure	☐ Electrical problem
☐ Doesn't reach vacuum	☐ Cooling coil damage
☐ Vacuum leak	☐ Other

Customer application:

FAILURE DESCRIPTION

(Please describe in detail the nature of the malfunction to assist us in performing failure analysis):

NOTA: Su richiesta questo documento è disponibile anche in Tedesco, Italiano e Francese.
REMARQUE : Sur demande ce document est également disponible en allemand, italien et français.
HINWEIS: Auf Aufrage ist diese Unterlage auch auf Deutsch, Italienisch und Französisch erhältlich.

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www.varianinc.com/vacuum

Order On-line:
www.evarian.com

Representatives in most countries

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